

TENEGEN

LEONARDO DA VINCI - TRANSFER OF INNOVATION

TENEGEN'S PEDAGOGICAL MODEL AND COMPETENCY FRAMEWORK

"Learning and knowledge are social, personal, flexible, dynamic, distributed, ubiquitous, complex and chaotic in nature." (Chatti, Jarke, Frosh Wilke 2007)



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TENEGEN'S PEDAGOGICAL MODEL

1.1 The aims

The aim of Tenegen's Pedagogical Model (TPM) is to substantiate a strong basis for the Tenegen development for all of the authors and instructors, who are working together in the project. On our intention the development should be continued after the project period, and TPM is aimed ensure the sustainability and valorization of the results.

We want to establish common, reusable and unified specifications, defining both the pedagogical and technological aspects of the development. The project's objectives are:

- a) to develop online five-module e-learning course for teachers and trainers, who want to meet the challenge of the digital age by identifying the need of the Net Generation,
- b) to create **e-learning environment for collaboration** among the participating teachers, Tenegen's instructors, tutors, and VET students,
- c) to establish **open source repository to share e-learning objects** among teachers and trainers.

TPM defines the common rules and principles mainly for the first objective, but it will refer the other objectives too, in order to generate consistency in the whole Tenegen development. The titles of the Tenegen modules agreed by the partners:

TC01	E-learning concepts
TC02	Network Learning
TC03	Educational ICT tools
TC04	E-learning event in Moodle
TC05	Open Source Educational Repository

1.2 General principles

The most important fundamental of TPM and at the same time of the whole Tenegen conception is:

We want to generate an European level community to promote the integration of the e-learning 2.0 phenomenon, the new educational paradigm of network learning and social computing into the pedagogical program of the schools, **we want to connect the teachers** into the just starting exploration of the pedagogical potential of web 2.0 tools. The impact we aim is **to reach the Net Generation** by making all efforts to understand their networking culture and their new ways of learning - being aware of the fact, that major changes are coming from the changed living, learning and communication culture of the younger generation.

The Tenegen developments will be successful only if we are able to build a "real" virtual community, where the collaboration will not be finished after the end of the e-learning course.

The developer partners agreed that TPM

1. should be based on the results of the survey of needs-analysis carried on in Hungary and Turkey involving the primary target group (VET teachers and trainers);
2. should be focused on the demands of the secondary target group, of the Net Generation;
3. should be based on the results of two former LdV projects, NETIS and SLOOP;

4. should utilize the experiences of the – in the Hungarian system accredited – e-learning course for VET teachers “E-learning – the future of the schools” developed by Prompt Educational Centre for Informatics;
5. should integrate the present suggestions and standards in the European and worldwide e-learning developments – from both technological and pedagogical aspects;
6. should integrate the worldwide achievements of the new pedagogical paradigm of connectivism.

2 Tenegen Competency Framework (TCF)

2.1 Introduction to TCF

One of the main innovation of TPM will be the maximal effort to involve teachers in the development of pedagogical methods. The most important experience from the Hungarian e-learning course for teachers was, **that the teachers are willing to collaborate in developing new pedagogical methods. They are willing to collaborate if they are provided with suitable information about the new ICT tools and if they are trained in using them.** Our conception is in harmony with the newest results of the European researches analyzing the potential and the future of e-learning 2.0¹ [5]

As a consequence the aim of TPM is to elaborate a clear consistency among the course components: all of the planned competencies should be strongly supported by the generated activities (searching, selecting, discussions, collaboration) and the assessment should be based on the measure of the quantity and quality of the activities processed by the teacher. All the planned activities, developed skills and learning outcomes will be a small part in developing the teachers' ability to apply the knowledge in a complex pedagogical tasks based on network learning theory and using the e-learning 2.0 tools. This intention is expressed in the planned final project task for the teacher.

The main outcome of Tenegen course will be the e-learning event – designed and implemented by the teacher, carried on with her/his students in the school, and evaluated by students, teachers and the leaders of the school.

2.2 Taxonomy

In the TCF we used an extended version of the Bloom's Taxonomy. According to the newest researches the linear structure of this taxonomy must be transformed to a non-hierarchical system to be able to describe the learning process more adequately to the network learning theory, to the new paradigm of connectivism (Bryan Holmes, John Gardner, 2006.) **The non-hierarchical taxonomy is suggested to build on the terms as follows:**

**search, select, explore, test, collaborate, analyze, create, discuss, apply,
understand, synthesize, promote**

The same is emphasized by the NETIS researcher dr. István Bessenyei:

“The most important competences should be searching for and evaluating information and making connections between different fields of knowledge, ideas and concepts. The real didactic question is how, according to their individual needs, students can be brought to the point where they can

¹ “Other issues that were raised concern **design and development of new applications and the need to actively involve teachers** in the process of defining requirements and to adopt an iterative design approach. Ensuring that education-specific solutions are designed by involving prospective users was mentioned as a requirement to ensure that the tools will be appropriated in teaching practices (LeMill,10 the Web community for finding, authoring and sharing learning resources, was cited as an example that calls for an early involvement of teachers in the design of educational resources based on the Learning2.0 paradigm).” [5]

contextualize and connect information originating from different sources, using the exchange of thought (by way of a network-enabled discourse) and aided by other web 2.0 tools." [1]

The authors [1] suggest to order on of the terms in pairs as follows:

- searching – selecting**
- analyze - synthesize**
- collaborate - discuss**
- understand - apply**
- create - promote**

In developing TCF we agree to use these terms with a non hierarchical approach, what means that the competences will be developed in several modules instead of considering them in a strong linear system.

2.3 General learning objectives of the Tenegen course

Learning Objective (LO)

Synonyms: aims, purposes, goals in general. The LOs express the intentions of the instructor, describe what he/she want to achieve within the module. They are clear concepts to expressing the direction of the module, they are descriptions of the most important competences the module will develop. Los are broad statements that will include many subordinate competences.

All the applied tools (learning elements, course components, methods, coaching) to deliver the module, should promote the participants to achieve the LOs.

At the end of the course the participants will be able to

TCLO01	understand and apply the main concepts of ICT supported learning/teaching, connectivism, network theory, social networking
TCLO02	analyse the e-learning 2.0 phenomenon, the networking tools offered by web 2.0 and synthesize the outcomes as a new knowledge applicable in his/her pedagogical practice and self development
TCLO03	collaborate in knowledge sharing communities working on the educational field
TCLO04	design e-learning event taking into consideration the pedagogical aims and the networking culture of their students
TCLO05	design the activities of the learning events by using the appropriate web 2.0 tools for promote collaboration and knowledge sharing improve self study abilities of students, to influence their attitude
TCLO06	design the method of the assessments to provide the students with feedbacks
TCLO07	search, select or create e-learning elements to draw attention of the students, to motivate them by using ICT tools to clarify new concepts, to demonstrate phenomena
TCLO08	to establish the e-learning environment for running the event by integrating the activities, learning materials, and assessment tools.
TCLO09	running the e-learning event with their students, supervising the learning process while promoting the collaboration
TCLO10	to evaluate the e-learning event against the pedagogical aims and the requirements of their student involving the students, fellows and school leaders.

A consistency must be generated among the general learning objectives of the course and the learning objectives defined in the modules. The general LOs must harmonize with, had to be derived from the ones defined in the modules.

2.4 Learning objectives of the modules

Module	Learning Objectives
TC01	E-learning concepts
TC01LO01	understand and apply the basic concepts of ICT based teaching/learning and e-learning trends, navigate, collaborate and discuss in the e-learning environment
TC01LO02	identify and categorize the web 2.0 tools, explore their pedagogical potentials
TC01LO03	analyse the needs of their students (Net Generation) and synthesize the new knowledge in evaluating their present pedagogical methods and the pedagogical programme of their schools
TC02	Educational ICT tools
TC02LO01	understand and apply the main concepts of e-learning elements, e-learning material
TC02LO02	select and use ICT tools to create e-learning elements and use integrate them into the e-learning material
TC02LO03	Select and use the ICT tools and web 2.0 applications for publishing online the e-learning materials
TC03	Network Learning
TC03LO01	Be familiar with the main concepts of: web 2.0, eLearning 2.0, connectivism, network theory, social networking
TC03LO02	Use of ePortfolios with knowledge maps in network learning
TC03LO03	Participate in social networks, use the potentials of social networks in education
TC03LO04	Pedagogical use of web 2.0 interactive information and data management tools: Social bookmarking (diigo, delicious), Wikipedia, other wikis
TC03LO05	Pedagogical use of web 2.0 interactive communication tools: Skype, blogging,
TC03LO06	Pedagogical use of web 2.0 interactive media tools: Youtube, Flickr, Picasa web album
TC03LO07	Pedagogical use of web 2.0 interactive virtual worlds: Second Life, games
TC04	E-learning event in Moodle
TC04LO01	Design e-learning event (e-learning elements, activities, assessments)
TC04LO02	Establish e-learning environment create course built from the selected and created e-learning elements. for running the e-learning events
TC04LO03	Run and supervise and evaluate the e-learning event and evaluate it against the pedagogical aims.
TC05	Open Source Educational Repositories
TC05LO01	Understand and apply the main conception of sharing learning objects and creative commons
TC05LO02	Select online repositories for use them for pedagogical aims and collaborate in sharing them
TC05LO03	Collaborate in online communities
TC05LO04	The openLO model: technical, pedagogical and legal aspects.

Module	Learning Objectives
TC05L005	Learning Object Repositories: features and characteristics of the principal digital repositories.
TC05L006	The freeLOms: an environment where to share and produce LOs in a co-operative way.

2.5 Knowledge - delivered by the modules

In terms of EQF

“knowledge” means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.

One of the most frequently mentioned problem connected to e-learning developments is **the quality of content. In Tenegen the delivered content should be compact, correct and should be able to generate a living collaboration. The Internet can be considered as a mine to search and select learning content. The Tenegen’s authors should make all effort with their learning content to guide the participants how to find the best resources, how to select and evaluate them against the pedagogical aims. All of the chapters should not be longer than 2-5 pages (A4)**

TC01 E-learning concepts

Module 1.

1. Concepts and history
2. E-learning trends
3. Learning Management Systems
4. Technological changes emerging Web 2.0
5. Real Simple Syndication (RSS)
6. Web 2.0 tools at first glance
7. Net Generation
8. Teachers in the digital area

TC02 Network learning

Module 2.

1. Introduction in the main ideas
2. E-portfolios in network learning
3. Social networks in education
4. Interactive web 2.0 information and data management tools in education
5. Interactive web 2.0 communication tools in education
6. Interactive web 2.0 media tools in education
7. Interactive web 2.0 virtual words in education

TC03 Educational ICT tools

Module 3.

1. Basic concepts (hypertext, multimedia, hypermedia)
2. Media elements: features, specification
3. Aspects of ergonomics (Text, Image, Audio, Video, Animation)
4. Create and edit media elements using applications
5. E-learning material: integration
6. Publishing online

TC04 E-learning event in Moodle

Module 4.

1. Design e-learning event
2. Create Moodle courses
3. Adding resources (Text, Web page, Link, etc.)
4. Adding activities (Task, Chat, Blog, Forum, etc.)

5. Roles in Moodle
6. Management of users' account
7. Assessment tools
8. Learners' records
9. Evaluation tools

TC05 Open Source Educational Repository

Module 5.

1. Using eLearning to enhance teaching and learning in schools: a critical point, the learning materials.
2. Reusability, adaptability, interoperability: the Learning Object model and the SCORM and LOM standards.
3. The "open" model: free/opensource software and open content. The copyleft licences.
4. The openLO model: technical, pedagogical and legal aspects.
5. Learning Object Repositories: features and characteristics of the principal digital repositories.
6. The freeLOms: an environment where to share and produce LOs in a co-operative way.

2.6 Skills developed in the modules

In terms of EQF

"skills" means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);

In Tenegen we develop special ICT skills of the teachers to make them able to apply the networking tools in their pedagogical practice. **By integrating developed skills developed by Tenegen modules the teachers should be able to solve their project task: to design, implement e-learning event, to run it with their students and evaluate it against the pedagogical aims.**

SID	Skill
TC01S1	Basic skills in e-learning environment: (navigation, communication, authoring in Moodle)
TC01S2	Search for and select online educational resources
TC01S3	Basic skills to collaborate online
TC01S4	Basic skills to find, select and use web 2.0 tools (Hot potatoes, Mahara, WordPress, FaceBook, Del.icio.us, Picasa, Twitter, Scribd, YouTube, SlideShare, Google Image, Wikipedia, GoogleDocs, YahooGroup)
TC02S01	create own ePortfolio in moodle's wiki-function with a structured knowledge map
TC02S02	participate in social networks, search for special forums and groups, organise knowledge sharing in a network
TC02S03	use of web 2.0 interactive information and data management tools (Social bookmarking:diigo, delicious, Wikipedia, other wikis)
TC02S04	use of web 2.0 interactive communication tools: Skype, blogging
TC02S05	use of web 2.0 interactive media tools: Youtube, Flickr, Picasa web album
TC02S06	use of web 2.0 interactive virtual worlds: Second Life, games
TC03S01	Basic skills to use applications for pedagogical aims (Word Excel, Audacity, Windows Movie Maker, Adobe Premiere, Paint, Gimp)
TC03S02	Basic skills to integrate elements and publish e-learning material (PowerPoint, FKC editor)
TC03S03	Basic skills to select tools for publishing educational content online
TC04S01	Basic skills in administering Moodle
TC04S02	Basic skills to establish learning environment in Moodle
TC04S03	Basic skill to design the learning event, to create a synopsis
TC04S04	Basic skills to maintenance Moodle as a teacher
TC04S04	Basic skills to carry on and evaluate learning event in Moodle

SID	Skill
TC05S01	insert into a blog or an on-line course the embedded code of a digital resource;
TC05S02	search a learning resource in FreeLOms and download it,
TC05S03	upload a digital resource into Learning Object repositories filling in metadata
TC05S05	upload a learning resource into FreeLOms filling in the metadata
TC05S05	use FreeLOms to transform a PPT presentation into a SCORM LO
TC05S06	use FreeLOms to transform web pages into a SCORM LO
TC05S07	modificate a LO in FreeLOms
TC05S08	build up a new LO in FreeLOms using existing resources
TC05S09	insert a SCORM LO in a Moodle directly from FreeLOms
TC05S10	save the backup of a Moodle course (whithout students data) into FreeLOms
TC05S11	upload into a Moodle environment a new course from FreeLOms

2.7 Learning outcomes

In terms of EQF:

'**learning outcomes**' means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence;

OCID	Learning outcome
TC01OC01	define the basic concepts of e-learning
TC01OC02	identify the e-learning trends
TC01OC03	evaluate the own pedagogical practice against the trends
TC01OC04	evaluate the school's state against the trends
TC01OC05	identify the new roles of the teachers
TC01OC06	identify the needs of the target group: Net Generation
TC01OC07	list and categorize web 2.0 tools
TC01OC08	evaluate the pedagogical value of web 2.0 tools
TC02OC01	define main ideas of web 2.0, eLearning 2.0, connectivism, network theory, social networking
TC02OC02	use of ePortfolios with knowledge maps in self development and for pedagogical aims
TC02OC03	participate in social networks
TC02OC04	pedagogical use of Social bookmarking (diigo, delicious), Wikipedia, other wikis
TC02OC05	pedagogical use of Skype, blogging
TC02OC06	pedagogical use of Youtube, Flickr, Picasa web album
TC02OC07	pedagogical Second Life, games
TC03OC01	identify the basic features of digital media elements
TC03OC02	evaluate the pedagogical value of digital media objects
TC03OC03	select ICT tools to create and edit educational media elements
TC03OC04	select the ICT tool to integrate and publish e-learning material
TC04OC01	design e-learning event
TC04OC02	establish e-learning environment
TC04OC03	use Web 2.0 tools in Moodle
TC04OC04	generate and moderate debates

OCID	Learning outcome
TC04OC05	track on and assess students' activities
TC04OC06	evaluate e-learning event
TC05OC01	list the advantages of using learning materials and explain why digital learning resources are a critical point
TC05OC02	define the concepts: Learning Object, list LO characteristics; define the terms: adaptability, interoperability, traceability
TC05OC03	define the concept of meta-data
TC05OC05	define the concept of standard and identify different types of standards (de iure, de facto)
TC05OC05	illustrate SCORM aims and main features, use SCORM terminology
TC05OC06	describe LOM IEEE aims and main features; identify its similarities and differences with Web 2.0 tags
TC05OC07	describe open content principles and some cases of success, describe the aim of the CreativeCommons licences and the differences among them; give a definition of openLO;
TC05OC08	illustrate the pedagogical, technical and legal requisites to make an openLO;

2.8 Tenegen Competency Framework

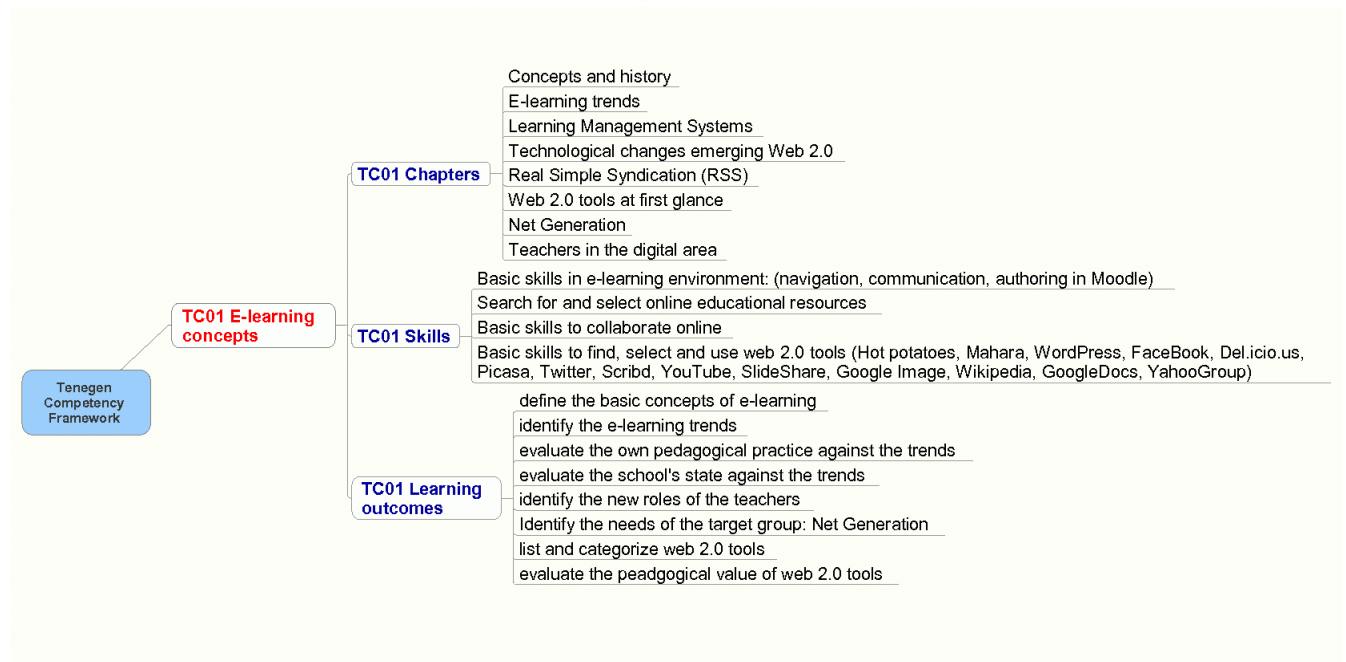
The concept map was designed under MindMeister. You access the frame on the URL:

<http://www.mindmeister.com>

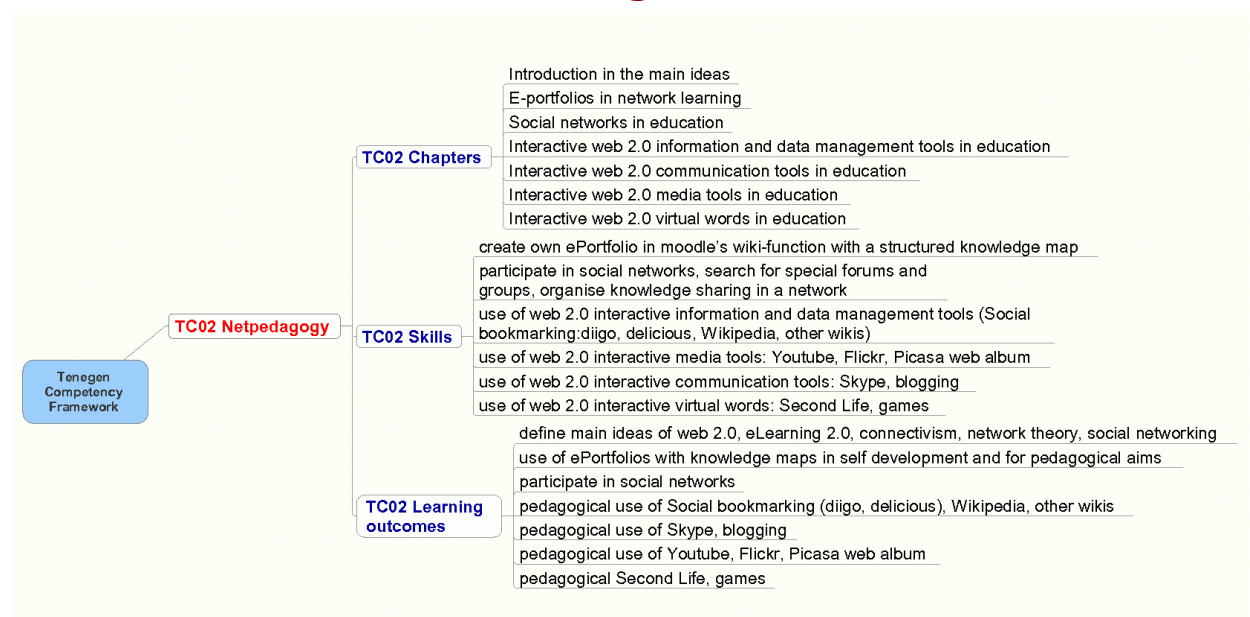
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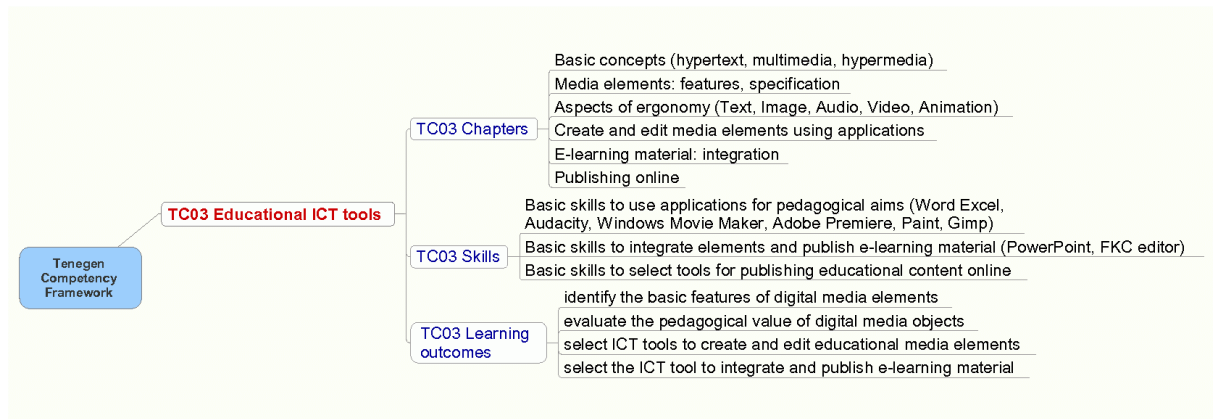
2.8.1 TC01 E-learning concepts



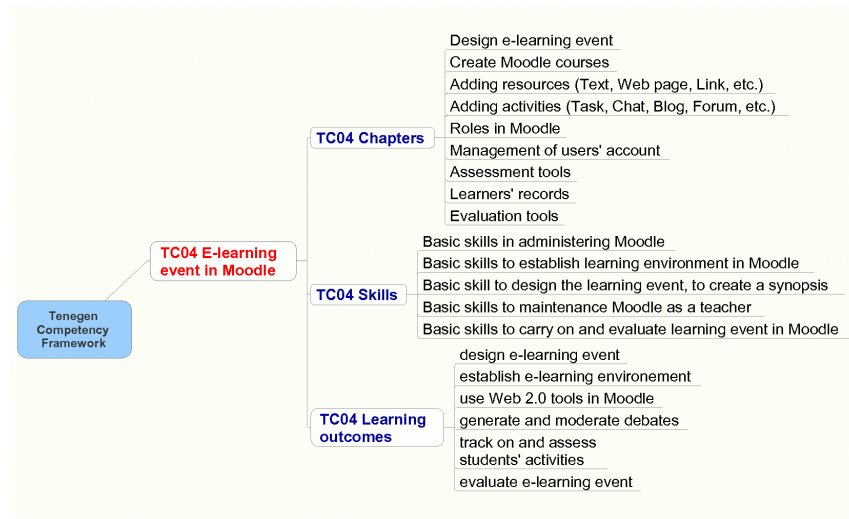
2.8.2 TC02 Network learning



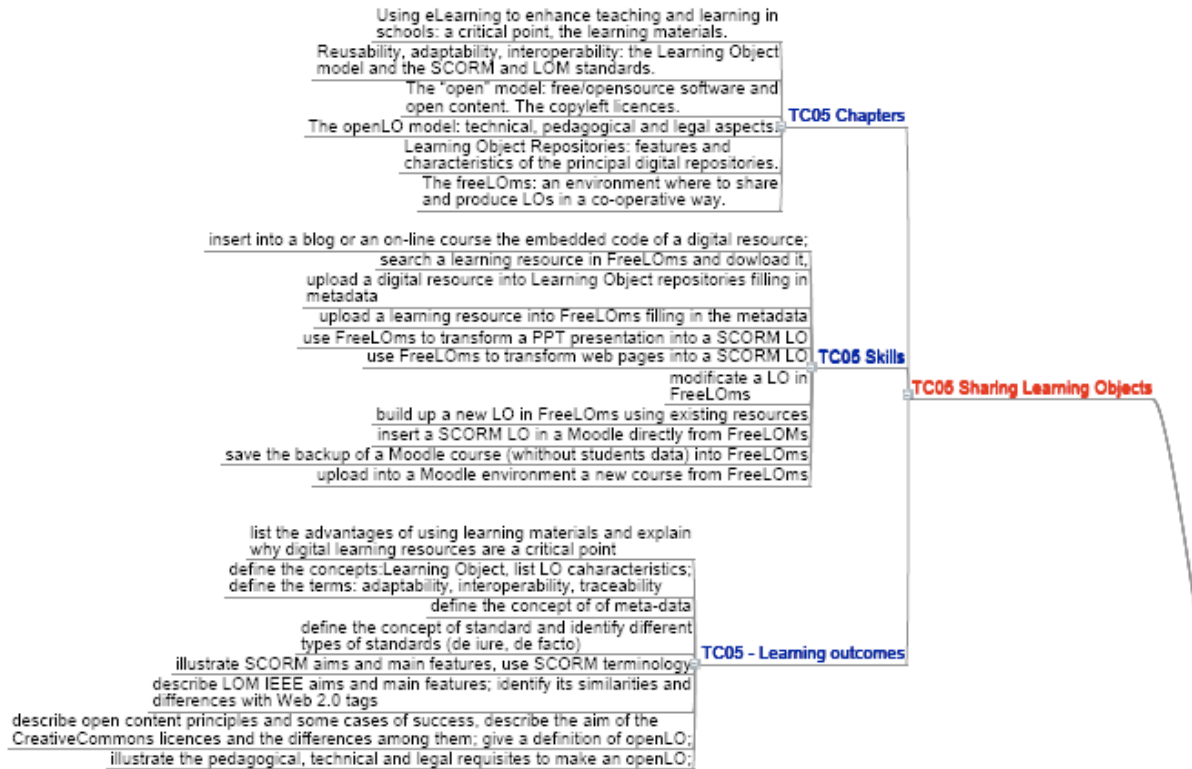
2.8.3 TC03 Educational ICT tools



2.8.4 TC04 E-learning event in Moodle



2.8.5 TC05 Open Source Educational Repository



3 Assessment methodology

3.1 Principles

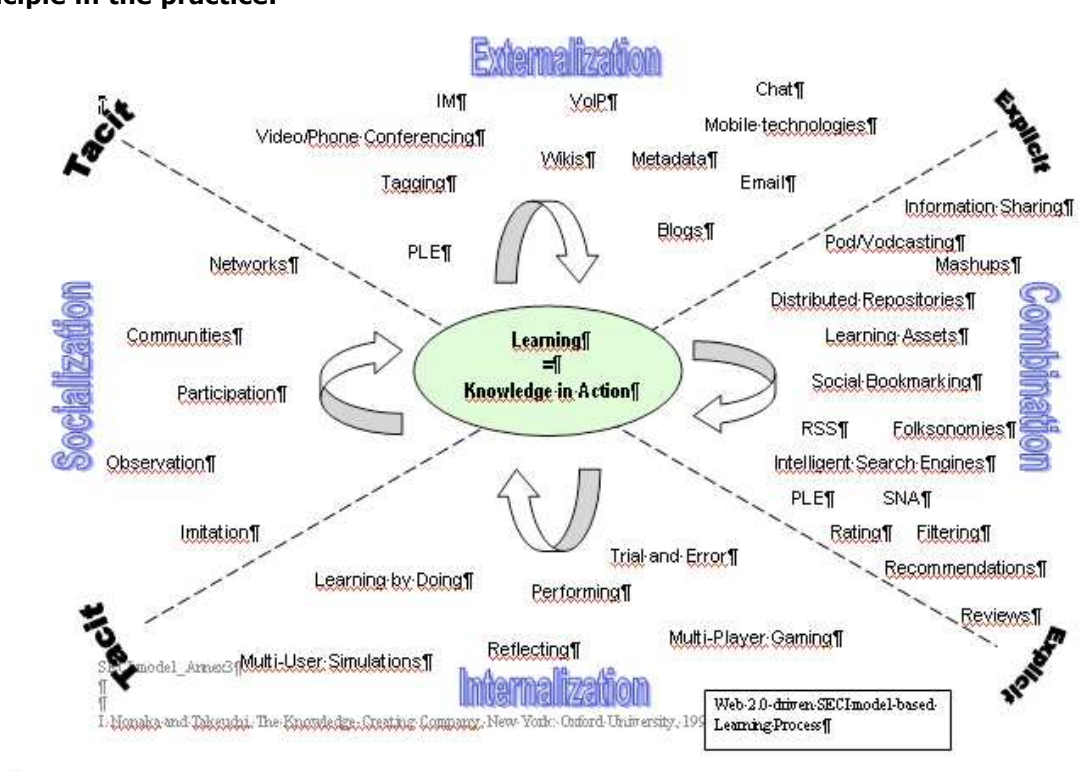
The main concept of the assessment methodology in Tenegen is, that the participants will be able to use their products prepared as task in the next modules. **In module 4** they will be able

- d) to use the common principles learned about e-learning 2.0 in TC01, TC02- in designing the e-learning event (define the pedagogical aims regarding the needs of their students)
- e) to use the web 2.0 tools they learned and tested in TC01, TC02 to generate activities and collaboration during the e-learning event
- f) to use the selected and created e-learning elements, e-learning materials (in TC03) to build their course in Moodle so that the course material and the planned activities should motivate the students
- g) to evaluate the e-learning events on the basis of their former tasks (in TC01, TC02, TC03) where they had already to evaluate e-learning objects, web 2.0 tools against their pedagogical value

The e-portfolios and blogs created in TC02 will be extended with all elements they produce in TC03, TC04. At the end of the course the teachers should have an own e-portfolio in which they can refer all of the own e-learning product having authored during the course.

In module 5. they should reuse all earlier outputs created while solving tasks in the earlier modules: **they should be able to collaborate in online communities to share their experiences, and add to the open source repository by uploading their products created as project tasks.**

I would refer here to the SECI (Socialization, Externalization, Combination and Internalization) web 2.0 driven model of learning, developed by Nonaka and Takeuchi (1995). According to the author: **"Learning = Knowledge in Action"**. **In Tenegen model we would like to demonstrate this principle in the practice.**



3.2 The structure of the assignments

Teachers' Product		Assignments - Credits				
TC05	Teachers own SCORM compliant Learning Object, uploaded into Tenegen repository	Collaborate in knowledge sharing communities, take part in building online educational repositories				
	Credits	20	10	35	20	15
	Reports on pedagogical potential of online repositories in the teacher's own practice	TC04A01 Collaboration/ activity	TC05A01 Collaborative definition and design of a Learning Object	TC05A02 Production of Scorm compliant Learning Object	TC05A04 Report about the potential using Learning Objects and Web 2.0 collaborative site in an integrated way, including the potential translation methods between tag and metadata system	TC05A05 Online test
TC04	Credits	20				
	Evaluation report	TC04A05 Evaluate the e-learning event (course) against the pedagogical aims, and the pedagogical program of the institution				
	Credits	20				
	Summary of experiences in teaching online	TC04A04 Test e-learning event in Moodle with own developed course				
	Credits	35				
	Own course in Moodle LMS with own designed, created learning objects and web 2.0 tools	TC04A03 Establish a Moodle course with e-learning content, web 2.0 tools, activities, assignments, feedback for students				
	Credits	10	15			
	Synopsis of the e-learning event planed by the teacher for Moodle	TC04A01 Collaboration/ activity	TC04A02 Create a synopsis to the e-learning event - design e-learning event online collaboration with students using web 2.0, own developed e-learning materials and using the offers of online repositories			
TC03	Own created e-learning materials in HTML or in PPT containing own created or selected Los	TC03A04 Design and create e-learning material (pre synopsis) with using selected or self created e-learning elements, integrating them in a presentation or in a web page				
	Credits	20	10	15	40	15
	1. Evaluation reports 2. E-learning elements published in Moodle database	TC03A01 Collaboration/ activity	TC03A02 Evaluate of selected e-learning objects considering the special subject and the need of the Net Generation	TC03A03 Select or create e-learning elements and describe with metadata	TC0304 Design e-learning material and integrate the elements in a presentation or in web page	TC03A05 Online test
TC02	Credits	30	10	10	10	30
	Tecahers own e-portfolio, blog. Teachers will publish in them theirs products from TC01	TC02A01 Collaboration/ activity	TC02A02 Create a detailed, well structured e-portfolio with knowledge map, use this in knowledge sharing processes	TC02A04 Write a blog with reflexion on the learning and teaching process		TC02A05 Active participation in web 2.0 interactive web-tools (data management, communication, media)
TC01	Credits	20	20	25	25	10
	1. Report about the NetGen 2. Selected, evaluated web 2.0 tools 3. Evaluation report on the sate of the art	TC01A01 Collaboration/ activity	TC01A02 Report about the networking attitude and culture of the students	TC01A03 Select two collaborative web 2.0 tools and evaluate them regardig the pedagogical aims and the need of the Net Generation	TC01A04 Evaluation report on the e-learning state-of the art of the school and own pedagogical practice	TC01A05 Online test

3.3 Dependency

In this table we illustrate the dependency among the learning objectives, learning outcomes, developed skills and the assignments

The table will answer the question: which LO, OC, S will be developed by solving the tasks, preparing the assignment?

ID	Assignment	Credit	Skills	Learning Outcomes	Learning Objectives
TC01	E-learning concepts				
TC01A01	Activity in collaboration (in discussion forums, in chats, communication with tutors e-mail, messages) in the given theme, summarizing the results in an own assignment	20	TC01S1-3	TC01OC01-2	TCL003
TC01A02	Evaluation report about the e-learning state-of-the-art of the school and the ICT tools usage in the pedagogical practice against the trends	25	TC1S02	TC01OC03-4	TCL001
TC01A03	Select two collaborative web 2.0 tools and analyze its pedagogical potential	25	TC01S04	TC01OC07	TCL002, 5
TC01A04	After group discussion and web research report about the networking attitude and culture of the students	20		TC01OC05	TCL001, TCL004
TC01A05	Online test	10		TC01OC01-2	TCL001-2
TC02	Net pedagogy				
TC02A01	Activity in collaboration (in discussion forums, in chats, communication with tutors e-mail, messages) in the given theme	30			
TC02A02	Create a detailed, well structured e-portfolio with knowledge map, use this in knowledge sharing processes.	20			
TC02A03	Write a blog with reflexion on the learning and teaching process	40			
TC02A04	Active participation in web 2.0 interactive web-tools (data management, communication, media)	10			
TC03	Educational ICT tools				
TC03A01	Activity in collaboration (in discussion forums, in chats, communication with tutors e-mail, messages) in the given theme, summarizing the results in an own assignment	20		TC03OC01-4	TCL003
TC03A02	Search and select two e-learning materials, objects, evaluate their pedagogical value concerning own subject	10	TC03S01	TC03OC02	TCL007
TC03A03	Select or create three e-learning elements, describes with metadata and store in Moodle	15	TC03S02	TC03OC03	TCL007
TC03A04	Design e-learning material and integrate the elements in a presentation or in web page	40	TC03S04	TC03OC04	TCL005
TC03A05	Online test	15		TC03OC1-4	TCL001
TC04	E-learning event in Moodle				
TC04A01	Activity in collaboration (in discussion forums, in chats, communication with tutors e-mail, messages) in the given theme, summarizing the results in an own assignment	10		TC04OC01-6	TCL003
TC04A02	Create a synopsis to e-learning event, planning all the activities, assignments, feedbacks	15	TC04S03	TC04OC01	TCL005
TC04A03	Establish an own course in Moodle, integrate the e-learning material	35	TC04S01-2	TC04OC02-3	TCL008
TC04A04	Test the course with students	20	TC03S04	TC04OC03-4-5	TCL009

ID	Assignment	Credit	Skills	Learning Outcomes	Learning Objectives
TC04A05	Evaluate the learning event against the pedagogical aims and also at institutional level	20	TC03S05	TC04OC06	TCL0010
TC05	Open Source Educational Repository				
TC05A01	Collaborative definition and design of a Learning Object.	10		TC05OC01-2-3,	TCL001
TC05A02	Production of a SCORM-compliant Learning Object	35		TC04OC05,7	
TC05A03	Activity in collaboration (in discussion forums, in chats, communication with tutors e-mail, messages, through the FreeLOms platform) aimed at producing a learning resource	20			
TC05A04	Report about the potential of using Learning Objects and Web 2.0 collaborative site in an integrated way, including the potential translation methods between tag and metadata systems	20		TC04OC08	
TC05A05	Online test	15		TC04OC01-7	TCL001

3.4 Methodology

During the course all assignments of the participants will be assessed **online** by the tutors, and the evaluation process will be supervised by the instructors.

The participants should be informed on their responsibilities before the module starts. The information should contain the answers to the questions:

- ⇒ What they should do?
- ⇒ What is the deadline of their performance?
- ⇒ How will be their assignment assessed?
- ⇒ How many credits will achieved by performance?

The structure of the module information (as a course component) delivered for the participants will be defined in the document

R7 Workflow and storyboard of TENEGEN's content development

The assessment methodology will be described in the document

R15 Instructors' guide, Tutors' guide, Learners' guide

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4 Glossary of terms

4.1 Tenegen terms

Learning Objective (LO)

Synonyms: aims, purposes, goals in general. The LOs express the intentions of the instructor, describe what he/she **want to achieve** within the module. They are clear concepts to express the direction of the module, they are descriptions of the most important competences the module will develop. **LOs are broad statements that will include many subordinate competences.**

All the applied tools (learning elements, course components, methods, coaching) to deliver the module, should promote the participants to achieve the LOs.

The teaching effectiveness of the instructors' will be evaluated against the objectives given here.

Learning Outcome (OC)

Learning Outcome (OC) is the fixed, measurable **result** of one or more events of teaching/learning.

Learning outcomes are the competences planned to develop by the learning activities within one or more units. The OCs will be demonstrated by the students' assignments. (OCs define "what we get back from the students" versus LOs which define "what the instructor intended").

Between the LOs and OCs there is a one-to-many relationship, which means that to one objective belong several learning outcomes, connected to the units.

Learning element

Synonym: learning object. One piece of knowledge/information **created by the author for educational aim**. Digital learning element are delivered (stored) in standard digital formats (txt, jpg, htm, xml, etc.). The medium of delivery could be picture, text, audio, video, animation.

To access and search learning objects they should be described with metadata, which are arbitrary (artificially defined) descriptors, essential attributes. (The number and type of metadata will be defined by Tenegen Consortium in the phase of developing the repository according SLOOP concept.). The metadata gives the possibility to create a searchable, accessible relational database (RDB) for storing learning elements. According their pedagogical aims, the learning elements may be categorized as: explanation, concept, tasks, tests, problems, etc.

E-learning material: a coherent set of learning elements to deliver knowledge, to develop competences, to motivate, etc.

4.2 EQF recommendation

In the course design TPM developer will integrate the recommendation (2) of EQF and use the suggested terms as follows:

Knowledge

"knowledge" means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual;

Skills: "skills" means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);

Learning outcomes: 'learning outcomes' means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence;

Competences: "competence" means the proven ability to use knowledge, skills and personal, social and/ or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

5 Background

As a transfer of innovation the model will valorize the results of two excellent former LdV projects: SLOOP and NETIS. The project "Sharing Learning Objects in an Open Perspective" demonstrates the main concepts of e-learning 2.0, while NETIS provide the very philosophical, sociological, pedagogical thesis to understand the new paradigms of teaching/learning in the Information Society.

5.1 SLOOP - Sharing Learning Objects in an Open Perspective

Agreement number: I/05/B/F/PP-154194		
Year: 2005-2007	Country: Italy	Project duration (months): 24
Title: Sharing learning objects in an open perspective (SLOOP)		
Contractor: ITSOS Marie Curie, Via Masaccio, 4, 20063 Cernusco, s/N (MI) Tel. ++39029240552 Fax ++39029244512 E-mail: progettieuropi@tes.mi.it		
Website: www.sloopproject.eu		
Thematic Group, Action:	LDV, PP	
Project aims	Aim of the project Sloop was to realize a file of free Learning Objects accessible from everyone and open to external contributions produced according to the model: Free/OpenSource Software.	

5.2 NETwork for Teaching Information Society: NET-IS

Agreement number: 2006 L-B-033/2006		
Year: 2005-2007	Country: Hungary	Project duration (months): 24
Title: NETwork for Teaching Information Society: NET-IS		
Contractor: Budapest University of Technology and Economics (BME), Information Society and Research Group (ITTK)		
Name of Contractor's legal representative: Dr. Zrínyi Miklós		
Thematic Group, Action	LDV, PP	
Project aims	To increase knowledge and competence of students on Information Society, and also broaden and deepen their understanding on the topic, by introducing a course on Information Society in tertiary education institutions.	

5.3 "E-learning – the future of the course"

The Tenegen development will integrate the experiences of the former development of Prompt Educational Centre for Informatics. The course consists of three modules aimed at developing the e-learning competencies of teachers and trainers. At the end of the course the participants have to establish their own e-learning course in a Moodle environment, to run it with their students, and evaluate the course against the planned pedagogical aims.

The in the Hungarian system accredited (2005) online course was carried out - for about 200 teachers in 2006-2008.

6 Tenegen Code System

Pattern	Description
TC	Tenegen Course
TCXX	XX. module in the Tenegen course
TCXXCYY	YY Chapter in XX module
TCLOXX	XX. Learning Objective (LO) of Tenegen Course
TCXXLOY	YY Learning Objective in XX module
TCXXSYY	YY. Skill developed by the XX. Tenegen module
TCXXOCYY	YY Learning Outcome (OC) of the XX Tenegen module
TCXXUYY	YY. unit of module XX
...	

To be continued...

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