Work package (WP) 2:
The development of UNI-TEL training path
(e-course) - ACTIVITY 2.1

University of Turku, Finland (P2)

WP2 contributes to enhance skills and competences of

professors/lectures

instructional designers

on innovative collaborative ICT-based practices as a means to increase curriculum modernisation and internationalisation.

General learning objectives of the course

Pedagogy *Industry-relevant, working life oriented pedagogies such as project-based learning and problem-based learning*

Technology *To learn the principles of digitalization and enabling technologies that lead to innovative pedagogical practices;*
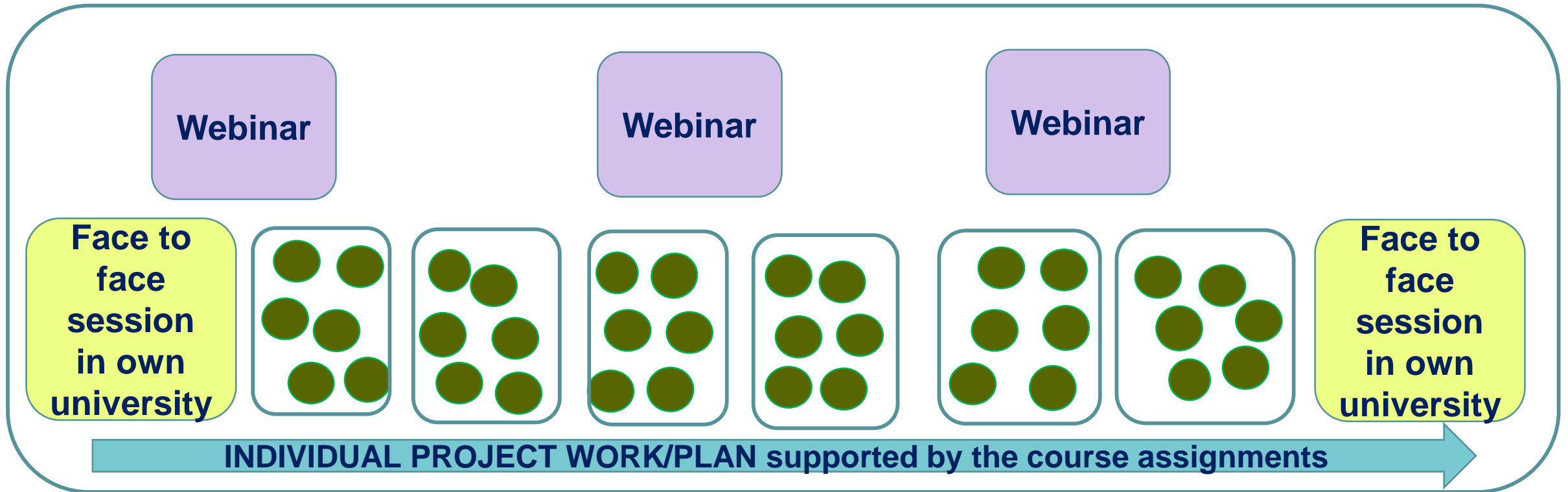
Process development *To learn technologies, protocols and tools for applying ICT in processes and services;*

Transformation, change *To be able to implement a project for the digital transformation of a process, area, or department.*

Structure of the training path (e-course)

Target audience (participants) of the designed course:

The training is designed for 91 participants

at least 13 participants from each Iranian partner institution

70 % professors/lecturers, 30 % technical staff/instructional designers

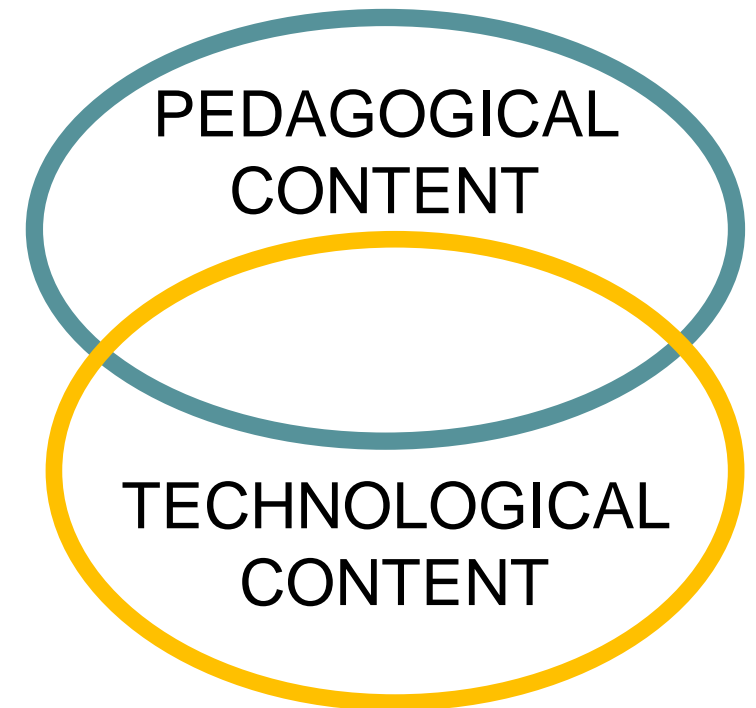# WP 2.4 *Development of the UNI-TEL e-course*

BY UTILIZING THE RESULTS OF WP1:

EU HEIs and Iranian HEIs will **co-develop** the syllabus and learning material according the training path (WP2.1):

- audio/video lessons,
- presentations,
- videos,
- quizzes,
- questionnaires,
- projects,
- additional learning resources and
- literature.

PEDAGOGICAL CONTENT

TECHNOLOGICAL CONTENT

UNIVERSITY OF TURKU

SUGGESTION OF E-COURSE'S MODULES AND TOPICS – INTRODUCTION BY UTU

A suggestion for the modules:

MODULE 1: Orientation to the course and modern concepts of learning

MODULE 2: Student-centered learning in practice and in STEM

MODULE 3: Methods and tools of TEL

MODULE 4: Cooperation with the industry and working life relevant skills

MODULE 5: Assessment and feedback as a part of teaching and learning

MODULE 6: Modernization of teaching

UNIVERSITY OF TURKU

MODULE 1: Orientation to the course and modern concepts of learning

1.1. Orientation to the course	- Course's aims and objectives - Structure and contents of studying - Methods of studying - Role and requirements of participants - Guidance and support provided
1.2. Opportunities and challenges of e-learning in Iranian HEIs - perspectives and practical experiences	- Contents are based on the WP1 report: e.g. *Addendum for Skills and competences of the Universities' lecturers in line with the digital education era*
1.3. The concept, models and implementations of e-learning	- History and diversity of the concept of e-learning - Alternative ways to utilize network as part of the learning environment - Examples of alternative well-working implementations of e-learning
1.4. Designing quality e-learning	- Perspectives on quality e-learning (according to research) - Basic principles for designing quality learning (learning is not knowledge transfer but rather based on the student's activity) - Changing role of a teacher into instructor (who organizes and moderates activities in a learning environment, develops community culture and supports students' path to facilitate learning) - Aspects needed in quality e-learning design: content expertise, target group knowledge, pedagogical expertise, technical expertise - Usability of the e-learning environment - Features of a quality e-learning environment
1.5. Process of e-Learning Design	- The steps for planning an online course (including objectives, contents, materials, activity, assignments, assessment etc.) and writing an online course script
1.6 Project work as a part of training	- Personal/collegial developing project work – what, why, when and how

MODULE 2: Student-centered learning in practice and in STEM

2.1. How to build learner-centered e-learning	-	The main principles, means and methods of learner-centeredness and how to adapt this information in e-learning design
2.2. Engaging and motivating students with real-world problems in STEM teaching	-	Based on creating a student's understanding of the applicability, necessity, and relevance of STEM knowledge
2.3. Student engagement and motivation through voluntary subject choice and flexibility in STEM teaching	-	Based on strengthening the student's motivation through arising personal interest and flexible teaching arrangements
2.4. Building and utilizing community and collaboration in e-learning	-	Based on arising the student's social motivation and reinforcing learning through interaction
2.5. Case example(s) of online implementations of STEM	-	Introducing interesting practices in STEM-related e-learning
2.6. OER in online oriented STEM teaching	-	Introducing interesting STEM-related open educational resurses (OER)

MODULE 3: Methods and tools of TEL

3.1. Building the cornerstones: Teamwork and IT support in universities	- Perspectives and key issues for building an institutional e-learning team to ensure quality implementations
3.2. Web applications, tools and programs – examples and practices	- Introduction of selected web applications, tools and programs (and resources where to find more)
3.3. Activating methods and online tools to enrich online learning	- Introduction of selected activating methods and online tools (and resources where to find more)
3.4. Pedagogical models of e-learning	- Introducing different pedagogical models such as exploratory learning, project learning, problem-based learning, community learning, phenomenon-based learning
3.5. Implementing advanced virtual learning	- Implementing virtual labs, remote labs, simulations, educational games etc.
3.6. Best practices of TEL	- Selected good TEL practices to inspire and arise students' own thinking

MODULE 4: Cooperation with the industry and working life relevant skills	
4.1. Generic skills of STEM experts (21st century skills)	- Generic (or transferable) skills and supporting their development in university studies - WP1 / Addendum for Skills and competences of the Universities' lecturers in line with the digital education era
4.2. University-Business collaboration: An overview and some examples	- Examples from Iran and Europe (utilizing WP1)
4.3. University's Technology Transfer (TT) strategies and ecosystems in various universities in Europe and Iran	- Get to know and learn from cases from Iran and Europe
4.4. Embedding Enterprise in the Curriculum I: Internships, alumni speakers in the university, company visits etc.(synchronizing with 4.5.)	- In topics 4.4. and 4.5 different forms of "student oriented" ways to support industry relevant skills are presented
4.5. Embedding Enterprise in the Curriculum II: Joint Masters' thesis assignments at companies, project assignments etc. (synchronizing with 4.4.)	

MODULE 5: Assessment and feedback as a part of teaching and learning

5.1. Lessons learned from the national survey in Iran: Student opinions (WP1) on the role assessment	
5.2. Self-evaluation and peer evaluation	- Different ways to utilize self-evaluation and peer-evaluation as a part of learning
5.3. Plagiarism detection	- Ways to avoid cheating in virtual learning
5.4. Learning analytics	- The concept of learning analytics and different tools for that to follow up and support learning
5.5. Electronic exams	- Electronic exams as a way for flexible and reliable assessment for learning
5.6. Automatization of feedback	- Finding cost-effective ways to support learning

MODULE 6: Modernization of teaching	
6.1. Strategies and policies supporting development	- Getting to know the university level strategies and policies from Iran and EU
6.2. Quality assurance (QA) standards of e-learning	- Getting to know different standards of e-learning
6.3. Degree evaluation	- How universities are evaluating the learning results of students and how students are evaluating teaching on degree level?
6.4. How to utilize feedback as a source of development	- How the results of different evaluations are utilized by the teachers, departements and by the university
6.5. Curriculum development	- The strategies and methods for curriculum development - Utilizing the results of WP1
6.6. Staff development as a tool for development	- Staff development in the strategies and policy documents - Different ways of staff development: training, mentoring, self-study, peer-learning

Next steps (1/2)

WHAT	WHEN
Presenting the draft of the modules and topics	Project meeting 13th Dec 2021
Modifying modules and topics according the meeting	December 2021
Presenting the curriculum (the modules and topics) for the Pedagogical Development Team (PDT)	Pedagogical Development Team meeting: Tuesday 11th January 2022?
Selection of modules and topics ● **3-4 topics / partner**	January
PDT Meeting?	End of January

UNIVERSITY OF TURKU

Next steps (2/2)

Material production 1 • **learning outcomes** • **slides** • **Activating assignments/topic** • **Module specific project work assignment (by UTU)**	**February - March**
Peer-feedback (cross-evaluation) by a selected partner	Beginning of April
Improvement of the materials according the feedback	April
Material production 2 • **video/audio lessons** • **lecture notes**	April – May
Peer-feedback / cross-evaluation by a selected partner	May-June
Improvement of the materials according the feedback	Materials ready 15th June
Uploading materials in e-learning platform (realized by P4 – PRISMA)	July