

Institute of Business Education and Educational Management

Swiss Circular Economy of Skills and Competences

Innosuisse Flagship Initiative



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Swiss Confederation

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Sub-Project 2 – Induvial Competence Portfolio

Motivation

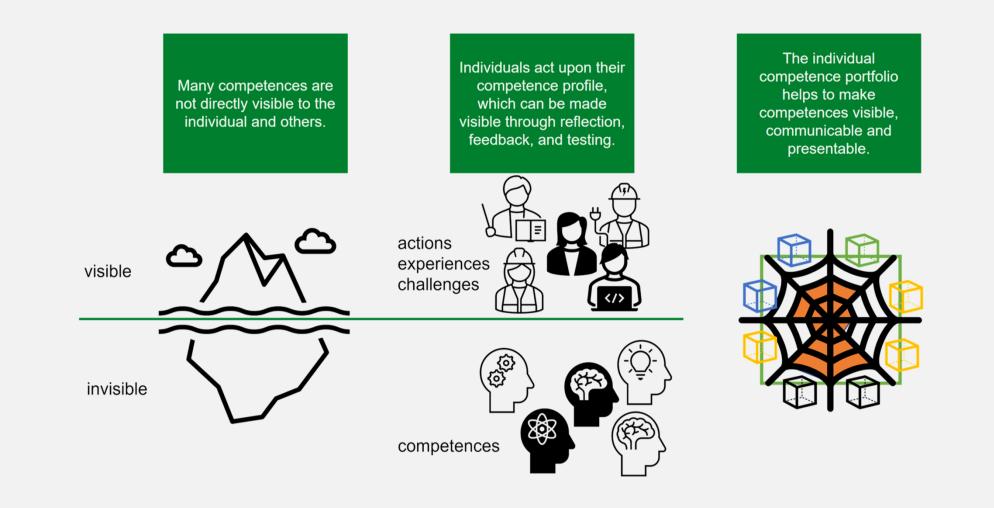
The competence portfolio creates a common understanding of key competences for all parties involved. The enhanced transparency improves information, communication, and reflection processes:

Individual learners can comprehensively document their competences. From a pedagogical perspective, the portfolio leads to a higher learning motivation since increased transparency supports self-efficacy in the individual competence management. Moreover, by enabling to link informal and formal learning, more agency is given to the individuals, improving self-reflection and selfmanagement. A structured analysis of one's own level of competence forms the basis for reflections about and decisions on further training. Such support is essential for lifelong learning.

Companies benefit from the portfolios as a complement to internal competence management efforts. More transparent information on potential applicants can be assessed, which helps to better judge on the fit within recruiting processes. In addition, individual portfolios can be used to identify internal competence gaps and, based on this, to further develop employees in a targeted manner.

Goal and Applicability

The overall goal is to generate a common understanding of competences and to enhance transparency, comparability and communicability thereof. This goal will be achieved by designing a basic competence framework and complementary industry-specific grids. The portfolio structure is key for smart professional education in the future: It informs and engages individuals, and is the starting point for recommendations and coaching. After successful completion of the flagship project, the portfolio structure can be adapted to further sectors / associations.



Competence Biographies

The sub-project combines competence recognition with digital credentials and the further development process. As such, an important contribution lies in advancing competence orientation on the credential site. The implementation of an easy to share Competence Vitae is an important step towards a socially shared, self-regulated competence orientation, away from segmented further education and predetermined career paths, towards creating one's own competence profiles.

Added Value

Competence-oriented assessments

Upon the recent research on the use of e-portfolios we develop the approach further, not only designing an interface for the individual to present own competences, but to integrate competence development with competence certification. On the flagship level, the competence portfolio is key to scaffold the whole learning cycle.

Education providers can use the portfolios as an answer to heterogeneity problems. For one thing, portfolios provide an overview of their – increasingly diverse – learners' prior knowledge and prior experiences. In addition, learning content is being applied in increasingly varying contexts. Through competence portfolios, the flow of information of different job profiles is enhanced.

Integrating education in a seamless manner

Based on the research on Seamless Learning we design an integrative competence portfolio, within which different approaches and settings to develop competence find one nexus. The competence portfolio is open to multiple educational approaches, integrating formal, non-formal and informal learning. The design of the competence portfolio is using the whole potential of digital technology as digital zone, instrument, interaction, and selfregulated learning tool.

Sub-Project Overview

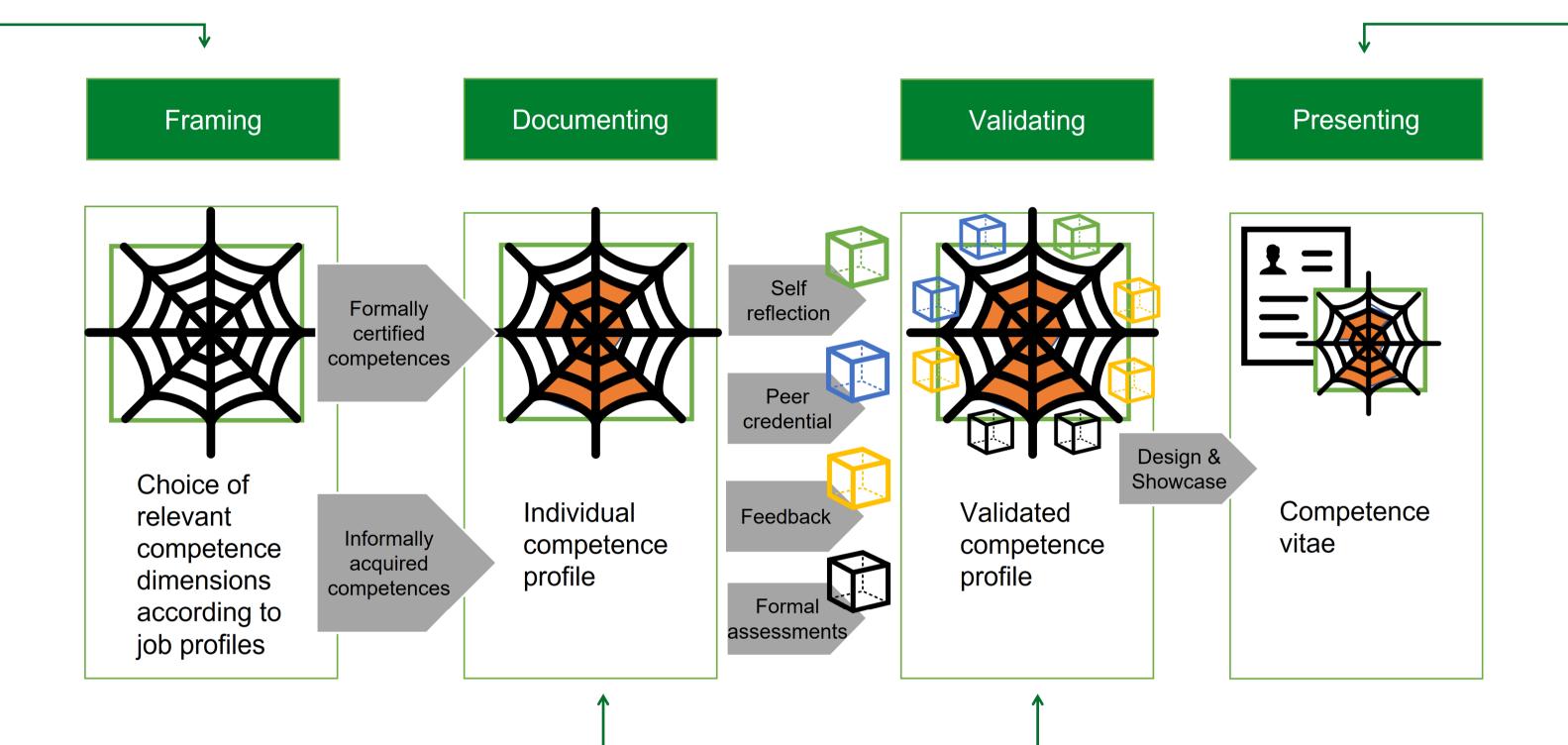
Objective 1: Framing Competence

The main output of the sub-project is a competence model, expressed in an overall competence framework and industry-specific competence grids. This is key for analysis, interpretation, and matching.

The model complements the research of another subproject, in which a skill trilogy is created in a data-driven manner. The joint cooperation allows to connect the systematic analysis of competences deemed important on the labour market to the existing literature and Swiss education and training structures.

Objective 2: Documenting Competence

SP2 aims at documenting platform users' competences within the designed framework, placing emphasis on the possibility to recognise informally acquired competences. One approach to document formally acquired competences is a service that translates existing certificates. Services, which document informally acquired competences are self-reflection tools, competence inquiry tools and reference projects.



Objective 4: Presenting Competence

SP2 aims at making competences communicable. This goal will be achieved by the design and implementation of the "Competence Vitae" as the central output for the platform users. Different to initiatives of competitors, displaying mostly qualification profiles, our CV presents individual competences and development foci in a structured, industry- and labour market-relevant way.

Objective 3: Validating Competence

SP2 aims at increasing the accuracy and credibility of documented competences. This is done by a badging system that enables users to validate their competences. Proof of evidence can be based on self-reflection, peer credential, feedback, work reference, or certificates. Different to existing open badge systems, our solution is contextualized to the Swiss educational context and linked to competence bundles which are relevant for work processes.

Preliminary Working Results

Classification of Competence Models

As part of a literature review on competence models, a comparative framework was generated, shown in the table below. The classification helps categorise relevant reference models. As a morphological box, the table provides a starting point for the development of new competence models.

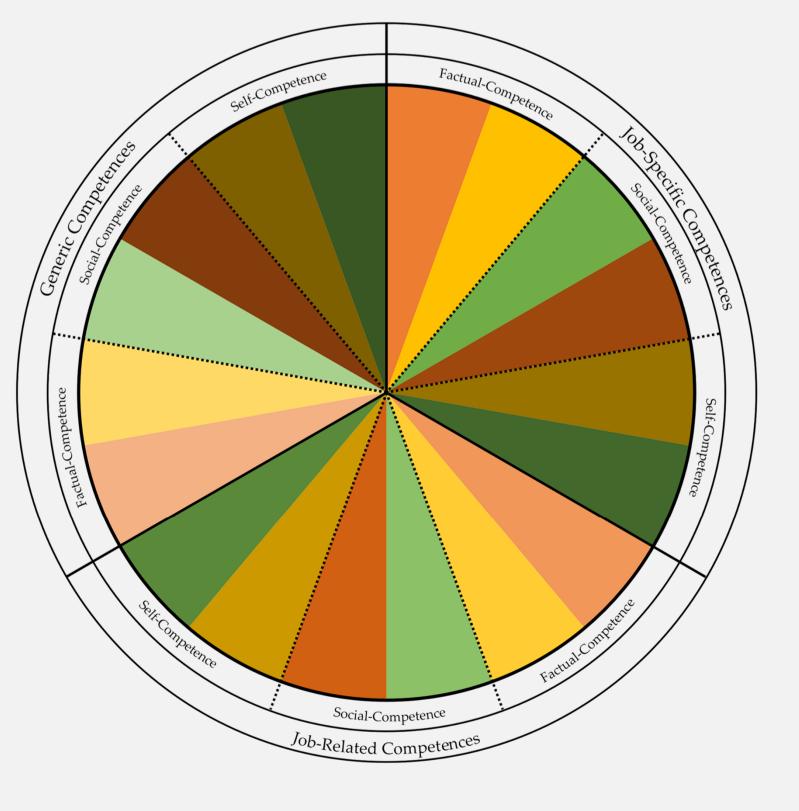
The function of a model answers the question *why* competences are modelled. The dimensions of the competence concept and the level of abstraction (factual reference) provide information about what is modelled. An answer to the question for whom competences are modelled can be derived from the people and time reference. Finally, the dimensions of order logic and rigidity specify how competences are modelled. This also includes the dimensions of level and assessment format, which are exclusively applicable to competence level models.

Parameters		Manifestation						
Why?	Function	Translation		Orientation		Determination		
What? (Factual Reference)	Competence Concept	Cognitive		Multiplicative		Personality		
	Level of Abstraction	Fields of Competences			Aspects of Competences			odel
For whom?	People Reference	Overarching	Occupational Fields		Professions		Activities	Structural Model
	Time Reference	Present		Hybrid		Future		Str
How?	Logic	Arranging		Defining		Explaining		
	Rigidity	Fixed		Adaptive		Data-Based		
	Level	None	Ac	tion-Based	Disposition-Based		Combined	Level Model
	Assessment Format	Self-Assessment		External-Assessment		Test-Assessment		Level

Prototype I: Circular Competence Model

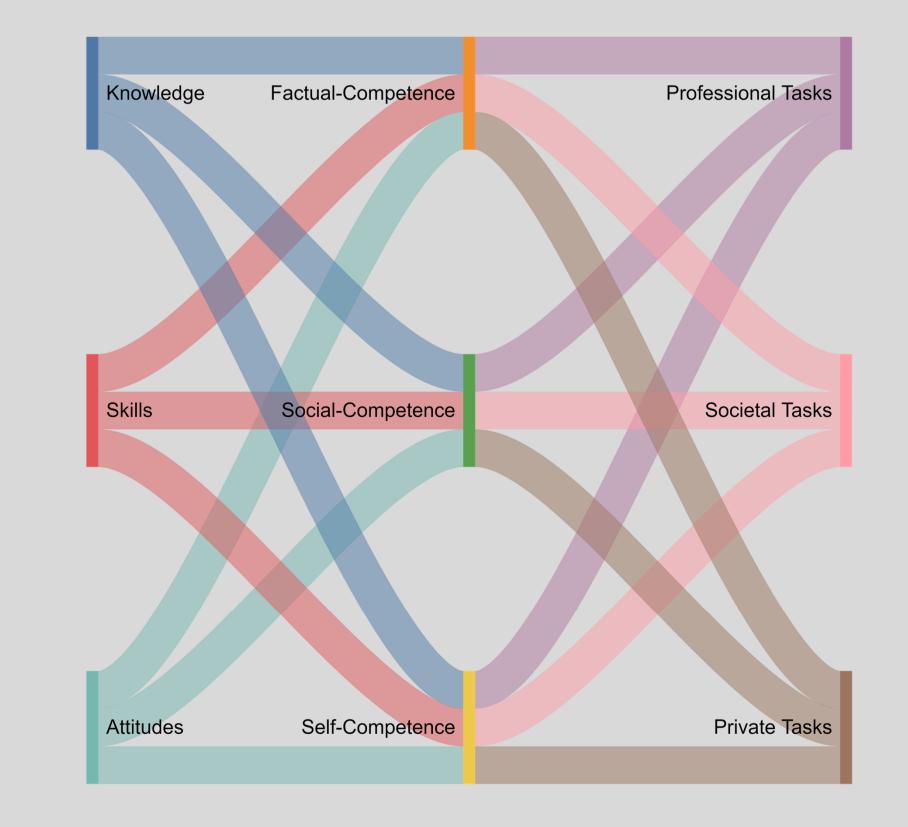
Our literature research on competence models shows that workplace approaches tend to focus on contexts (especially occupations and / or activities), while educational approaches focus rather on dispositions (competence dimensions and components). In order to build an underlying, common competence structure that is compatible with both the business and education system, we consider it necessary to link these aspects.

A first result of this consideration is a competence model in the form of a circle diagram. Structurally, the outer path reflects the contextual conditions imposed on individuals. On the inside of the circle diagram the specifics of individual competence characteristics are considered. Analytically, there is no subdivision of the competences into the components of the descriptors.



Prototype II: Sankey Competence Model

A second prototype was developed, illustrating a competence model in the form of a Sankey diagram. Connections between descriptors, competences and tasks are intended to reveal the relationships and contributions between individual elements. The flows illustrate the relationships, the thickness of the flows the respective proportions. This form of display prevents individual descriptors, competences or tasks from being listed more than once, as could happen in the layout of a pie chart. Further, such a model provides a better way to display badges according to their origin.



Project Team and Contact



University of St. Gallen Institute of Business Education and Educational Development (IWP-HSG) Dufourstrasse 40a CH-9000 St. Gallen

Prof. Dr. Bernadette Dilger Director bernadette.dilger@unisg.ch +41 (0)71 224 26 30

Marco Strate Research Assistant, PhD Candidate marco.strate@unisg.ch +41 (0)71 224 26 26

Felix Schmid & René Beeler **AXELRA** SWISSMEM Marianne Röhrich Dr. Alexandra Steinberg David Frey Dr. Balz Stückelberger Christian Hunziker Carol Lechner Prof. Dr. Thomas Stricker

Source: Aside from the preliminary results, the content of the poster is taken from the research proposal submitted to Innosuisse on 13 August 2021, jointly written by the parties involved in the project.