



WP2 – Suggestion of a coordination model for use of existing resources based on a knowledge capital repository

D2.3 – Introducing a bridging model to align knowledge cases to knowledge gaps

INTERNationalization at Home: Embedding Approaches and Structures to Foster Internationalization at Western BAlkans

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INTERBA



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1. Work Package and Task Description

The INTERBA project aims to adopt an innovative approach for creating a repository of knowledge capital and reshaping knowledge to deliver new insights and practices. In this respect, Work Package 2 (WP2) aims to create a coordination model that helps exploit the knowledge capital of all partner institutions effectively.

WP2 started from the results attained in WP1, which analyses the knowledge capital in partner countries, conducts a needs analysis and prioritizes internationalization areas. Considering these needs, WP2 established a method that helps to align knowledge capital cases to the uses that can bring clear benefits to other consortium institutions.

1.1. Work Package Description

WP2 is articulated in the following three tasks:

T2.1: Creating a knowledge repository

T2.2: Creating a network of knowledge experts

T2.3: Introducing a bridging model to align knowledge cases to knowledge gaps

The work of WP2 is composed of the following main steps:

1. The definition of templates that describe the knowledge cases and the experts' profiles. This data will populate the Knowledge Repository (KR) and the Network of Experts (NoE) repository, respectively.
2. The selection of the most suitable technical infrastructure to create the repositories.
3. The creation and population of the repositories.
4. The definition of a model to bridge the gaps between existing knowledge capital and the knowledge capital cases to acquire.

This deliverable is specifically devoted to describing methods, actions and achieved results related to task **T2.3: Introducing a bridging model to align knowledge cases to knowledge gaps.**

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1.2. Task Description

Task 2.3: "Introducing a bridging model to align knowledge cases to knowledge gap" aims to create matchmaking between the needs of the partners and the knowledge made available by the partners themselves. The need to expand the knowledge and take courses in specific sectors have been analyzed and categorized by WP1. The partners' wealth of knowledge, both in terms of experts and courses immediately available, has been analyzed and categorized by WP2. Based on the data collected so far, this goal was achieved through the following steps:

- Suggest an approach for matchmaking expertise to knowledge gaps.
- Identify the criteria to be used for selecting appropriate expertise.
- Document the process for aligning knowledge cases to knowledge gaps.



Based on WP1 input, the work within T2.3 has developed a model to compare the needs with the existent knowledge capital collected in the Expert Repository and in the Knowledge Repository. The experts were characterized by the keywords ISCED⁽¹⁾ and ESCO⁽²⁾, and by their curriculum and previous experience. The courses were characterized by ISCED category and topic. A textual description of the courses is also available. All the available courses are reported in Table 1. As regards the needs, PC partners have indicated a topic and a description for the needed training courses (see Table 2).

All the details about the courses and the experts are available in deliverables D2.1 and D2.2. All the partners' needs details are available in the WP1 related deliverables.

Course	Partner ID	Title
C01	P6	Pedagogical Didactic
C02	P6	School administration
C11	P6	Management of new media and design elements
C12	P6	Natural heritage and cultural tourism
C14	P6	Introduction to communication
C15	P6	Contemporary Political Theories
C16	P6	History of European Integration and EU institutions
C17	P6	Public policy
C24	P6	Capital Markets and its institutions
C25	P6	Intro to Business Management
C26	P6	Project Design and Management
C27	P6	Project Management and evaluation
C28	P6	Quality Development of International Cooperation and Project Management (Quality Management)
C37	P6	The Strategy of Management in Information Technology
C38	P6	Theory of Databases
C39	P6	Web design and applications
C40	P6	Basics of Informatics
C41	P6	Software engineering
C03	P10	Curriculum development in higher education
C04	P10	Didactics, curriculum development and curriculum planning (Didactics and curriculum planning)
C05	P10	Research Methodology, Scientific Writing and Result Presentation: Humanities and Social Sciences
C06	P10	Scientific Writing and Publication
C18	P10	Networking and team building
C19	P10	Fundamentals of the andragogical approach in higher education
C29	P10	Financing of events and projects in cultural tourism
C42	P10	Software project management
C51	P10	Urban agriculture

¹ <http://uis.unesco.org/en/topic/international-standard-classification-education-isced>

² <http://data.europa.eu/esco/skill/K>



C10	P8	Online Collaboration Tools
C43	P8	Methodologies of scientific research
C07	P1	The school climate
C20	P1	Private International Law
C21	P1	Reaching the policy level/dialogue with decision makers
C22	P1	Training for career orienting
C23	P1	Integration of refugees
C45	P1	Data Systems Analysis, Design and Implementation
C48	P1	Simulation software in crude oil refinery process (case study in Albania)
C53	P1	Leading Towards Sustainable Gender Equality Plans in Research Performing Organizations
C54	P1	Tourism marketing strategies (*)
C55	P1	The economics of advertising
C56	P1	Sustainable development of BLUE economies through higher education and innovation in Westerns Balkan Countries
C46	P9	Video editing and camera tracking
C49	P9	Combined Water and Energy integration in the Process Industries
C50	P9	Energy efficiency in Chemical Processes by Pinch Analysis
C52	P9	The Impact of COVID-19 on Students with Disabilities
C08	P7	Course relevant to industry needs
C09	P7	Designing courses and study programmes that have industry relevance
C13	P7	Anglia Language Certifications
C30	P7	Entrepreneurship
C31	P7	Expert in Lean Methodology from Branches
C32	P7	Digital Marketing Training
C33	P7	Management and Public PR
C34	P7	Training in Marketing and Sales
C35	P7	Agile methodology in retail expert
C36	P7	Behavioral economic in retail expert
C47	P7	Universum Blockchain Institute

Table 1 - Courses proposed by partners (from D2.1)

Partner	Need	Topic of the training
P10	Training in cooperation between HEI and business	Cooperation between educational institutions and business
P10	Training in career guidance	Labour market issues incl. career guidance / youth unemployment
P10	Training on quality and relevance of HE	Quality and Relevance of Higher Education in Partner Countries
P6	International Best Practices for Entrepreneurship Education	Enterprise, industry and SMEs (incl. entrepreneurship)
P6	Improvement of existing units for Internationalization at Home at the university	International cooperation, international relations, development cooperation



P7	Effective business start-up incubation at university	Labour market issues incl. career guidance / youth unemployment
P7	Training on international best practices for student retention	Quality and Relevance of Higher Education in Partner Countries
P8	Training for Entrepreneurship Canvas Model	Open and distance learning
P9	Creating effective platforms for tracking graduates' employability	Labour market issues incl. career guidance / youth unemployment
P9	Internationalization as a part of university strategy development	International cooperation, international relations, development cooperation
P1	Development of new innovative curricula	New innovative curricula/educational methods/development of training courses
P10	Development of training courses	New innovative curricula/educational methods/development of training courses
P8	To learn modern way of teaching and curricula is more activity based, using questioning, explaining, demonstration and collaboration techniques	New innovative curricula/educational methods/development of training courses
P1	Digital transformation	ICT - new technologies - digital competences
P6	Training for new online platforms	ICT - new technologies - digital competences
P7	Designing Hybrid Classroom	ICT - new technologies - digital competences
P1	Innovation in research methodology	Research and innovation
P9	Integrating Research in Teaching	Research and innovation
P1	Project Writing	Key Competences (incl. mathematics and literacy) - basic skills
P8	Training on Project Writing	Cooperation between educational institutions and business
P8	Training on Project Writing.	Green skills
P8	Training on Project Writing	ICT - new technologies - digital competences

Table 2 – Needs expressed by partners (from D1.2)

On the basis of these data, it is possible to design a system based on text analysis techniques to extract relevant words from the topics' needs and the course description. The system can use the relevant words, join with a match between keywords, to estimate a similarity degree between i) the needs and the experts, and ii) the needs and the course.

This procedure only suggests which courses or experts could be of potential interest to the partners and satisfy their needs. This indication must be confirmed and validated by examining the individual courses' descriptions in the knowledge repository. Based on these considerations, and given that at present the partners are interested in immediately available and shareable knowledge, and therefore in courses that can be concretely delivered in the short term, we have decided to define also an alternative and immediately usable matchmaking path.

Based on their topic and description, we have grouped the needs into possibly homogeneous clusters (Table 3). For each of these clusters, we have identified one or more courses that could at least partially satisfy the needs that emerged thanks to the analysis carried out by WP1 (Table 4). Partners used this first proposal to define more precisely which courses they might use. If this proposal does not meet their needs, they could select a course from the complete list.



2. Matchmaking and selected courses

As described in the previous paragraph, we have examined the partners' needs, reported in Table 2. Based on their topic and description, we have grouped the needs into possibly homogeneous clusters, assigning them a 'macro topic' marked with a numeric value (Table 3). For each of these clusters, we have identified one or more courses that could at least partially satisfy the needs that emerged thanks to the analysis carried out by WP1 (Table 4)

Macro topic	Partner	Need	Topic of the training
1	P10	Training in cooperation between HEI and business	Cooperation between educational institutions and business
1	P10	Training in career guidance	Labour market issues incl. career guidance / youth unemployment
1	P10	Training on quality and relevance of HE	Quality and Relevance of Higher Education in Partner Countries
1	P6	International Best Practices for Entrepreneurship Education	Enterprise, industry and SMEs (incl. entrepreneurship)
1	P6	Improvement of existing units for Internationalization at Home at the university	International cooperation, international relations, development cooperation
1	P7	Effective business start-up incubation at university	Labour market issues incl. career guidance / youth unemployment
1	P7	Training on international best practices for student retention	Quality and Relevance of Higher Education in Partner Countries
1	P8	Training for Entrepreneurship Canvas Model	Open and distance learning
1	P9	Creating effective platforms for tracking graduates' employability	Labour market issues incl. career guidance / youth unemployment
1	P9	Internationalization as a part of university strategy development	International cooperation, international relations, development cooperation
2	P1	Development of new innovative curricula	New innovative curricula/educational methods/development of training courses
2	P10	Development of training courses	New innovative curricula/educational methods/development of training courses
2	P8	To learn modern way of teaching and curricula is more activity based, using questioning, explaining, demonstration and collaboration techniques	New innovative curricula/educational methods/development of training courses
3	P1	Digital transformation	ICT - new technologies - digital competences
3	P6	Training for new online platforms	ICT - new technologies - digital competences
3	P7	Designing Hybrid Classroom	ICT - new technologies - digital competences
4	P1	Innovation in research methodology	Research and innovation
4	P9	Integrating Research in Teaching	Research and innovation
5	P1	Project Writing	Key Competences (incl. mathematics and literacy) - basic skills
5	P8	Training on Project Writing	Cooperation between educational institutions and business
5	P8	Training on Project Writing.	Green skills
5	P8	Training on Project Writing	ICT - new technologies - digital competences

Table 3 - Needs of partners grouped into 5 macro topics



Partner	Macro topic	Need	ID COURSE
P10	1	Training in cooperation between HEI and business	C08; C9; C22; C25; C30; C56
P10	1	Training in career guidance	C08; C9; C22; C25; C30; C56
P10	1	Training on quality and relevance of HE	C08; C9; C22; C25; C30; C56
P6	1	International Best Practices for Entrepreneurship Education	C08; C9; C22; C25; C30; C56
P6	1	Improvement of existing units for Internationalization at Home at the university	C08; C9; C22; C25; C30; C56
P7	1	Effective business start-up incubation at university	C08; C9; C22; C25; C30; C56
P7	1	Training on international best practices for student retention	C08; C9; C22; C25; C30; C56
P8	1	Training for Entrepreneurship Canvas Model	C08; C9; C22; C25; C30; C56
P9	1	Creating effective platforms for tracking graduates' employability	C08; C9; C22; C25; C30; C56
P9	1	Internationalization as a part of university strategy development	C08; C9; C22; C25; C30; C56
P1	2	Development of new innovative curricula	C03; C04; C31
P10	2	Development of training courses	C03; C04; C31
P8	2	To learn modern way of teaching and curricula is more activity based, using questioning, explaining, demonstration and collaboration techniques	C03; C04; C31
P1	3	Digital transformation	C10;
P6	3	Training for new online platforms	C10;
P7	3	Designing Hybrid Classroom	C10;
P1	4	Innovation in research methodology	C05; C06
P9	4	Integrating Research in Teaching	C05; C06
P1	5	Project Writing	C26; C27
P8	5	Training on Project Writing	C26; C27
P8	5	Training on Project Writing.	C26; C27
P8	5	Training on Project Writing	C26; C27

Table 4 – Matchmaking table. Proposed courses for each macro topic

Partners chose 6 courses from the matchmaking table (table 4). The courses are C04, C05, C10, C28, C43, C56. They then selected 3 courses from the complete list (Table 1; courses C49, C52, C53). They also included three additional courses in the final offer. The complete list of courses offered in





this phase of the project, which emerged both from the matchmaking operations and from the partners' choices of the partners, is shown in Table 5.

Course Number	PARTNER	Title
C04	P10	Didactics, curriculum development and curriculum planning (Didactics and curriculum planning)
C05	P10	Research Methodology, Scientific Writing and Result Presentation: Humanities and Social Sciences
C10	P8	Online Collaboration Tools
C28	P6	Quality Development of International Cooperation and Project Management (Quality Management)
C43	P8	Methodologies of scientific research
C49	P9	Combined Water and Energy integration in the Process Industries
C52	P9	The Impact of COVID-19 on Students with Disabilities
C53	P1	Leading Towards Sustainable Gender Equality Plans in Research Performing Organizations
C56	P1	Sustainable development of BLUE economies through higher education and innovation in Westerns Balkan Countries
	P6	IT Governance for Higher Education Institutions
	P7	ICM mobility
	P7	Internationalization at Home: A good alternative for an isolated Kosovo

Table 5 – Courses currently activated.

3. Conclusion

In this task, we have examined the results of WP1 (needs) and the previous steps of this WP (courses, experts. Based on these results, we proposed i) a semi-automatic procedure to suggest matchmaking between the needs and the available resources, and ii) clustering of needs and a matchmaking proposal between each group of needs and courses. Partners chose 6 courses from this proposed matchmaking, and completed their offer with other courses, for a total of 13 courses currently activated.