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TRANSversal key competences for lifelong learning: Training teachers in competence based education [TRANSIt]

Katerina Riviou
Ellinogermaniki Agogi, Greece

www.ea.gr



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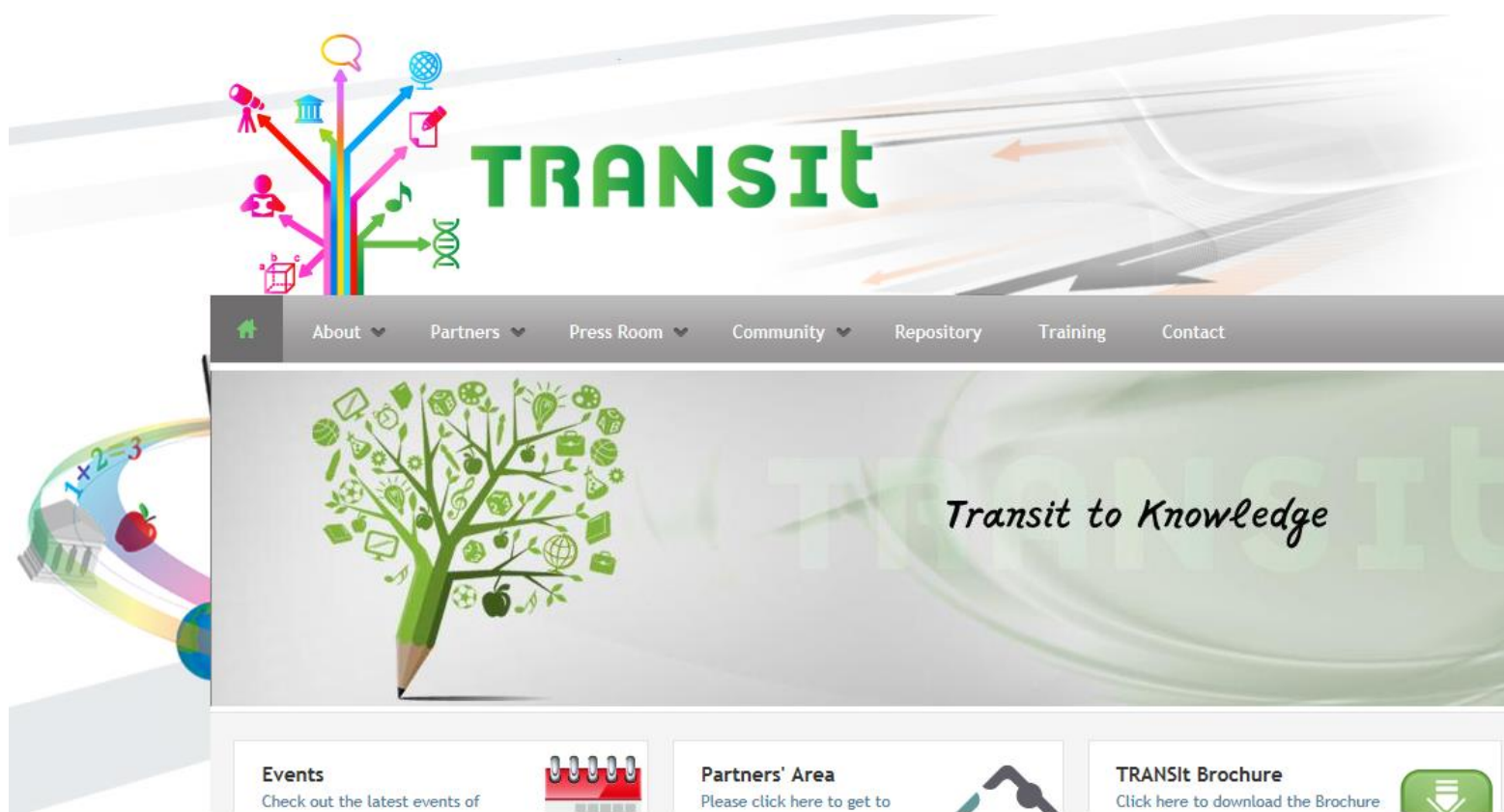


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The project website www.transit-project.eu





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Main Objectives

- to help teachers acquire and reinforce such skills and knowledge so that they can design **cross-curricular** activities that support the key competencies acquisition (**KCA**) of their students.
- to support teachers in the process of **assessing competences** with the use of e-portfolios.
- to **raise the awareness** of the **administrative** staff of schools in order to support teachers in bridging the gap between policy and practice (e.g. curricular reforms in order to support cross-curricular competence driven activities).
- It is also aimed at **teachers' collaboration** with colleagues, in order ultimately to become innovation leaders in their institutions.



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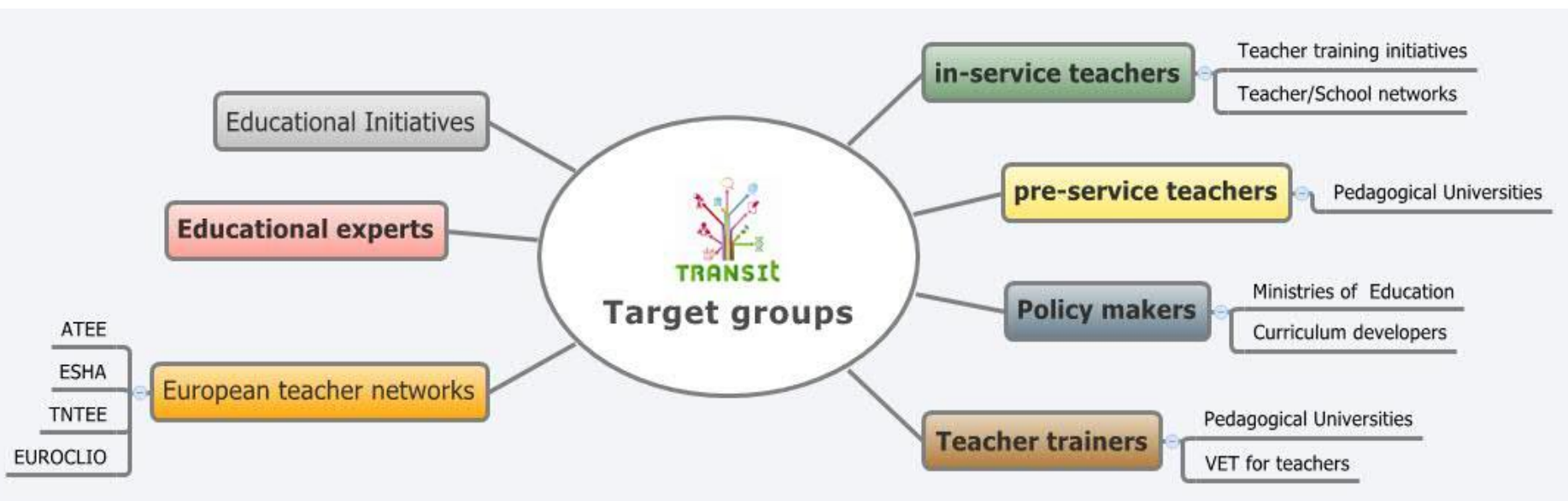


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Target groups



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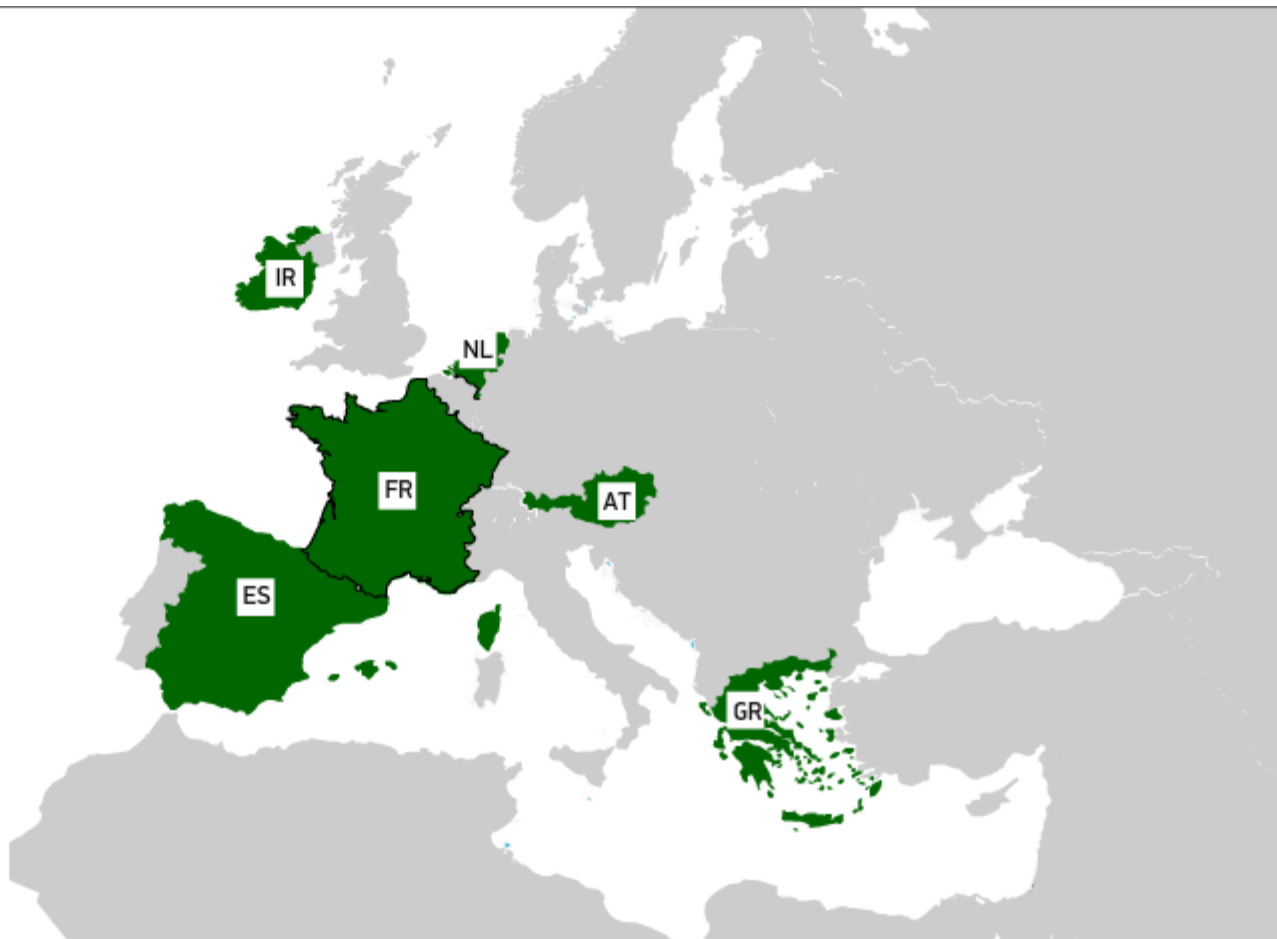
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TRANSIt consortium

 Partners of TRANSIT Project

click on every country for more details
on each partner



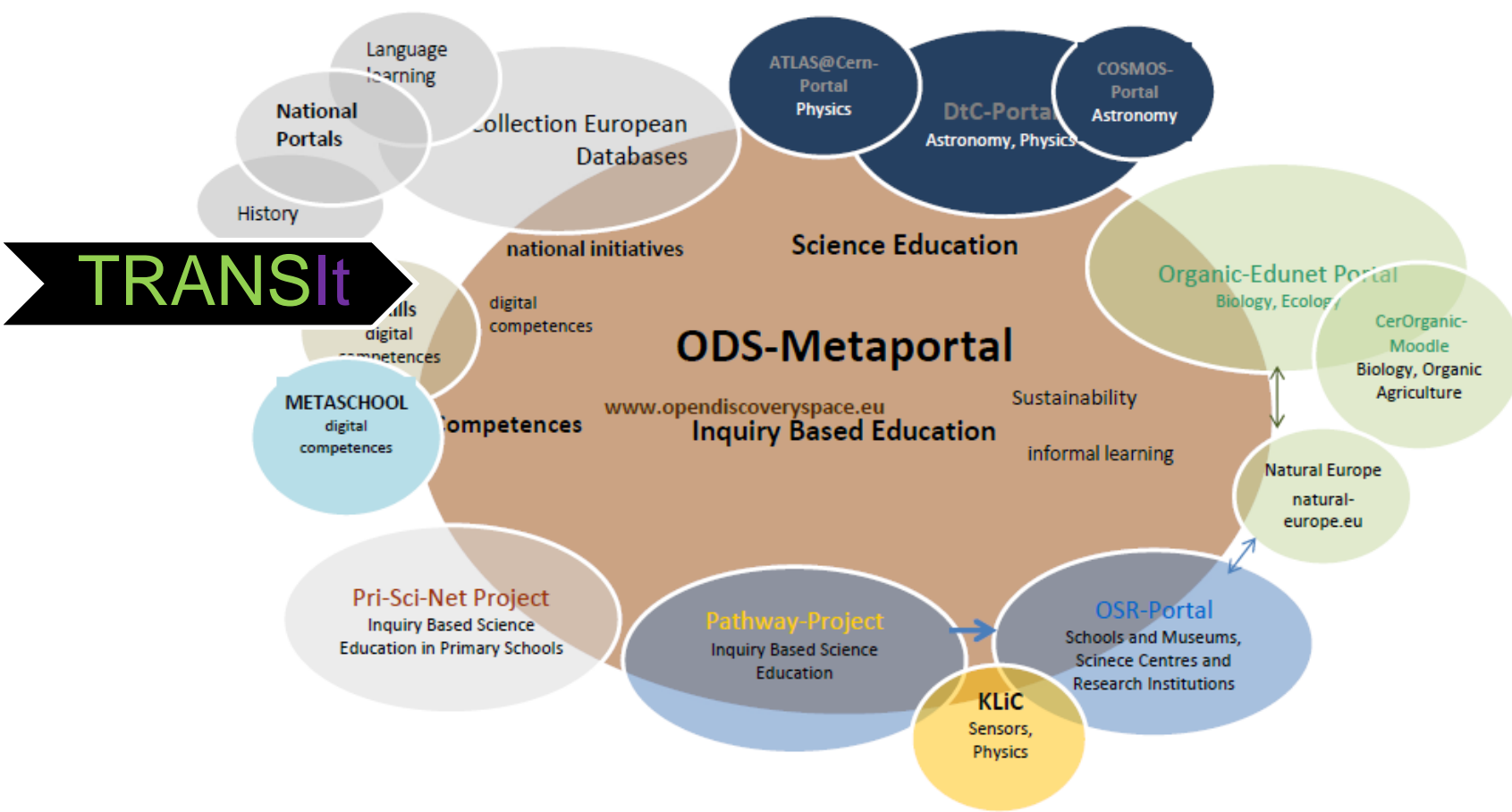


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Project relationships and synergies





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Main activities



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Developing the training framework

- The TRANSIt training framework is based on:
 - Level 1. **Raising awareness** of administrative school staff on topics related to competency-based education
 - Level 2. Identification and sharing of **informed practices**
 - Level 3. **Design** of cross-curricular competence driven activities and e-portfolio assessment of key competences
- The development of the proposed training framework rests on a **user-centred approach** and **participatory design** through the systematic analysis of the target groups' needs.



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The Teacher Competency Framework

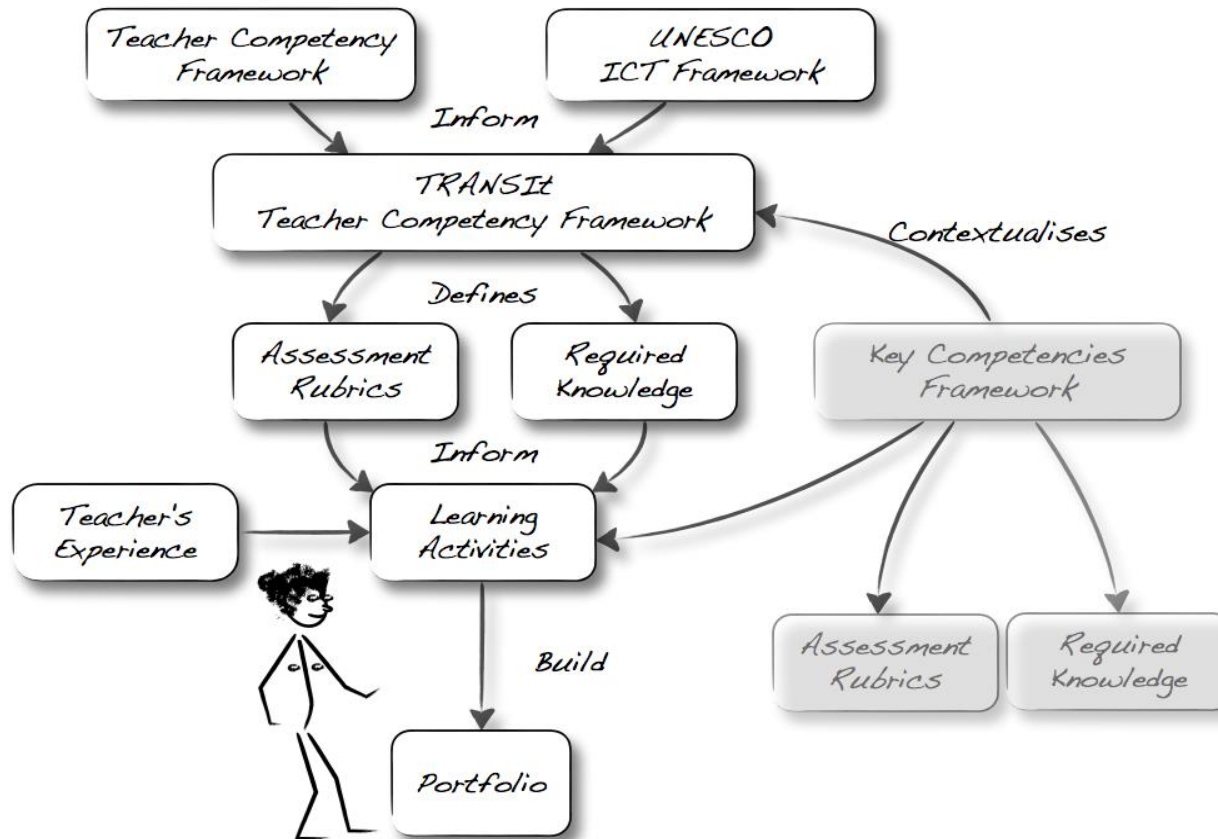
The Competency Framework for Teachers articulates the complex nature of teaching by describing three professional elements of teachers' work:

- Skills
- Knowledge
- Attitudes/values

These elements work in an interrelated way as they are put into practice in classrooms.

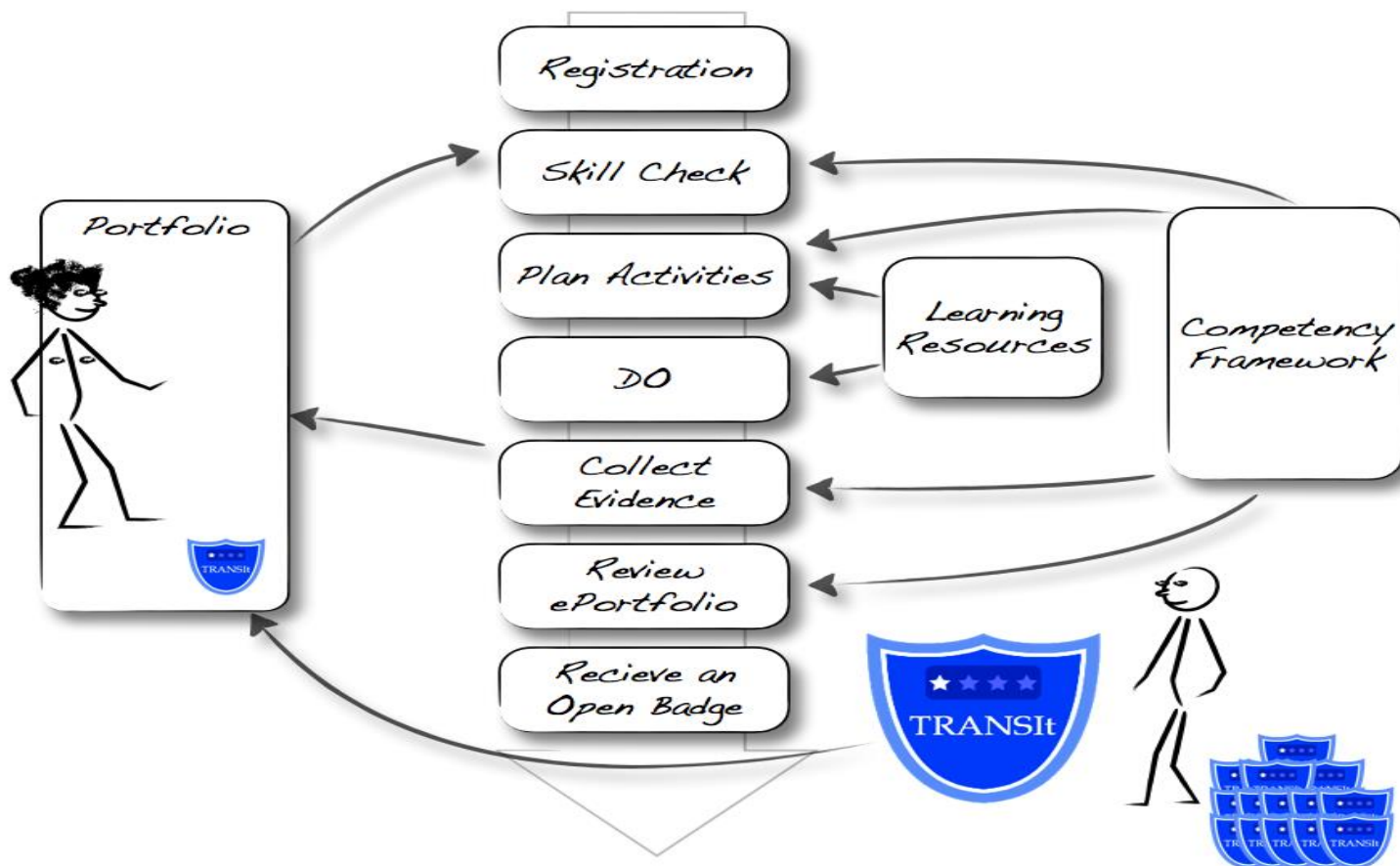


Framework





Process





Lifel



<p>Facilitate Student Learning</p>	<p>Engage students in purposeful and appropriate learning experiences</p>	<p>Cater for diverse student learning styles and needs through consistent application of a wide range of teaching strategies</p>	<p>Use exemplary teaching strategy and techniques that meet the needs of individual students, groups and/or classes of students in a highly responsive and inclusive manner</p>
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<p>Assess and Report Student Learning Outcomes</p>	<p>Monitor, assess, record and report student learning outcomes</p>	<p>Apply comprehensive systems of assessment and reporting in relation to student attainment of learning outcomes</p>	<p>Consistently use exemplary assessment and reporting strategy that are highly responsive and inclusive</p>
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<p>Engage in Continuing Professional Development</p>	<p>Reflect critically on professional experiences in order to enhance professional effectiveness</p>	<p>Contribute to the development of a learning community</p>	<p>Engage in a variety of learning activity that promote critical self reflection and the development of a learning community</p>
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<p>Contribute to Curriculum Policy, Innovation and Change</p>	<p>Participate in curriculum policy and program teamwork</p>	<p>Provide support for curriculum policy or other program teams</p>	<p>Provide leadership in the school by assuming a key role in school development processes including curriculum planning and policy formulation</p>
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<p>Establish Partnerships</p>	<p>Establish partnerships with students, colleagues, parents and other caregivers</p>	<p>Support student learning through partnerships and teamwork with members of the school community</p>	<p>Facilitate teamwork within the school community</p>
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Competency and Training Framework

- Competency standards focus on application of knowledge and skills underpinned by professional values. In TRANSIt framework there is a qualitative scale for every competence.
- Framework links stages of Competency:
 - Stage 1 (e.g. Classroom)
 - Stage 2 (e.g. Teacher collaboration)
 - Stage 3 (e.g. Institution/national initiative)





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TRANSIt Learning Outcomes/Modules

Design

- Derive Learning Objectives from a Key Competency Framework
- Design a Lesson Plan/Learning Scenario/Programme for KCA
- Derive Assessment Plan from Learning Objectives
- Plan Monitoring and Reporting

Prepare

- Prepare Learning Environment for KCA
- Identify /Select / Adapt / Develop Learning Material and Technologies enhancing Learning and Assessment

Run

- Run a Lesson Plan/Scenario/Programme for KCA
- Use Digital Technologies to Support Learning and Assessment
- Monitor and Assess Learning to Inform Further Learning

Review

- Review a Lesson Plan/Scenario/Programme for KCA



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Methodology

- Voyage of discovery
- Creation of: Lesson Plans; Scenarios
- Self-reflection; Self-assessment; Peer to peer assessment
- Collaborative groups, sharing ideas, resources and best practices
- Dynamic process where teachers can define and select
- Assessment and Reward



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Assessment

- e-Portfolio construction
- Self-reflection
- Surveys
- Quizzes
- Feedback from TRANSIt Tutor
- Peer reviews



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Open Badges Implementation

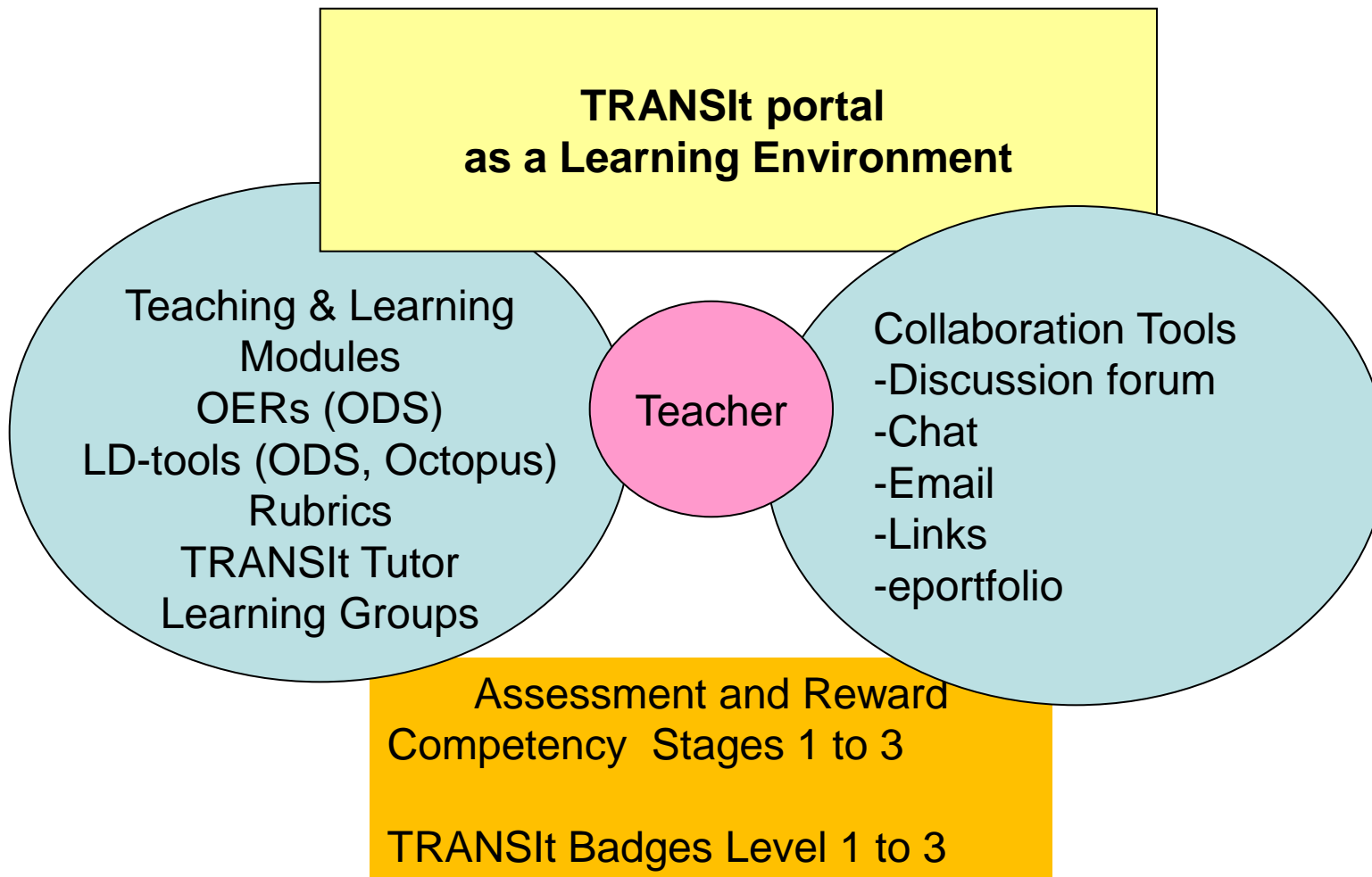
- Badges to match Competency Stage exhibited
 - Stage 1 competency -> TRANSit Level 1 Badge mainly individual teacher award based on work shown on eportfolio and resource generation
 - Stage 2 Competency -> TRANSit Level 2 Badge mainly collaborative work undertaken by teacher and resource generation and sharing
 - Stage 3 Competency -> TRANSit Level 3 Badge mainly instructional wide or National impact of work. Peer reviewing, Generate resources contribution to TRANSit programme



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Guidelines on Teacher Interaction





Development of a systematic evaluation methodology

- The assessment of the training program will include extended cycles of **school - centred** work.
- Authentic assessment methods will be used using **indicators** for measuring the **efficiency** of teacher training, analysing **qualitative** dimensions, such as attitudes/the **behavioural change** of in-service and pre-service teachers towards the importance of KCA by their students, the qualitative characteristics of **user-generated content** uploaded in e-portfolios.
- Guidance will be provided to teachers, as how to **authentically** assess students' activities



Involvement of a wide range of stakeholders

- The TRANSIt consortium aims to involve teachers from 2 kinds of schools:
 - **innovative** schools in Europe (ENIS (Austria), Digital Schools (Ireland), eTwinning Schools, as well as
 - small **rural** schools, members of the European Network of Rural Schools (Rural Wings)
- The involvement of such networks of schools will allow for research and evaluation of different attitudes and implementations of competences in education providing ways for **intercultural** dialogue.

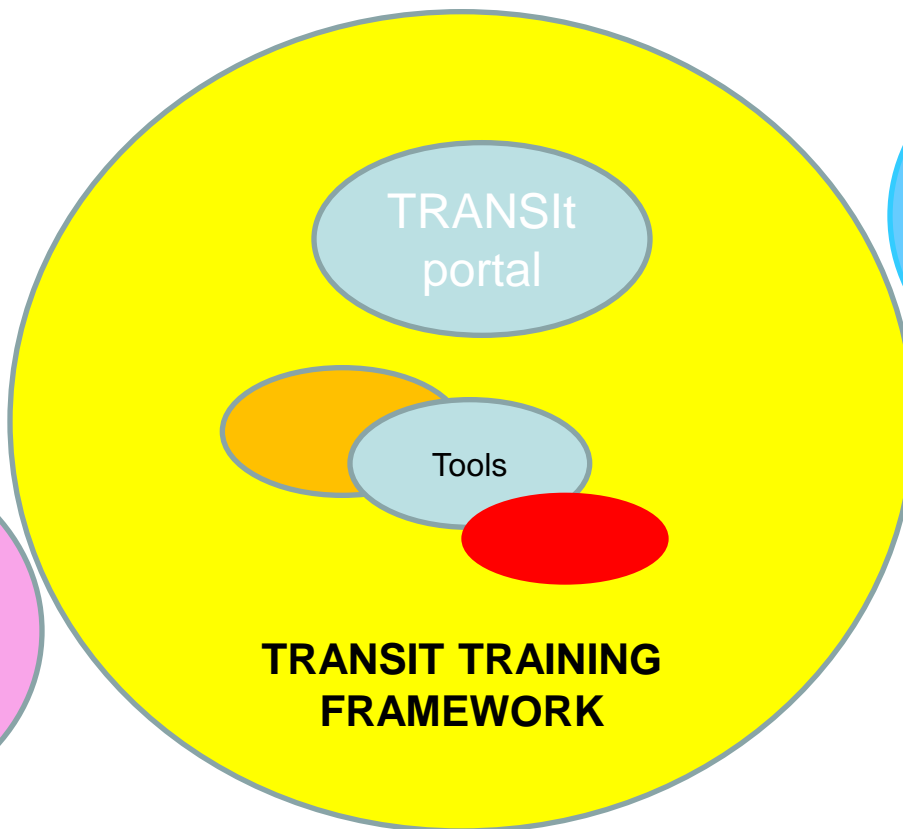
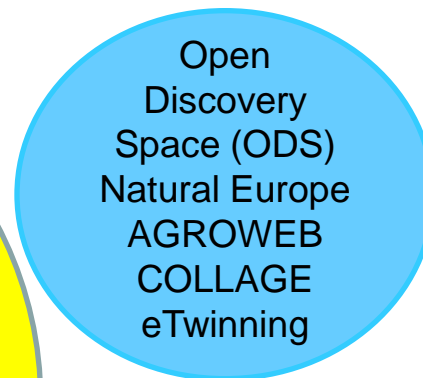


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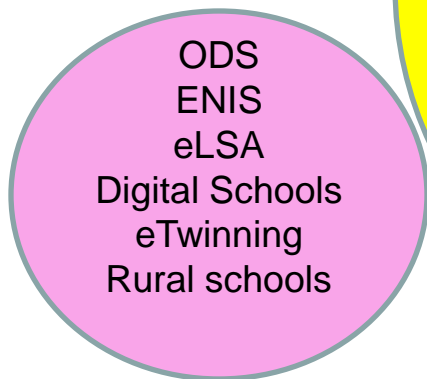
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Existing Educational Repositories/Practices



Teacher Communities





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Teaching Approaches

- Methodologies used to implement competence oriented education:
 - Project based learning
 - The storyline approach
 - Guided discovery
 - Action learning
 - Problem based learning
 - Co-operative learning
- Available descriptions & templates here:
Glossary of teaching approaches, <http://portal.opendiscoveryspace.eu/tr-activity/22-glossary-teaching-approaches-669764>



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Design practices

- **Design:** planning, designing or conceiving an outline for a learning experience. Our designs are supported by ODS **scenarios templates**
- **Instantiation:** setting up a specific *context* in which to deliver the design
- **Realisation:** The process of making the design available to real learners
- **Review:** The process of refining the design once it has been delivered

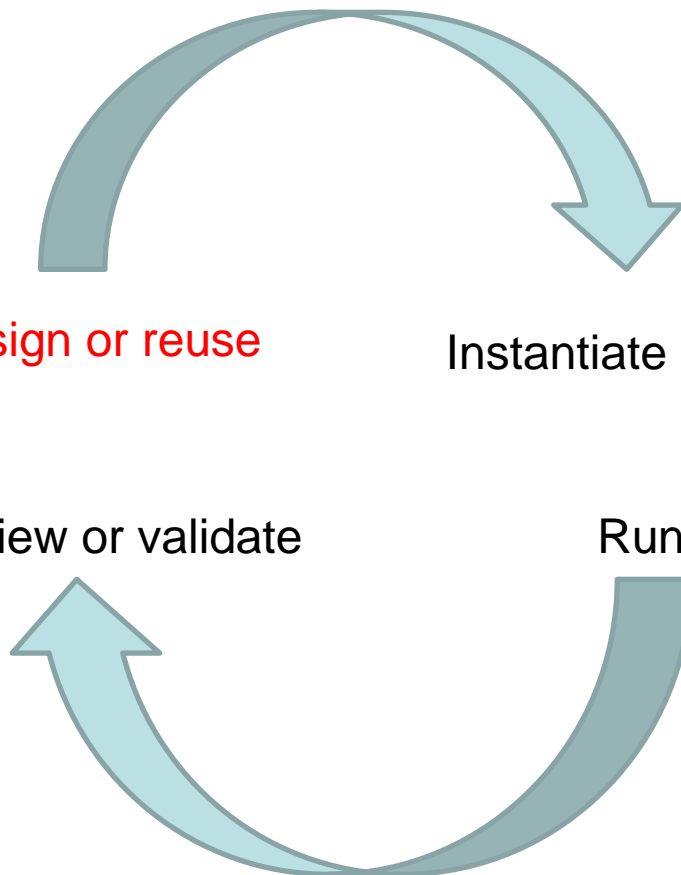


Design or reuse

Instantiate or set up

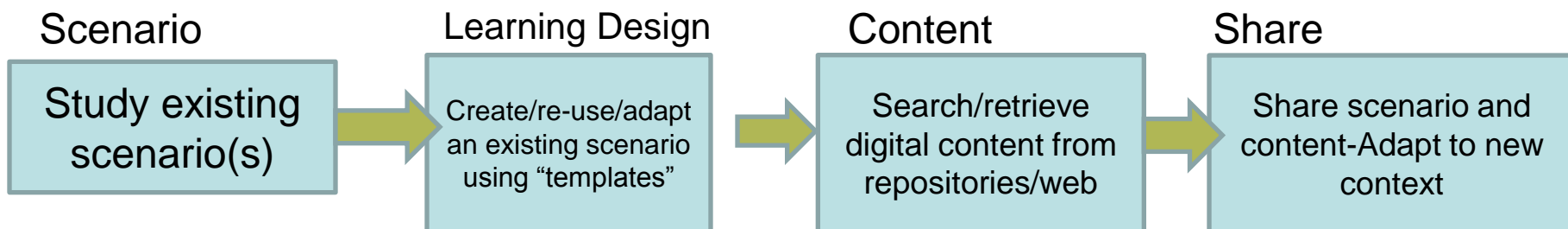
Review or validate

Run





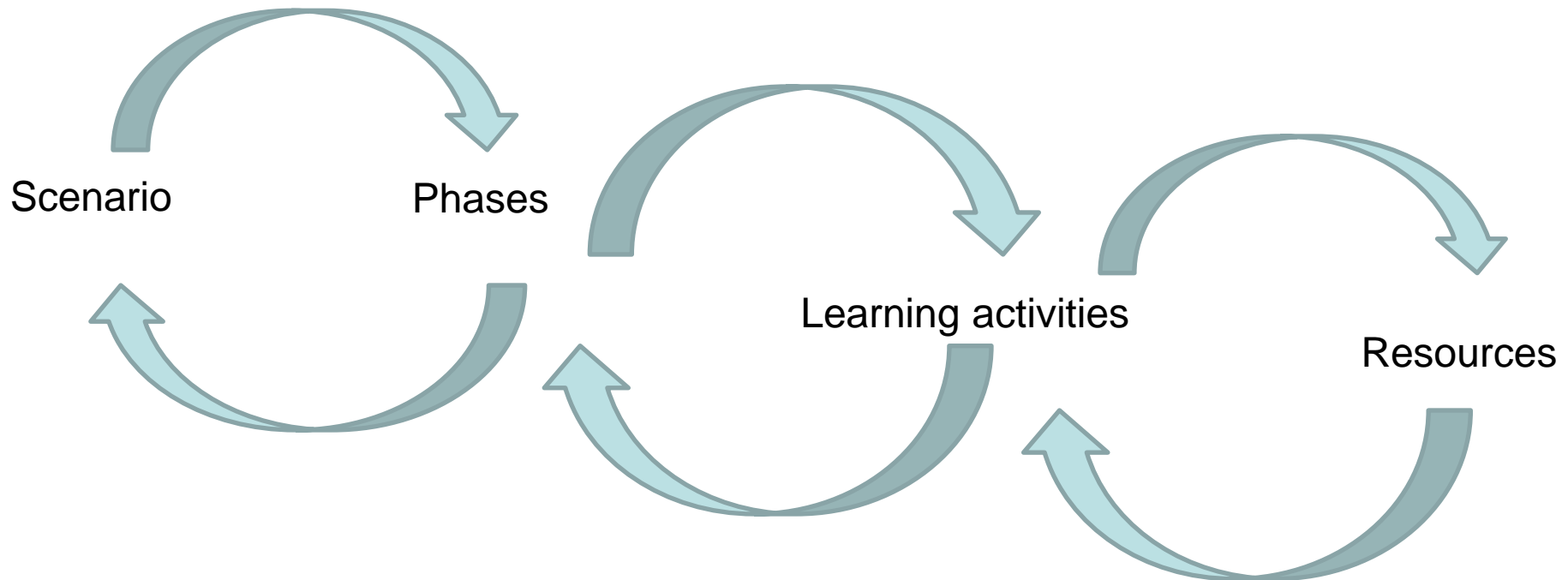
4 steps of designing a learning scenario



- **1st Step:** Study existing scenarios and select activities/ resources to use or re-use the whole scenario or create a scenario ab initio
- **2nd Step:** Describe and adjust the learning scenario using the available "templates"
- **3rd Step:** Organise, search and enrich the learning scenario with content
- **4th step:** Share your scenario and adapt it for use in other contexts.



Scenario Design & Implementation at Different Granularity Levels





Project-based learning

- An educational scenario achieved with a project-based learning approach (**PBL**):
 - involves students in group activities associated with issues from the real world
 - students:
 - Construct the **knowledge**,
 - Associate knowledge with **authentic activities**,
 - Foster **critical thinking**,
 - They **collaborate**,
 - Foster the individual **talents** and **abilities** of team members





The TRANSIt/Open Discovery Space Approach to Designing Learning Scenarios

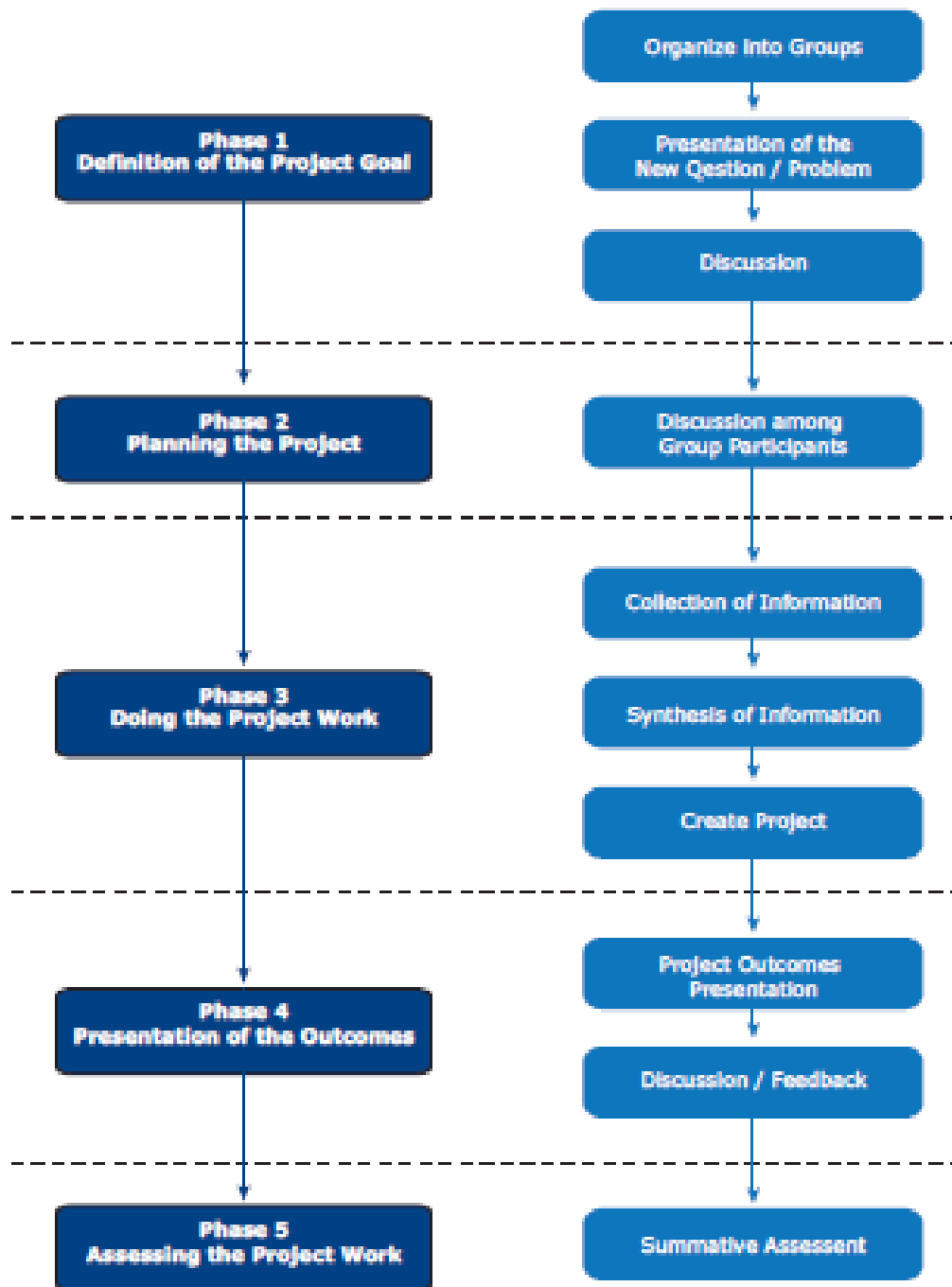
- Provide exemplar **templates** or **descriptions** which can be shared, re-used and adapted to different contexts



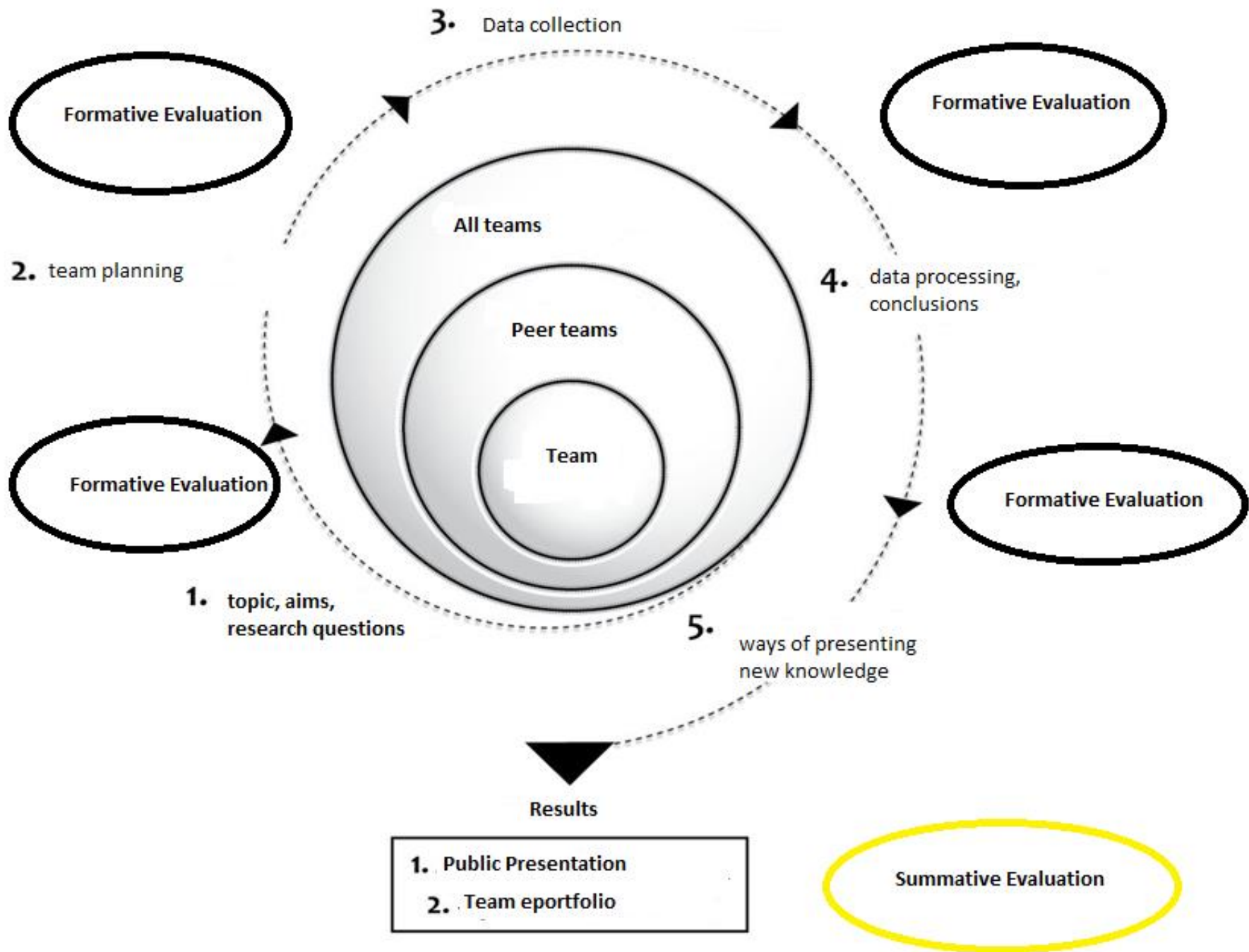
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Project-based learning template



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Storyline approach template

Download Edit

Information **Description** Phases & Activities

Title Storyline approach

Author(s) **Name:** Katerina Riviou **Organization:** Ellinogermaniki Agogi

Storyline template includes several steps. Indicatively:

- teacher presents a story that is relevant, appealing (based on previous knowledge)
- teacher poses key questions linked with the different episodes of the storyline
- teacher discusses intended outcomes, quality and success criteria and assessment tools (e-portfolio tool/storyline folder).
- teacher splits groups and form heterogeneous groups
- students collaborate in teams
- teacher supports the synthesis process by asking questions and making connections between relations to each other.
- students collect information, they synthesize/compare/contrast
- students present final storyline/ assignment

Description/ main idea

You can finish this description by including the resources

Home | ODS Toolbox | Storyline approach

Storyline approach

★ Rate this ➔ Μοιράσου το

Difficulty Level: All

Short characterization of the teaching approach

The storyline approach is a method for active learning, adapted education which was developed by Steve Bell, Sallie Harkness and Fred Rendell at Jordanhill College of Education in Glasgow, Scotland. Learning is guided by the prior knowledge and experience of individual learners, and learners construct their own meaning through action and experience. The storyline approach provides a structure for planning classroom experience based on the knowledge, skills and attitudes which the teacher intends pupils to acquire. The method is sequential, ensuring progression as the chosen topic unfolds. The method creates a context for learning with the active involvement of the pupils. It provides tasks which arise from the context, and which the child sees as significant and meaningful within it, and gives the child opportunities to develop understanding and



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Examples of Scenarios: “3d printing of a minoic vase”

Information | Description | **Phases & Activities**

+ Definition of the Project Goal

Organize into groups

Introduction to 3D printing

Presentation of the new question /problem

Discussion

+ Planning the Project

Discussion on project phases among Group Participants

Assessment Design

+ Doing the Project Work

Collection of Information & Brainstorming/Mindmapping

ePortfolios & Synthesis of Information

Create project

+ Presentation of the Outcomes

Project Outcomes Presentation

Discussion/Feedback

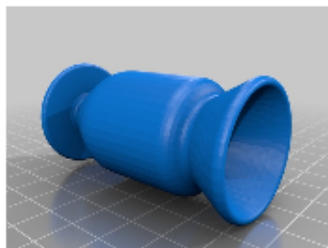
+ Assessing the Project Work

Summative Assessment

- 🇬🇧 Introduction to 3D printing
- 🇪🇪 Εισαγωγή στην τριδιάστατη (3d) εκτύπωση

Description

- 🇬🇧 Introduction to (open source) 3D printing
- 🇪🇪 Εισαγωγή στη 3d σχεδίαση



Thingiverse is a design community for discovering, making, and sharing 3D printable things. everyone should be encouraged to create and remix 3D things. In the spirit of maintaining an open platform, all designs are encouraged to be licensed under a Creative Commons license, meaning that anyone can use or alter any design.

Resources

- Educational objects (as url):
1. “3d vase tutorial” on YouTube

Multilingual Scenarios



Examples of Scenarios: “3d printing of a minoic vase”

- Ιστορία Γ' Δημοτικού, Βιβλίο μαθητή, Ενότητα 9: **Ο Μινωικός Πολιτισμός, εν. 5 Η τέχνη των Μινωιτών** (σελ. 127)
- Ιστορία Γ' Δημοτικού, **Τετράδιο Εργασιών** (σελ. 50)
- Μαθηματικά Στ' Δημοτικού, **Θεματική Ενότητα 3, Λόγοι-Αναλογίες**

Η σχεδίαση θα γίνει με χρήση λογισμικού 3d σχεδίασης (π.χ. **Tinkercad**, **123D Make** της Autodesk, **Inkscape**, **Sketchup**) & με τη χρήση 3d Printer.

Η εργασία μπορεί να συνδυαστεί με εκπαιδευτικές επίσκεψεις:

- στο ανάκτορο της Κνωσού,
- στο **Αρχαιολογικό Μουσείο Ηρακλείου**,
- στο **Μουσείο Αφής**



Linkage with the
National Curriculum

Numerous Resources



Examples of Scenarios: “F1 in schools-3D Printing”

[Download as pdf](#)

- **F1 in schools-3D Printing**
 - Μηχανική - Αεροδυναμική
 - Παρουσίαση-εκμάθηση του Autodesk Inventor
 - ΕΡΓΑΛΕΙΑ Autodesk Inventor
 - ΣΧΕΔΙΑΣΗ ΕΝΟΣ ΑΜΑΞΙΔΙΟΥ- Α' ΦΑΣΗ
 - ΣΧΕΔΙΑΣΗ ΕΝΟΣ ΑΜΑΞΙΔΙΟΥ- Β' ΦΑΣΗ
 - Σχεδίαση parts του F1 αμαξιδίου στο Autodesk Inventor
 - ΣΧΕΔΙΑΣΜΟΣ ΣΤΟΝ Η/Υ
 - Εκτύπωση στον 3D Printer
 - ΑΡΧΕΙΑ ΠΡΟΣ ΕΚΤΥΠΩΣΗ

LEARNING SCENARIO: F1 IN SCHOOLS-3D PRINTING

Title	🇬🇷 F1 in schools-3D Printing
Author(s)	Name: Sotiris Sotiropoulos Organization: Ellinogermaniki Agogi Role: Teacher
Short description/ main idea	🇬🇷 Στα πλαίσια του F1 in Schools Project, οι μαθητές καλούνται να κατασκευάσουν κάποια από τα μέρη του αμαξιδίου τους (αεροτομές, τροχούς, άξονες) από υλικά τέτοια ώστε να είναι ανθεκτικά σε υψηλές πιέσεις και μεγάλες ταχύτητες για να επιτύχουν τους καλύτερους χρόνους στην πίστα που διαγωνίζονται. Οι κατασκευές αυτές γίνονται με τη βοήθεια ενός 3D Printer.
Learning objectives	<p>Cognitive - Knowledge: Procedural</p> <p>Cognitive - Process: To think critically and creatively</p> <p>Affective: To form and follow a system of values</p> <p>Psychomotor: To adapt and perform creatively</p>
	<p>🇬🇷</p> <p>Phase 1: Μηχανική - Αεροδυναμική</p> <p>Description of phase: Οι μαθητές μέσω του Διαγωνισμού F1 in Schools γίνονται Μηχανικοί Σχεδιασμού καθώς καλούνται να δημιουργήσουν ένα αμαξίδιο F1 σε κλίμακα ακολουθώντας τους νόμους της Φυσικής για την αεροδυναμική αλλά και αυστηρούς κανόνες που περιορίζουν το σχεδιασμό του μονοθέσιου όπως συμβαίνει και στην Formula 1. Παιγ</p>





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Supporting the creation of user-generated scenarios



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Examples of Scenarios: “Making Bridges””

The screenshot displays the Octopus software interface. On the left, a sidebar titled 'Pathway Structure' lists the following components:

- ▲ Making Bridges
 - Phase 1: Definition of the Project Goal
 - Learning activity 1: Organize into...
 - Learning activity 2 : Presentation...
 - Learning activity 3 : Discussion
 - Assessment Design
 - Rubric making and discussion
 - Phase 2: Planning the Project
 - Learning activity 4 : Discussion o...
 - Phase 3: Doing the Project Work
 - Learning activity 5 : Brainstormin...
 - Learning activity 6 : Wikis & Synt...
 - Learning activity 7: Using applet ...
 - Phase 4: Presentation of the Outco...
 - Learning activity 8 : Project Outc...
 - Learning activity 9 : Discussion / ...
 - Phase 5: Assessing the Project Work
 - Learning activity 10 : Summative ...

The main area shows a chalkboard with handwritten Greek words, many of which are circled in red. The circled words include: Κοκορσίτσα, Καρπύνη, Πιλάφι μ3, Κορακίτη, Νιφάκης, Βαρδάρικη, Αεόντις, Καταράδα, (εφάρακη), Ζαβολός, Ιαμακίς, Μελίσσα, Βαρδάρικη, Κουλουκτόν, Αντωνία, Κεραλάνη, Μαυρονότα, Αρσενάρι, Αθηνάκη, Βατίνα.

Use of aligned Octopus



Examples of Scenarios: “Introduction to Braille”

Information | Description | Phases & Activities

+ Introduction

Introduction/ Presentation of the Activities

Discussion

+ Application

Guided Practice

Individual Practice

+ Assessment

Assessment

🇬🇧 Guided Practice

Description

🇬🇧 The student(s) will work/practice with the help of the teacher. With a leaf embossed stuc position of the letters in foil. All student(s) work with a leaf with only 6 points (in braille).

Then the teacher says letters and students play games where they place small balls in the co goal is to know the position of the letters in braille sheet). The teacher checks and provides c feedback whenever needed.



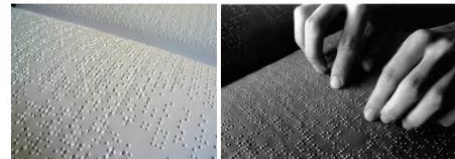
- Collaborative Design
- Linkage with National Curricula
- Multilinguality

Gomes **Organization:** Escola F. F. Lopes **Role:** Teacher
viou **Organization:** EA **Role:** Researcher

intervention is for students to develop their competencies/skills in reading Braille. learning braille. To do so, they will get to see the location of points in a braille sheet and ll balls in order to form the letters. Then they will feel the keys corresponding to the a machine. Finally, they will write letters in Braille and read them. The approach will be) consideration the disabilities of students, their needs and skills.

Activities are related with the Curriculum of Special Education (Greece) - **Αναλυτικό Πρόγραμμα Ειδικής Αγωγής**

Description/ main idea





TRANSIt Main Outcomes

- Training Framework in a modular format/Web portal (training platform + community building mechanisms+ eportfolios)
- Piloting in 2 phases/Integrated Report from Validation Activities
 - workshops/seminars conventional & online
 - school-centred work
- European Workshop on “*Challenges in Training Teachers about Key Transversal Competences*”, Ellinogermaniki Agogi Premises, October 2014
- TRANSIt Guide of Good Practice



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Events: TRANSIt Summer School @ Crete, July 2013

- The community "[Training teachers in competence based education:TRANSIt @ the Crete Summer School 2013](#)" has been created – Please join!
- The description of the activities/workshops that took place are accessible [here](#)
- Participants worked in teams & individually and designed competence-based cross-curricular educational scenarios (using the Octopus authoring tool) ([Learning Scenarios area](#) of the community)
- Most of the scenarios apply to Social Sciences, Arts, Entrepreneurship & a combination of other subject fields such as Mathematics, ICT



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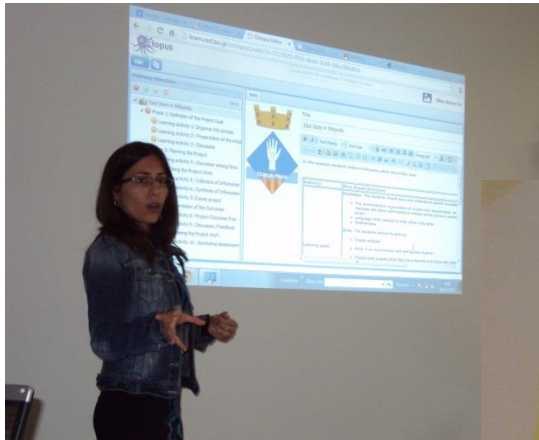
Events: TRANSIt Winter School @ Vilnius, February 2014

- In the context of the winter school, the community "[Training teachers in competence based education: TRANSIt @ the Vilnius Winter School 2014](#)" has been created
- The description of the activities/workshops that took place, as well as the presentations delivered are available [here](#)
- As a starting point, each participant has been invited to come to the course with an idea, or maybe an example of existing practice, called 'initial ideas'. These ideas have been uploaded as [Educational Objects](#) on the portal. During the winter school these initial ideas were developed further in [Learning Scenarios](#), based on insights gained through a series of workshops.



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TRANSIt community!
www.transit-project.eu

[Training teachers in competence based education:TRANSIt on ODS portal](#)

Upcoming Summer School @Attica, July 2014
udlnet.ea.gr

Moodle-Mahara training environment
transit.cti.gr/moodle/



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Thank you!

Katerina Riviou

kriviou@ea.gr



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