

Matching learning outcomes with VET and further training opportunities in the IT sector

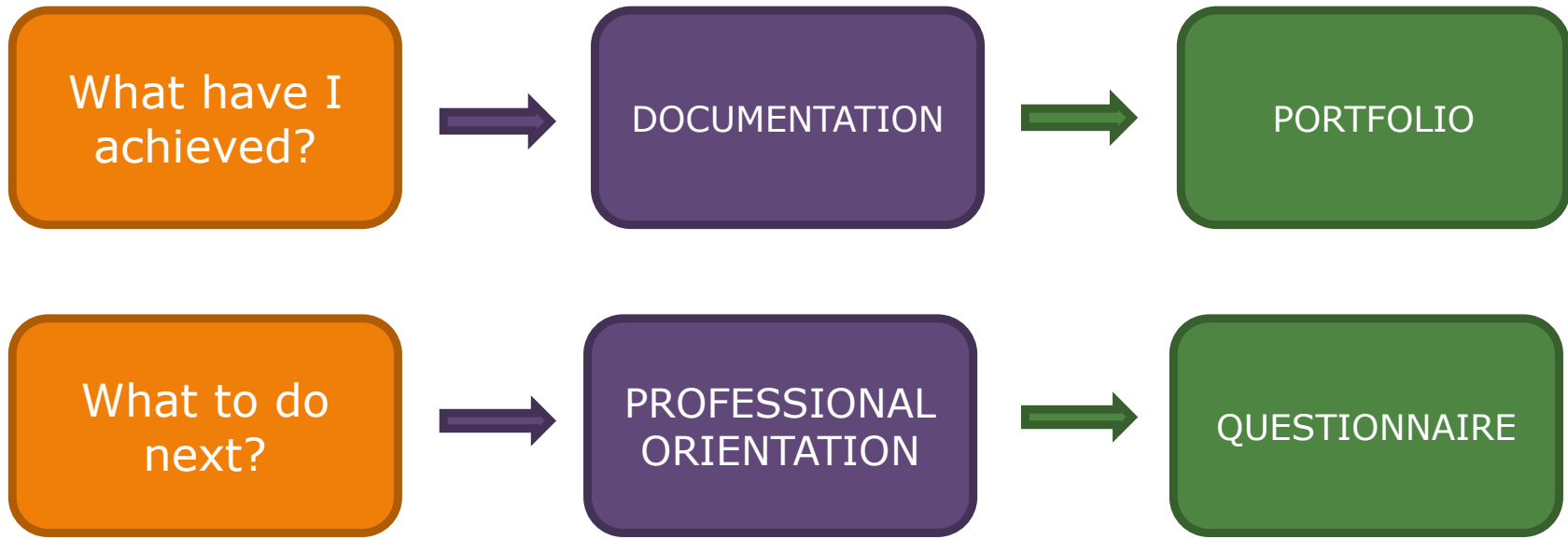


Situation in France:

- 285 VET training programs in IT
- VET referentials: 120 – 250 pages
- 256 university programs in IT
- Every university has autonomy in determining content of their programmes in IT

Is it possible to use a simple matching approach?

General principles



Motivation and guidance are the key...

Administrative



Practical



Entrepreneur



Intellectual



Social



Artistic



Ingredients

- University LOs
- Corresponding VET LOs
- ESCO
- Holland's RIASEC

Steps of development

Preliminary steps

- Identification of the targeted sector + universities
- Identification of occupations accessible through VET (ESCO)

Portfolio

1. Collection of the curricula of university programs
2. Elaboration of areas of competences and their documentation
3. (Documentation of the learning outcomes from non-formal and informal learning)

Questionnaire

1. Attribution of the Holland code to occupations
2. Classification of learning outcomes and occupations by RIASEC codes
3. Development of an online questionnaire
4. Development of the personalized suggestions (questionnaire results)



PORTFOLIO

1. Collection of the curricula of university programs

4-5 university programs from targeted sectors

Czechia	Bachelor´s study program: Informatics (ČVUT, Fakulta informačních technologií: Informatika)
	Bachelor´s study program: Informatics (VUT, Fakulta informačních technologií: Informatika)
	Bachelor´s study program: Informatics (Západočeská univerzita v Plzni: Informatika)
	Bachelor´s study program: Software engineering (Univerzita Tomáše Bati ve Zlíně: Softwarové inženýrství)
France	Bachelor in informatics - specialization health services (Université de Bourgogne)
	Professional Bachelor - Logistics, speciality IT systems in logistics (Université de Bourgogne)
	Professional Bachelor - IT systems and software, Speciality: Manager of enterprise IT systems (Université de Bourgogne)
	Professional bachelor - IT systems and software, speciality Intra/internet systems for enterprises (Université de Bourgogne)
Germany	B. Sc. Computer Science (Technische Universität Berlin)
	B. Sc. Business Informatics (Technische Universität Berlin)
	B. Sc. Computer Science (Humboldt-Universität Berlin)
	B. Sc. Computer Science (Freie Universität Berlin)
	B.Sc. Computer Science (Technische Hochschule Brandenburg)
Poland	Informatics, Bachelor´s degree (Kielce University of Technology)
	Informatics, Bachelor´s degree (AGH University of Science and Technology, Cracow)
	Teleinformatics-Bachelor´s degree (AGH University of Science and Technology, Cracow)
	Informatics- Bachelor´s degree (University of Warsaw)
Spain	Informatics- Bachelor´s degree (Cracow University of Technology)
	Bachelor's Degree in Telecommunication Systems Engineering (UNIVERSITAT AUTÒNOMA DE BARCELONA)
	Bachelor's Degree in Computer Engineering (UNIVERSITAT AUTÒNOMA DE BARCELONA)
	Bachelor's Degree in Electronic Engineering for Telecommunication (UNIVERSITAT AUTÒNOMA DE BARCELONA)
	Bachelor's degree in Informatics Engineering (Universitat Politècnica de Catalunya)
Bachelor's degree in Computer Engineering (Universitat de Barcelona)	

2A: Competence areas

“Clusters” of LOs, combined from different curricula

- 1. Programming**
- 2. Software engineering**
- 3. Computer, machines and operating systems**
- 4. Mathematics + mathematical analysis**
- 5. Electronics**

2A: Competence areas

Basic principles:

- **Balance between self-documentation (writing) and selecting items**
- **Wider scope – inclusion of informal learning**
- **Exploitable outcome, despite only personal / social recognition**



QUESTIONNAIRE

1: Attribution of Holland's codes

"Feasibility study" with 2 possible approaches:

1. **Intuitive**
2. **Using pre-existing occupational framework**
(e.g. O*NET)

ICT system analyst	I	C	R
User experience analyst	I	R	S
System configurator	I	R	C

2: Classification of VET LOs by RIASEC (defining items)

Study of corresponding VET outcomes and search for possible items for every RIASEC code in LOs / activities:

LEARNING OUTCOMES	
Realistic	
1.	configure a system according to a specific demand
2.	connect and operate a computer periphery
3.	install network management software
4.	measure electronic circuits
5.	manage and administer company's computer network
6.	service computer hardware
7.	use knowledge of different PC components
8.	assemble computers from different components
9.	install operating systems
10.	verify the conformity of a delivery of hardware / equipment
11.	operate and configure PCs and their peripheries
12.	install and maintain application software (for ex. MS Office)
13.	Install power supplies and test electrical safety measures
14.	Install networks and wireless transmission systems
15.	Carry out maintenance work to information technology and telecommunications equipment and systems

4: Personalized suggestions

- **General description of the type**
- **Activities in IT**
- **Possible occupations**
- **Training opportunities (VET and non-formal)**

What process?

Step	Outcomes	Form
1. Welcoming and initial analysis	Definition of the demand	Personal meeting with a counsellor
2. Documentation of LO from formal, non-formal, informal learning	Personal portfolio	Internet-based / homework
3. Questionnaire	Positioning and identification of hypothesis of professional orientation	Internet-based / homework
4. Contact with the reality	Contacts with specific training institution and partners	Individual work accompanied by the counsellor (on-demand)