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Eurodoc Report

Identifying Transferable Skills and Competences to Enhance Early-Career Researchers Employability and Competitiveness

Brussels, 01 October 2018

eurodoc

The European Council of Doctoral Candidates and Junior Researchers

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Summary

This report identifies transferable skills and competences[a] relevant for early career researchers to gather during their doctoral training program and beyond, in order to increase their employability in multiple work sectors. A skills matrix and infographic (see Appendix) with nine different categories, containing a total of 66 transferable skills and competences, is presented. Advice on how to acquire and document these skills and competences is provided.

Introduction

Transferable skills and competences can be acquired by Early Career Researchers[b] (ECR) to be used during their doctoral training but are not necessarily related to research. These skills, such as effective communication, time and project management, and leadership, are typically learned in one context, e.g. research, but suitable to be used in many other contexts[3]. With these skills, ECRs might contribute to more impactful research[1], while building a competitive professional profile. Transferable skills combined with original research skills can increase ECRs' employability and allow them to engage different career paths, widening their options in the academic, governmental, and private sector[3].

In this report, we use both terms, transferable skills and competences, to capture the diversity of skills, knowledge, and qualities that enable people to master various challenges.

(1) How to use this document

This document is intended to be a guide for ECRs when self-assessing their own set of skills. With the help of this document, ECRs should be able to:

- Recognise and identify the skills and competences that they already have and have been developing while carrying out their research;
- Make a case to justify and document the existence of these skills and competences to others, such as future employers.

(2) How to acquire relevant transferable skills and competences

The acquisition of transferable skills and competences can come in many forms. Skills can be acquired through *formal training courses* provided by higher education institutions but is not limited to well-defined courses and professional accreditations. Many transferable skills

[a] Note that "generic competences", "transversal competences", "soft skills", "generic skills" or "professional skills" are also used to describe certain transferable skills[1]. The terms "competence" and "competency" are used interchangeably in this report.

[b] Early-career researcher refers to the research profiles First Stage Researcher (R1) and Recognised Researcher (R2); see also https://euraxess.ec.europa.eu/.

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can be obtained through what is commonly termed as «*learning-by-doing*», such as *work-based learning, internships,* and *extracurricular experiences*[4]. For example, teaching and mentorship skills can be obtained by running workshops, holding lectures, and supervising or mentoring students[6]. Many transferable skills and competences also require continuous learning and development, which can be performed through a variety of experiences and contexts, e.g. through extracurricular activities outside the work environment. *Family, social interactions, hobbies,* and *volunteer work* can all potentially contribute to transferable skills development, e.g. group sports activities can help attain team-working skills[7].

Many discussions can be found in the literature about the various ways of learning and education for transferable skills. However, these discussions are not the main objective of this document and therefore are not integrated into this report.

(3) How to document transferable skills and competences

Regardless how the respective skills and competences were acquired, e.g. formal training courses, work experience, hobbies, the most common way of documenting them is by compiling a transferable skills portfolio. Such a portfolio could be described as a collection of materials e.g. diplomas, certificates, examples of various outputs, put together to demonstrate the acquisition and development of a transferable skill-set. The documentation should follow the STAR principle, describing 1) the Situation where a specific transferable skill was acquired, 2) the Tasks that was fulfilled, 3) the Action that was taken and 4) the Result that was achieved. In order to fulfil its purpose, such a portfolio should always be kept up-to-date, which will help the individual to plan the acquisition and development of transferable skills and competences. Portfolio assessment is the internationally most widely accepted way of documenting competences in e.g. pedagogy[8] or medical professions[9].

The advice on how to build paper-based or electronic portfolios is rather extensive and beyond the purpose of this report. Thus, we suggest the reader interested in developing such a portfolio to consult available resources[10]. That being said, we would like to emphasise that it is crucial to ensure proof of all activities, outputs, or other experiences that demonstrate an acquired transferable skill or competence. Therefore, the first important practical step towards a portfolio is the collection of all relevant materials in both paper and digital form, such as signed documents stating skill or competence, teaching evaluation forms, course certificates, presentations used for teaching, or video and audio material, to name a few.

(4) Transferable skills and competences

The transferable skills and competences found relevant for enhancing the employability and competitiveness of ECRs are summarised in Table 1 and in the infographic in the appendix, without any claim for completeness. Note that the same skill might belong to two or more categories at the same time but was mentioned in only one category for simplicity.

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Table 1. Transferable skills and competences matrix.

Competence Category	Transferable Skills and Competences	Reference
Career Development	• Career planning and assessment • CV writing • Interview techniques • Job application • Job searching • Skills documentation and verification • Skills gap identification and development	1,6,12,13
Cognitive	• Abstraction and creativity • Analysis and synthesis • Critical thinking • Organisation and optimisation • Problem-solving	1,3,11,12
Communication	• Academic writing • Formal correspondence • Oral presentation • Science for non-technical audiences • Science for policy making • Social media and webinar usage	1,3,6,11,12
Digital	• Information accessing and retrieval • Information presentation and visualisation • Information processing and exchange • Programming • Software usage and development	25,26
Enterprise	• Commercialisation • Entrepreneurship • Innovation • Intellectual Property Rights (IPR) • Knowledge transfer within and across sectors • Legal and business standardisation • Patenting	1,3
Interpersonal	• Conflict management • Discipline and perseverance • Diversity awareness • Independence and responsibility • Leadership	1,3,6,11,-13

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	• Negotiation • Networking • Rhetoric and argumentation • Stress tolerance • Taking on responsibility • Teamwork	
Mobility (intersectoral and international mobility)	• Intercultural awareness • Intercultural communication • Intersectoral experience • Intersectoral awareness • Foreign language skills	6,18,25
Research (research intensive and non-research intensive)	• Citizen Science • Data analysis • Disciplinary knowledge and terminology • Ethics and integrity • Grant application writing • Interdisciplinarity • Literature use and management • Open Access publishing • Open Data management • Open Education • Open Evaluation • Open Licensing • Open Methodology • Open Source • Project management • Time management	1,11,12,14–17
Teaching and Supervision	• Course development and assessment • Exam preparation and assessment • Mentoring and supervising students • Teaching and learning theories and methods	11

(5) Methodology

For the categorisation of the transferable skills and competence matrix from Table 1, reports and frameworks by several international organisations were reviewed, which are cited in the table accordingly. The skills and competences were categorized according to the OECD report[1], with some modifications in order to fit this report.

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(6) Definitions

Table 2. Summary of definitions of notions surrounding the concept of "skills".

Notion	Definition	Source
Skills	"A skill is the ability to translate knowledge into an action that results in an outcome at the desired level of performance." "Refers to one's ability to do things [and] is also located in the job or activity, … skill is socially constructed".	22
Qualification	"Formal skills and reproducible abilities people need to possess to perform professional activities. They refer to specific tasks and contexts, so a successful qualification serves as preparation for specific tasks and contexts and lays the necessary groundwork for performing the tasks. Qualifications provide verifiable documentation of a learning unit whose content, scope, duration, format, and setting are institutionally determined. Qualifications are therefore communicable".	11
Competence	"Are predispositions composed of knowledge, skills, abilities, and attitudes (toward values)/qualities that enable people to master various situational challenges. The emphasis here is on the capacity to transfer these predispositions to a concrete situation. As such, competencies are not verifiable in the way that qualifications are but can only be made plausible".	11
Transferable skills	"Transferable skills are skills learned in one context that are useful for another. They can serve as a bridge from study to work and from one career to another, as they enable subject and research-related skills to be applied and developed effectively in different work environments." "Generic professional competencies that are equally applicable to all professional settings".	1,23

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Generic skills	"Refer particularly to higher order (often cognitively heavily laden) skills of this kind, which are believed to underpin a wide range of competence exercised in a variety of social settings and/or across a range of occupations"	24

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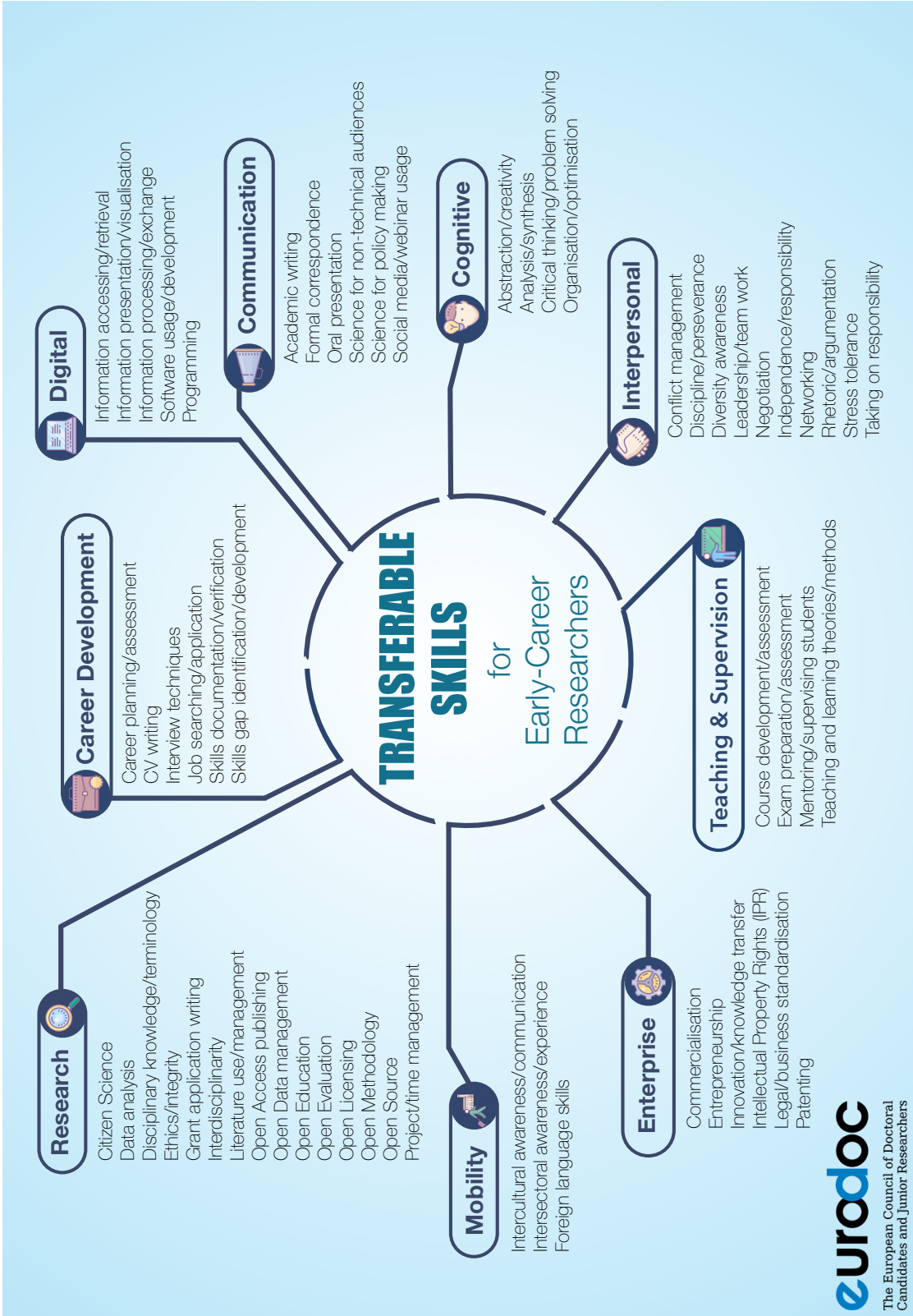
Appendix. Infographic of transferable skills and competences[c].



[c] Infographic created by Giulia Malaguarnera, Davide Pacitti and Charlotte Weber.

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