

# ICT in career guidance – desk research and report from interviews

ELAIS O1 REPORT – BARBARA BRASSESCO, TOMÁŠ ŠPRLÁK



## EXECUTIVE SUMMARY

ICT have become an agent of change in the careers sector, paralleling the transformation in many other service sectors. However, ICT tools are used by counsellors to solve fragmented problems and they usually do not have coherent strategies for their use. Main limits and barriers for the use of ICT are connected to clients' characteristics (mainly their readiness for career decision-making) as well as ethical considerations.

ICT tools can be classified in relation to CMS skills or functionally (delivering careers information, online automated interactions, communication and interaction tools).

There are few studies on effectiveness and impact of ICT on the development of career management skills and the pedagogical models around the existing tools are inexistent or implicit. However, research shows that some factors increase the effectiveness of ICT in guidance, mainly availability of personal support and feedback opportunities (with the presence of a moderator), short training before the use of tools, gamification elements, rich multimedia elements and data presented in structured and understandable format. Several pedagogical models can be used for the ICT tools aimed at CMS development, such as Kolb's cycle enriched by elements of Kruboltz's career learning theory and Felder-Silverman model. These models focus on active learning with the starting point being the examination of pre-existing learning and identification of potential conflicts. Gagné's taxonomy and Salmon's five-stage model can provide a model for the development of learning-focused ICT tools for career guidance.

The process of designing of ICT tools for career guidance is described in six design components: type and focus of content, format of experience, interactive strategies, facilitator role, technology selection and support strategy.

## Introduction

The goal of this comparative study is to help find answer to the following questions:

- What is the nature of the ICT solutions used in career guidance?
- How is ICT integrated in career guidance practices? Is it considered as an addition, or did it have a transformative impact on the practices?
- What answers can ICT bring to what issues of career guidance?
- What role does ICT play in resolving career guidance issues?
- Is the use of ICT in career guidance limited in any way? If so, why and how?
- What is a successful ICT practice? How can ICT contribute to the development of career management skills?
- What is the state of science on the issue of the ICT in guidance?
- How and how can the inverted pedagogy approach be applied to career guidance?

This report was produced within the ELAIS Erasmus+ project and is based on the literature review in the field of career guidance and on XX interviews with practitioners and clients of career guidance on the issue of integrating ICT into career guidance practices.

## Roles of ICT in career guidance

The interest in the use of ICT in career guidance goes back to the 1960s, however, more recent developments have stimulated focus on its potential to transform the field of career guidance. A range of rationales have been pointed out for this development, such as:

- Allowing distant access to career guidance services by transcending geographical limits;
- Allowing immediate access to services;
- Increasing the capacity of the services and making the provision more flexible to respond to peaks in demand;
- potentially provide cost savings by making use of self-access, automation and economies of scale and others (Vigurs et al., 2018)

The **roles of ICT** in career guidance are constantly evolving. ICT tools can be used for *disseminating information, providing experiences* as well as *communicating* between participants of the guidance process (Barnes, La Gro and Watts, 2010). However, the use of internet in career guidance has evolved from a resource to facilitate communication and disseminate information to the *collaborative construction of knowledge* (Sampson et al., 2012).

From the **policy standpoint**, ICT in career guidance can be used either as *a tool* supplementing existing services, *an alternative* substituting traditional face-to-face services or *an agent of change* paralleling the transformations in many other service sectors (Watts, 2002). In any case, ICT is increasingly seen as a **means of transformation of separate sector-based and provider-centered provision into user-centered LLG system** (ELGPN, 2010).

Watts (2002) conceptualized two clashing paradigms concerning the integration of ICT tools in career guidance based on the significance attached to the relationship between the individual and the counsellor: *A resource-centred model*, where a coordinated range of resources is available to beneficiaries, of which the counsellor is seen as one. However, there is no place in this model for establishing a working alliance, which is a key element in the efficiency of careers interventions. Also, this model does not take into account non-cognitive aspects of career decision-making. *A relationship-centred model* places the

relationship with the counsellor (face-to-face and/or at a distance, synchronous and/or asynchronous) in the centre and views other resources as supports to this relationship. However, this also face criticism, by giving too much power to counsellors and because of the cost linked to the labour-intensive deployment of the model. As an alternative view, Watts proposes that guidance professionals should see themselves primarily not as counsellors but as *managers of guidance resources* which enable individuals to find the means through which their individual needs can best be met.

## Limits of ICT in Career guidance: readiness for career decision-making and ethical issues

Successful use of career resources is mediated by readiness for career decision-making. This construct stems from D. E. Super's explication of developmental tasks (planning, exploring and deciding) and was later elaborated by other researchers (see Phillips, Blustein, 1994). Readiness for career decision making reflects individual's preparedness to engage in learning processes necessary to explore and decide among various career options. Different tools are used (especially with students) to measure readiness for career decision-making: Vocational Identity Scale - VIS (Holland et al., 1980), Career Thoughts Inventory – CTI (Sampson et al., 1996), The Goal Instability Scale – GIS (Robbins & Patton, 1985), Career Decision Making Indicator – CDMI (Saif & Salleh, 2010), Career Decision-Making Difficulties Questionnaire - CDDQ<sup>1</sup>. These tools can be used in a screening process at the beginning of a flexible careers intervention that determines the best tools to be used based on the level of readiness for decision-making of the individual (see Sampson, 1999). Similar implications can be drawn to the usage of ICT tools: for example in an open-access model of a differentiated service delivery, resources are selected based on the initial screening process that identifies the level of client's career readiness (see Sampson, 1999). Such approach differentiates between three types of intervention:

- *Self-help services*: for individuals with high-level of readiness for career decision-making. These individuals can be referred to tools and require little to no staff assistance.
- *Brief staff-assisted services*: for individuals with a moderate level of readiness for career decision-making. These individuals referred to a practitioner guided use of resources, eventually supported by group sessions.
- *Individual case-managed services*: for individuals with a low level of readiness for career decision-making. This delivery mode is based on individual counselling and longer-term group counselling. Estimates of those requiring case-managed services are between 10% and 50%, depending on the population (Watts, 2002).

People with lower career readiness for career decision making need more assistance for effective use of career resources, however, ICT tools are often proposed on a self-service delivery basis (Sampson, 2008). Therefore, the degree and way of using of ICT tools should be determined after careful assessment of the counsellor of client's career readiness. Clients with lower readiness tend to have higher anxiety about decision making; less clarity and stability in their self-perceptions; more negative expectations about their ability to make appropriate choices; greater difficulty in thinking clearly about themselves and their options; and more difficulty in answering assessment items and in evaluating the appropriateness of

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<sup>1</sup> <http://kivunim.huji.ac.il/cddq/>

options based on a review of information (Osborn et al., 2011). Therefore, they require a more intensive support by the counsellor to appropriately use the available ICT resources. Individuals with low decision-making readiness may also be aware that a problem exists, but at the same time unaware of the specific needs they have; be overwhelmed with the amount of information available on the Internet and have problems linking them with their needs and using them.

Sampson and Makela (2014) identify the following ethical issues linked to the use of ICT in career guidance: **Social equity issues** (1) that are caused by the *digital gap*. Although ICT has potential to enlarge the availability of guidance services, access to IT infrastructure is still not universal. Access to technology can also be impeded by individual's gaps in digital literacy. **Resource issues** (2) include mainly the *quality of the information and assessment*. High quality material coexist on the internet with tools that have not undergone any evaluation at all. Traditional paper-and-pencil tools aren't usually re-validated for the specific ICT-based use. The issue of the *availability of user support when needed* is particularly relevant for beneficiaries with low readiness for career decision making. **Service issues** (3) include *confidentiality and users privacy*, that concerns not only the issues connected to data protection, but also to the fact that written ICT-based interaction can limit client's self-disclosure, because of his/her conscience that will be reviewed by others, or because of possible distractions. *Managing interactions in new contexts* includes issues such as distance service delivery that can lead to the disconnection of the provider with the local context and available resources in the community; use of social media, when the boundaries between private and professional life can become blurry. These precautions show the need for differentiation in delivery mode: self-help model is not appropriate for every person in the need of career guidance services.

#### A note on new career management skills related to ICT

Some researchers stipulate the term "digital career literacy". The internet has reshaped the context within which careers are pursued by individuals and specific skills and knowledge are needed to pursue career effectively using the internet. Digital literacy is considered an important career management skill (Hooley et al., 2010) and the ability to develop these skills becomes one of the aims of careers services. Hooley (2012) proposes a model "7Cs of digital literacy" that lists the following skills that help the individual to develop effectively a career in the online context.

- *Changing* describes the ability to understand and adapt to changing online career contexts and to learn to use new technologies for the purpose of career building.
- *Collecting* describes the ability to source, manage and retrieve career information and resources.
- *Critiquing* describes the ability to understand the nature of online career information and resources, to analyse its provenance and to consider its usefulness for a career.
- *Connecting* describes the ability to build relationships and networks online that can support career development.
- *Communicating* describes the ability to interact effectively across a range of different platforms, to understand the genre and netiquette of different interactions and to use them in the context of career.
- *Creating* describes the ability to create online content that effectively represents the individual, their interests and their career history.
- *Curating* describes the ability of an individual to reflect on and develop their digital footprint and online networks as part of their career building.

## Current state of usage of ICT tools in guidance

A mapping study realized by Vuorinen et. al. in 2011 shows the current state of usage of ICT tools in guidance. Authors conclude, that practitioners are using technical applications in order **to solve fragmented problems and do not have coherent strategies for the use of ICT**. Moreover, ICT are predominantly used as a channel for delivering careers information (paper-based resources were completely replaced by electronic resources). but few approaches focusing on developing career management skills through ICT exists. Authors observed a shift from emails to other forms of communications (social media, chat). This shift to written communication in ICT-based delivery forms of careers services can make the process more transparent: Although written communication takes long time, counsellors' answers are traceable. ICT also can provide a way of verifying that all the components of guidance are covered and followed-up. It can be supposed that since 2011 these trends have only strengthened (see Cedefop, 2018).

## Classification of ICT tools

ICT tools can be classified in several ways:

**Classification in relation to careers management skills** (see Watts, 2001), for example the DOTS model differentiates between resources concerned with the following areas of career management skills:

- *self awareness* – these tools are designed to help users assess themselves and to develop a profile which can be related to learning and work opportunities (e.g. self-assessment questionnaires, profile-building tools, psychometric tests or more open-ended brainstorming approaches).
- *opportunity awareness* – these include databases of learning and/or work opportunities: education/training institutions or courses; occupations, employers, or job vacancies; voluntary-work opportunities; and information on how to become self-employed.
- *decision learning* – these include matching systems, decision-making resources designed to help users to explore options
- *transition learning* – these tools help users to implement their decisions (e.g. support in developing action plans, preparing curricula vitae, completing application forms, preparing for interviews.

**Functional classification** (Hooley et al., 2010) is based around ways of how they are used to help meet clients' demands:

- *Delivering careers information*: These are different databases that supply information about occupations, labour market, training opportunities etc. These solutions can provide a more media-rich experience through the use of pictures, audio and video. However, research indicates that they can have limited use for the individuals without appropriate skills and without a strong supportive infrastructure for learning and development (Howieson et al., 2009)
- *Online automated interactions*: Technology can automate the initial exploration and diagnostic (Tracey, 2010; Betz and Turner, 2011). This type of interaction can lead to the development of career management skills, especially if used in the form of serious games and simulations (Maxwell and Angehrn, 2008; Betts et al, 2009). Automatization of some of the more routine aspects of the guidance process allows professionals to focus on offering higher-level support to clients.

- *Communication and interaction tools*: These tools make professional support more accessible (one-to-one interaction or one-to-many interaction, such as a career blog), but can also be used to build communities of learning (many-to-many).

Recent CEDEFOP handbook (Cedefop, 2018) provides an overview of 25 examples of ICT tools used in career guidance in Europe and proposes the following classification into 4 domain clusters:

1. *Aligning personal capabilities/ambitions with job requirements*: This cluster includes profiling and matching portals, usually developed and maintained by big public administrations (employment services). These portals usually propose tools that support the development of self-awareness through sophisticated diagnostic and profiling algorithms. They often also contain career information resources. Their limits come directly from their reliance on the the outdated job-matching paradigm. Some of them are however also used as a platform for blended-model counselling. Among highlighted tools are Work profiler ([www.werk.nl](http://www.werk.nl)), Occupation development navigator – BEN (<https://ben.arbeitsagentur.de>), Career portal of the State Employment Agency (SEA) (<http://www.nva.gov.lv>), Slovak Labour market internet guide ([www.istp.sk](http://www.istp.sk)), Swedish Employment service Portal ([www.arbetsformedlingen.se](http://www.arbetsformedlingen.se)), National careers service (<https://nationalcareersservice.direct.gov.uk>).
2. *Improving education/occupation guidance processes*: This cluster includes a variety of portals and tools used by careers professionals for different purposes: delivering careers information, providing self-assessment, offering blended guidance, facilitating decision-making etc. Some of the more interesting highlighted tools that go beyond providing careers information are ANELO from Luxemburg ([www.anelo.lu](http://www.anelo.lu)), eGuidance service in Denmark ([www.ug.dk/evejledning](http://www.ug.dk/evejledning)) and Irish Careers Portal (<https://careersportal.ie/>).
3. *Special-purpose initiatives*: This cluster includes specialized and often single-purpose tools, such as connecting students with employers, databases of methods for counsellors, e-portfolio tools, LMI open databases, wiki for counsellors. Among notable portals included in the handbook are Vi@s from Portugal (<https://vias.iefp.pt>) with self-assessment and documentation abilities of transferable skills as well as entrepreneurial capabilities in an integrated portfolio of tools.
4. *Improving transnational guidance*: This cluster contains 2 specialized ICT tools for the use in transnational labour or student mobility (Eures and Europass).

## Research on impact of ICT in guidance and success factors

There are few studies on effectiveness and impact of ICT on the development of career management skills. Existing studies focus on users' satisfaction (self-perception), users' views and how they use the website. No longitudinal studies exist and few studies using randomization and control groups were realized (Howieson and Semple, 2013). Existing studies focus on the impact of specific tools and cautions should be made about their replicability and transferability to other contexts. A blended use of ICT tools in a coherent programme leads to **improvement in career readiness, career decidedness, self-knowledge, satisfaction with future career prospects** (Herman, 2010). Self-service ICT tools in guidance can have

significant impact, but only on limited areas of career management skills, namely “support and advice awareness”, “opportunity awareness”. This supports the view that ICT tools **most appropriately viewed as one element within a mixed system of career provision** (Howieson and Semple, 2013).

The impact of ICT tools is generally higher (comparable to career classes, group counselling and career-workshops) when one or several of the following conditions are met:

1. The use of ICT tools **is accompanied by personal support of a counsellor** (e.g. online support group). The counsellor must have necessary skills for the use of the ICT tools (Howieson et. al, 2009). He should be able to **monitor** what tools are needed and **provide feedback opportunities** discuss the outcomes, interpret the results, discuss ideas that emerge (Tirpak & Schlosser, 2013).
2. Short training session is provided for the access, use and interpret data of the tool or information resources (Redekopp et al., 2013)
3. **Gamification elements** are used to incentivise individuals and the tools are **packaged into a coherent whole**. Conventional pedagogical resources are more accessed, if they are embedded in a wider experience, like gaming (Dunwell, 2014).
4. Rich multimedia resources or interactive elements are used, such as videos, quizzes etc. (Herman, 2010).
5. Any information or data are **presented in a structured and understandable format**. Individuals are quickly overwhelmed by the information and disengage. Also, poor presentation of the data limits its usefulness (Osborn et al., 2011; Vuorinen & Sampson, 2009).

## Enhancing the pedagogy of ICT tools for career guidance

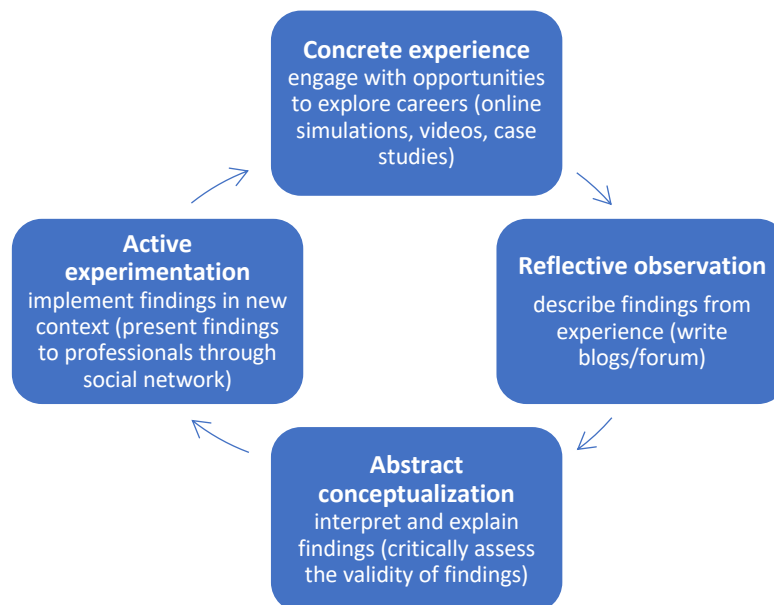
Knowledge from the research in the fields of e-learning and e-counselling can be used to enhance the pedagogical impact of ICT tools on learning. Several theoretical frameworks exist with well-evidenced positive impact on learning outcomes. Given that career guidance can be perceived as a learning process, these models have potential to present some elements that can be transferrable to career guidance.

### 1. Krumboltz's career learning theory, Kolb's cycle and Felder-Silverman model

Innes (2012) provides a practical synthesis of several pivotal theories of active pedagogy, of which we present 3:

- Krumboltz's career learning theory (Mitchel & Krumboltz, 1996). From the practical perspective, this theory essentially states that careers professionals should focus on broadening clients' exposure to external experiences in order to develop skills, that are necessary to use career development opportunities they encounter during life ("planned happenstance")
- Kolb's experiential learning theory (Kolb, 1984) describing the central role that experience plays in the learning process in 4 stages (concrete experience, reflective observation, abstract conceptualization, active experimentation).
- Felder-Silverman model (Franzoni & Assar, 2009) of four learning style dimensions: sensing or intuitive, visual or verbal, active or reflective; or, sequential or global.

**Kolb** states that learning can be conceived as a continuous process grounded in experience with no clear start and end point. Kolb outlines a four-stage cyclical process of learning involving four adaptive learning modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation. This synthesis describes the process of learning in multilinear four phases:



These four phases of the learning process are also used by Kolb to describe individual learning styles, that reflect the individual preference for one of the part of the process. It is important to take these learning styles into account when selecting types of activities to be included in a guidance intervention. Moreover, Kolb states that everyone learner enters a learning situation with some preliminary ideas about the topic



and therefore the trainer should not only focus on introducing new ideas, but also dispose of or modify the old ones to increase the efficacy of the learning. **Bringing out the learner’s beliefs and theories and examining them, and then integrating the new should be the starting point of the learning process.** According to Kolb, learning is increased when the **learner is presented and works with conflicted concepts.**

The **learning theory of career and career counselling** by Mitchel and Krumboltz (1996) differentiates between two types of learning:

- **Associative learning**, where a positive or negative impression of something is gained by making a positive or negative emotional connections from a direct experience or indirectly (e.g. media)
- **Instrumental learning**, which refers to learning through the consequences of one’s own actions.

In practice, the counsellor should enable a client that some of his/her beliefs can be formed in this way and encourage him/her to challenge their validity. Mitchel and Krumboltz’s work suggest that careers professionals should focus on ensuring clients are able to broaden their exposure to external experiences and use them for learning. Recognition of different factors that influence clients’ beliefs is also relevant to Kolb’s focus of enabling participants to identify a starting point from which to **examine pre-existing beliefs (1)** and **identify potential conflicts (2)** that can stimulate learning. In practice, this can be done by presenting statements centred on a particular topic and asking participants to respond to each regarding their level of agreement.

The **Felder-Silverman** model postulates 4 learning style dimensions: sensing or intuitive, visual or verbal, active or reflective; sequential or global. It also describes learning as a two-step process involving the reception of information and the processing of information. 9 teaching strategies are proposed ranging from role-playing, question and answer and discussion panel to brainstorming, games and simulations. Adapting the teaching and delivery strategies with clients’ learning styles can potentially lead to increased impact of the service.

Innes illustrates a structure for an online careers course that enables a participant to work through each of the parts of the learning cycle:

Steps of the learning process	Activities
1. Establish starting point	Design questions for clients to ask themselves to explore their starting point and establish career learning outcomes/goals being sought
2. Question origins of starting point	Design questions to recognize sources/influences to their career learning
3. Assess number and depth of experiences	Questions designed together with previous point to encourage learners to critically review the extent, breadth and reliability of career learning
4. Assess extent of reflection	Introduce resources for clients to compare their understanding of a career topic with new knowledge
5. Challenge assumptions and identify new learning experiences	Make activities available for clients to complete. Reassess career learning goals/outcomes based on results of these activities
6. Introduce new tools to fill gaps in learning process	Make resources and activities available which engage clients in different parts of the learning cycle

Innes used these theories to create a framework used to evaluate career learning programs delivered online or in a blended way. In her model, these programmes and their components are evaluated using the following framework:

<b>To what extent (1-5) does each tool enable clients to:</b>	
Recognise career learning influences	
Assess extent of prior career learning	
Challenge their positioning regarding career learning	
Identify gaps and establish goals for career learning	
Recognise opportunities to engage in new career learning	
Critically review findings and make sense of conflicting views/materials	
Make decisions about validity of findings	
Apply / act on career learning	

## **2. Gagné's taxonomy of learning events**

Gagné (1985) created a nine-step process with elements required for effective learning. These steps are not specific for e-learning and are indicated in the table:

<b>Learning events</b>	<b>Possible application in ICT guidance tools</b>
1. Gaining attention (attention)	Gain the attention of the user by presenting a picture, a video, a statistic, a dramatic question...
2. Informing learners of objectives (expectancy)	Explain what will be learnt thanks to the activity, explain how this learning is going to be beneficial for the individual.
3. Stimulating recall of prior learning (retrieval)	Ask for previous experience with the topic, or previous experience with the problems that the activity is trying to resolve. Make connections with the activity and previous learning.
4. Presenting the stimulus (selective perception)	Organize information in a logical and easy-to-understand manner, use a variety of different media and styles.
5. Providing learning guidance (semantic encoding)	Provide alternative approaches to illustrate the learning objective: Include examples, case studies, storytelling or analogies.
6. Eliciting performance (responding)	Give participants the opportunity to demonstrate the usage of new competences. Ask questions. Short quiz at the end of the activity. Role playing.
7. Providing feedback (reinforcement)	Give feedback and tips point out eventual mistakes so that participants can correct them.
8. Assessing performance (retrieval)	Test, short questionnaire, comment, blog.
9. Enhancing retention and transfer (generalization)	Give clues about transferring the result to real life situations. Connect with real life. Stimulate action planning.

## **3. Salmon's five-stage model and e-moderation**

This model of structured e-learning activities has the purpose of creating greater interaction and participation between participants in e-learning courses in a structured developmental process (Salmon, 2013). Despite being clearly used in the context of collective e-learning, some of the elements could be

transferred to collective career guidance programmes that use ICT. It puts very strong focus on group dynamics in the development of competences, as with each stage the interactivity as well as learning increase. In internet-delivered careers services, professional moderation can result in better outcomes on several variables and greater overall satisfaction with the intervention (Herman, 2010).

STAGE	LEARNERS' ACTIVITIES	TUTOR ACTIVITIES (e-moderation)
<b>1. Access and motivation</b>	Setting up system and accessing	<b>Welcoming and encouraging</b> <ul style="list-style-type: none"> <li>- Ensure that the on-line group is set up with a welcome message</li> <li>- Ensure learners know how to access the on-line group</li> </ul>
<b>2. On-line socialization</b>	Sending and receiving messages Establishing online identity	<b>Familiarizing and providing bridges between cultural, social and learning environments</b> <ul style="list-style-type: none"> <li>- Lead a round of introductions</li> <li>- Welcome new members</li> <li>- Provide a structure for getting started e.g. agreement of group rules, Netiquette</li> <li>- Encourage participation</li> <li>- Provide summaries of on-line discussions. (summarizing and synthesising the content of multiple responses in a virtual group)</li> </ul>
<b>3. Information exchange</b>	Carrying out activities Reporting and discussing findings	<b>Tutoring and supporting use of learning materials</b> <ul style="list-style-type: none"> <li>- Provide highly structured activities</li> <li>- Encourage participation</li> <li>- Ask questions</li> <li>- Encourage team members to post short messages</li> <li>- Allocate on-line roles to individual members e.g. to provide a summary of a particular thread of discussion</li> <li>- Close of threads as and when appropriate</li> <li>- Encourage the on-line group to develop it's own life and history. Welcome shared language, metaphors, rituals and jokes</li> </ul>
<b>4. Knowledge construction</b>	Conferencing Course-related discussions Critical thinking applied to subject material Making connections between models and work-based learning experiences	<b>Facilitating process</b> <ul style="list-style-type: none"> <li>- Provide more open activities</li> <li>- Facilitate the learning process</li> <li>- Pose questions for the group to consider</li> <li>- Encourage group members to question theory and practice e.g. links (or lack of connection) between theory and work-based practice</li> </ul>
<b>5. Development</b>	Use of conferencing in a strategic way Reflection on learning processes Learners become critical of the medium	<b>Supporting, responding</b> <ul style="list-style-type: none"> <li>- Encourage group members to lead discussions</li> <li>- Encourage group members to transfer their skills to other areas of their work</li> <li>- Encourage reflection on different learning processes (individual and group)</li> </ul>

## Designing ICT tools for career guidance

Sampson (2011) talks about 3 key design factors that need to be present in ICT tools for career guidance:

- 1) Provision of relevant and targeted information;

- 2) inclusion of self-application activities that can assist users in making meaning of the information provided; and
- 3) integration of practitioner presence to provide opportunities for purposeful communication throughout the intervention to support meaning-making, prioritisation and action taking.

Lessons learned from the design and integration of digital services within career development were systematized by Bimrose et al. (2015). Six design components were identified that ensure accessibility to practitioners and their clients:

**1) Type and Focus of Content**

The intended outcomes and purpose of the tool will impact the nature of the tool, type of information and its presentation.

**2) Format of the Experience**

This component asks question about the mode of delivery of the service, that can be group-based or individual, synchronous or asynchronous, or a combination of both in different ways. Several models of blended delivery of e-learning exist:

- *Rotation model.* Counsellor and client rotate between modalities during the process in a purposeful and fixed pre-planned way (individual meetings, group activities, online activities).
- *Flex model (flipped classroom).* Most activities are provided online, but clients are able to access counsellors time in a flexible way to meet their individual support needs. Thus, the traditional relationship between presence activities and home activities are reversed: Clients learn at home via online tools and counsellors use synchronous time for a higher level support. This model enables counsellors to use face-to-face time more efficiently.
- *A la carte model.* Clients receive core content face-to-face and then access additional learning opportunities online based on their needs.

**3) Interactive strategies:**

Points of interaction between client and counsellor need to be defined. Counsellor's role can consist in:

- personalising content,
- strategically reviewing a user's activities and posing questions to foster meaning making;
- establishing dialogue between the practitioner and client to provide space for the practitioner to utilise counselling skills,
- creating group discussion boards;
- providing access to a guest (employer, practitioner with specialised knowledge);
- allowing users to give feedback (rate and comment) on the relevancy of components of the programme;
- creating personalised application activities to enable users to applying learning outcomes to their personal context.

**4) Facilitator Role:**

The counsellor will have similar roles in the online intervention compared to the traditional service delivery modes (assessing needs, administering assessments, sharing resources, helping generate ideas, providing feedback...) and will use his/her counselling skills (asking questions, summarizing, reflecting...). However, in a text-based counselling new techniques and skills are needed with the focus on written communication: summarizing the dialogue and linking to previous discussions or content; enquiring about the development and changes in a client's online narrative; sharing observations of a client's online engagement patterns.

#### **5) Technology Selection:**

The technology should be transparent and provide a space for a working alliance to develop. Asynchronous approaches can leverage the potential of reflection for the client (content and personal application activities with a space to work, summarize and share personal reflections) and practitioner also (ability to review the client's progress and previous communications before responding). Synchronous activities allow for enquiries about a service and to receive quick answers to direct questions or to engage in a real-time counselling discussion.

#### **6) Support Strategy**

Support needs to be available to counsellors and to clients. Key support strategies include:

- establishing clear agreement with the client on how quickly and frequently a practitioner will respond to a client's submissions;
- providing documentation that describes how to log in and initially navigate in the online system;
- asking for and discussing client feedback early in the process;
- offering 'help' materials within the online space (troubleshooting, telephone support...).

## Summary of the interviews: the counselors' and users' points of view on how far ICT tools and career guidance practices are integrated.

For this comparative project, 11 counsellors and 10 users have been interviewed about ICT tools being used in career guidance. All counselors have answered the same questions (see encl.) through a semi-structured interview and all have requested a limited number of beneficiaries to be available to fill in a short questionnaire (see encl.).

Countires which took part in the research: Italy, France, Slovakia, Slovenia, Scotland, Austria, UK.

Number of ICT studiet : 11

Kind of users ITC tools are destined to:

13-18 years old : 2 tools (Me Tycoon et Joblab)

15-18 years old, students or people with small experience: 3 tools (Plan ITPlus, Sorprendo, Sorprendo revolution)

Jobseekers : 1 tool (eSvetovanje)

Employed adults: 1 tool (Worknavigator) 1

All target groups : 4 tools (BerufsInformationsComputer, E-Portfolio, TéOxtr, ISTP.sk)

Main functions

The main ITC functions differ according to the various kinds of people they are destined to.

The ICT tools for 13 – 18 years old are focused on gamification elements. They are serious games with avatar allowing the players to reflect on the labor market, on their careers, on their skills and simulating a job hunting.

The ICT tools for 15- 18 years old are mainly focused on career professional orientation. They always present questionnaires on interests, vocational values, skills and points of strength. They offer help in career guidance during a course of studies and to plan a work search. They propose a classification of business and allow to create a match between the teenager's skills and the businesses where such skills are required. Some of the ITC tools even provide an immediate information training courses and on apprenticeship.

The ICT tools for employed adults are focused on increasing self-awareness and on one's own professional project. Work motivation, family influences, priorities, successful experiences are explored and some activities for the building of a personal and professional net are proposed.

The ICT tools for all target groups consist of different sections: a first part in focused on self-evaluation with questionnaires on motivation, personality, communicative skills and interpersonal skills. A second part is focused on professional skills and includes a classification of occupations and the exploration of work and training offers. A third part contains those activities focused on job hunting, the labor market and the job interview. It is possible to have access to information (videos, site lists, site links, texts), a support to draw one's CV and prepare for a job interview. The user can create and keep a personal

database of skills and a CV. It is possible to interact with one's own counselor and send one's CV to firms. He/she can check job offers and match one's personal profile with the cards referring to businesses/job offers/training courses.

#### ICT tools and career management skills development

In the counselors' opinion almost all the tools allow the users to gain a better autonomy in career management and self-awareness, especially the tools proving job offers too and the chance of matching one's own features with those requested by a job (for some of the tools this is also confirmed by quality projects).

#### Pedagogical models

No specific education model has been used for the tools surveyed. In the case of TIC mE Tycoon only, destined to 13 – 18 teenagers, documents are provided to help teachers and counselors to combine the games with a career guidance multimodal roadmap, based on Kolb's learning cycle.

#### Les avantages of ICT tools

The advantages which counselors have pointed out in using the various tools are about the following possibilities:

- To save time to gather information (everything is available through a single link);
- To interact with the platform through different means (smartphones, tablets, PCs, apps);
- To have constant access and from anywhere to one's CV and files.

As far as the ICT tools advantages are also given by an attractive layout and by its game system which allows to learn by playing.

Such tools are welcome if they are simple, intuitive, quick, if videos are used and if they are interactive.

#### Limits of ICT tools

All ICT tools are hardly accessible to low-qualified people who need to be helped by a counselor. The ICT tools destined to the public in general are to be more suitable to the different kinds of beneficiaries.

#### Communication with counsellor

No ICT tool provides a direct communication with the counselor. He/she can be reached via e-Mail.

The ICT for adults only, for job hunting (Worknavigator), provides a paid counseling aid.

#### Communication between clients

The ICT Me Tycoon only, destined to 13 – 18 teenagers, allows an exchange among the users.

#### Impact studies

For most of the ICT tools explored impact studies have not been performed yet. You can find some studies on the Scottish ICT PlanITPlus and on the British ICT MeTycoon.

#### Wishes for the new ICT tools

Users hope that new ICT tools could be more interactive, intuitive, quick, with different activities for different kinds of people, with links to different labor markets (local, national, international). It is also hoped that more impact studies will be carried out on tools and kinds of users.

#### Results from interviews with clients

The beneficiaries have shown appreciation for the used tools during the interviews.

They have stated that the tools have allowed them to strengthen their self-awareness, the acquired skills, the personal features, the vocational objective and the field for job hunting.

They have been supported in finding out businesses and different job offers and in choosing a job.

In their experience the counselor plays a key role in explaining how the tool is to be used and to optimize all the ICT functions.

The beneficiaries suggest, to improve the tools, to develop above all the direct links with the firms to make the job hunting easier.



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