

# The Photodentro Learning Scenario Repository and Learning Scenario Designer tool: an online environment for creating, organizing, and sharing structured learning scenarios and customizable Templates

Elina Megalou, Kostis Alexandris, Eugenia Oikonomidou

Computer Technology Institute & Press (CTI) "DIOPHANTUS" (Greece)



### **Dr Elina Megalou**

Director of the Strategy & Digital Educational Content Directorate @CTI megalou@cti.gr



14th annual International Conference on Education and New Learning Technologies

Palma de Mallorca (Spain) 4th - 6th of July, 2022







photodentro.edu.gr/ls

# What the presentation is all about



### **Photodentro Learning Scenario Platform**

Learning Scenario Repository

Learning Scenario **Designer** 

LS **Template** Designer

hosting and organizing Learning Scenarios designing and sharing online structured Learning Scenarios

Customize LS Templates



dschool.edu.gr

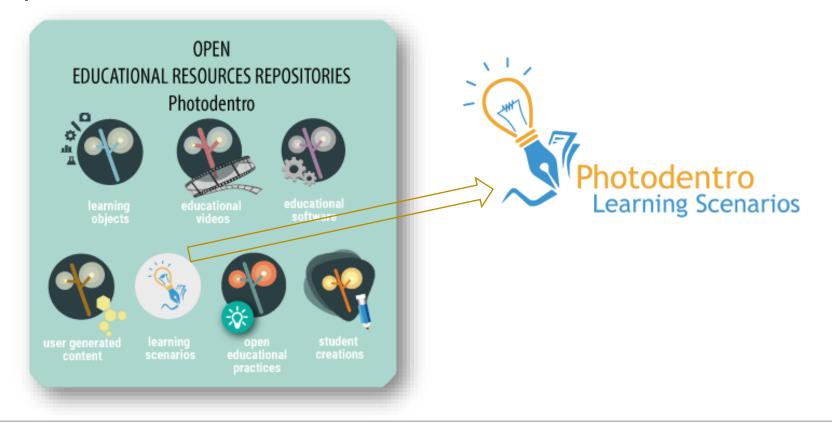
The Context

Initiated and developed by CTI "DIOPHANTUS"

Duration: 2020-2021

Context: Greek National initiative "Digital School II"

Seven (7) Open Educational Resource (OER) National Repositories "Photodentro"



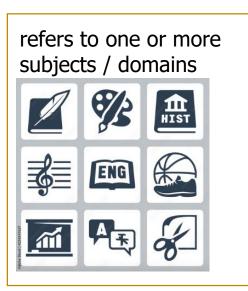
# What is a learning scenario?

educational scenario

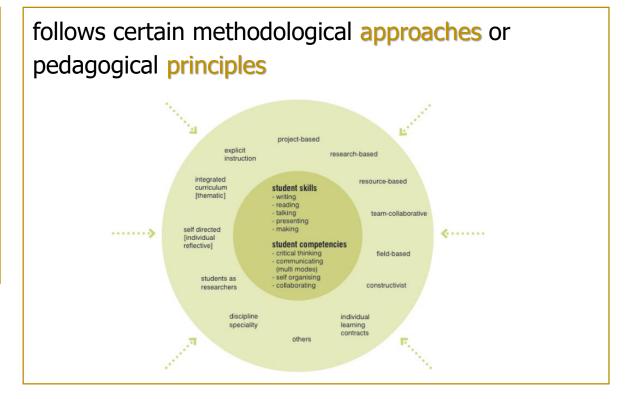
didactic scenario

pedagogical scenario

### A Learning Scenario describes a learning context



Educational Goals /
Learning Outcomes









educational tools and content

# Learning Scenarios & Teachers Professional Development programs

Design & development of learning scenarios: by teachers & researchers



Adopted by teacher training and professional development programs



Introduce teachers to learning concepts and reasoning

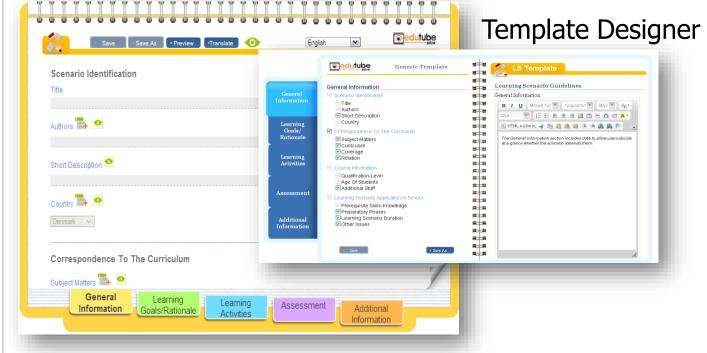
Developing example learning scenarios as part of the final assessment process



# **Origins & Related work**



Learning Scenario Designer



ETP-LS platform for video-based learning scenarios (we developed in 2009 / EduTubePlus EU project)

### **Learning Scenario Design Tools**

Phoebe Pedagogic Planner

London Pedagogy Planner (LPP)

DialogPlus

IMS Learning Design (IMS-LD)

Learning Designer (the most recent, operational, and relevant)





# **Learning Scenario Templates**

### **Learning Scenario Templates**

are online forms or documents providing the **elements** and the **structure** for describing learning scenarios.

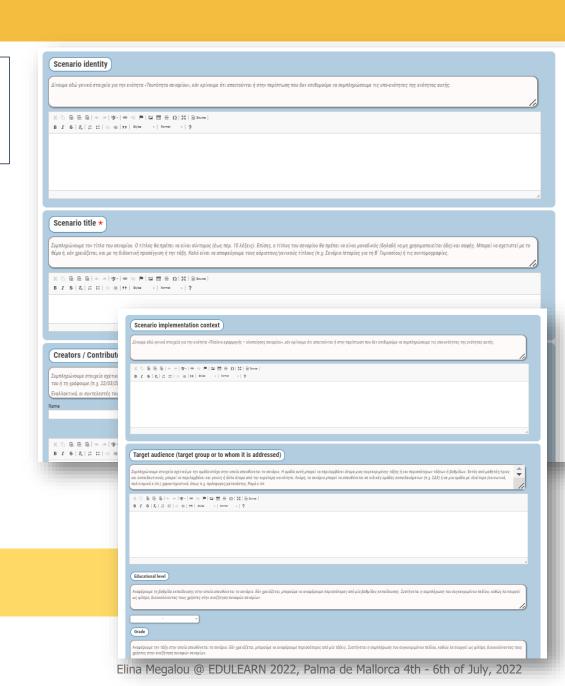
Goal: to assist teachers in designing learnings scenarios

### **Elements** may include:

- title, description, subject matters
- target audience, duration, class organization
- objectives/expected results
- pedagogical approach
- required materials
- educational activities

**Guidelines** on what to describe in each element or specific directions and recommendations





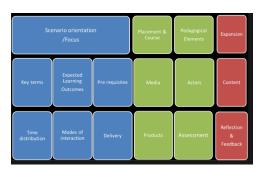
# The need: Generic Learning Scenario Template

### Many different scientific approaches

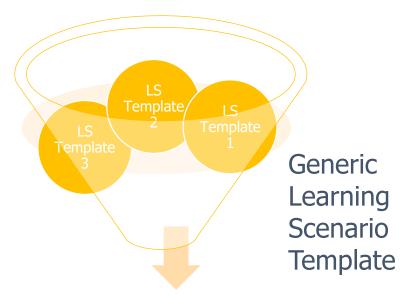
- the elements included (what a learning scenario contains)
- the scenario structure (how information is organized)
- what is expected in each section

Need for custom guidelines (based on pedagogical approach, methodology or subject matters)





homogenize the proposed approaches



define a superset of all potential elements for describing learnings scenarios



# "Photodentro" Generic Learning Scenario Template

# A fully-expanded outline and structure of Learning Scenario contents

### 1. SCENARIO IDENTITY

- 1.1. Scenario title
- 1.2. Creators / Contributors
- 1.3. Short description
- 1.4. Thematic / cognitive area(s)
- 1.5. Subject matter(s)
- 1.6. Connection with the curriculum (a)
- 1.7. Scenario language

### RATIONALE

- 2.1. Rationale of the scenario / Justification of the choices
- 2.2. Originality / Innovation
- 2.3. Added value
- 2.4. Cognitive / didactic problems
- 2.5. Pedagogical approach and strategies

### 3. SCENARIO IMPLEMENTATION CONTEXT

- 3.1. Target audience (target group or to whom it is addressed)
  - 3.1.1 Educational level
  - 3.1.2 Grade
  - 3.1.3 Age group
  - 3.1.4 Language of the targeted audience
  - 3.1.5 Language proficiency level
  - 3.1.6 Special needs
- 3.2. Estimated scenario implementation time (duration)
- 3.3. Place of implementation
- 3.4. Class orchestration
- 3.5. Scenario implementation requirements

### 4. OBJECTIVES / EXPECTED LEARNING OUTCOMES

- 4.1. Teaching/learning objectives
- 4.2. Expected learning outcomes
- 4.3. Connection with the curriculum (a)
- 4.4. Expected learning or other difficulties
- 4.5. Pedagogical approach and strategies
- 4.6. Educational resources

### 5. EDUCATIONAL ACTIVITIES

- 5.1. Teaching flow/process
- 5.2. Phase X (or Step X) or Activity X
  - 5.2.1 Phase / step / activity title
  - 5.2.2 Short description
  - 5.2.3 Teaching objectives / Expected learning outcomes
  - 5.2.4 Activity type
  - 5.2.5 Estimated duration
  - 5.2.6 Teaching technique(s)
  - 5.2.7 Tools
  - 5.2.8 Sources
  - 5.2.9 Class orchestration
- 5.3. Worksheets
- 5.4. Contingency plan

### ASSESSMENT & IMPACT

- 6.1. Type of assessment
- 6.2. Assessment tools
- 6.3. Impact / Reflection

### 7. ADDITIONAL INFORMATION

- 7.1. Scenario extension
- 7.2. Variations
- 7.3. Bibliography
- 7.4. Additional digital content and tools



# The Photodentro Learning Scenario Platform





photodentro.edu.gr/ls

3 modules

(a) Learning Scenario Repository





hosting and sharing structured Learning Scenarios and Templates (b) Learning Scenario **Designer** 



designing structured Learning Scenarios based on Templates (c) LS **Template Designer** 





customizing Learning Scenario Templates

# Photodentro Learning Scenario Repository

# **Greek National Repository of Learning Scenarios for primary and secondary education**





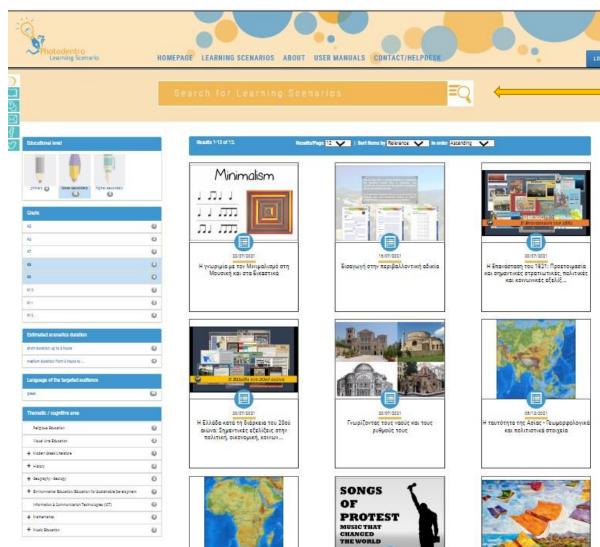
**Open** digital repository, which hosts, organizes, and shares to everyone:

- (a) Learning Scenarios with educational activities,
- (b) Learning Scenario Templates

Learning Scenarios by teachers, academics, university students, researchers



# Photodentro Learning Scenario Repository photodentro.edu.gr/ls



Η τουτότητα της Αφρικής -

Συναυλία με τραγούδια διαμαρτυρίας

Φραντίζω το περιβάλλον.

**search** using keywords or free-text



### **filter** available learning scenarios

### educational level



### estimated duration



### language level of students



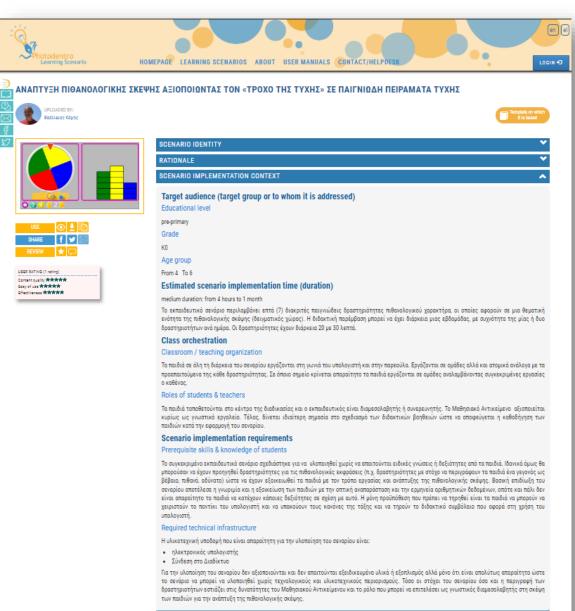
### thematic area

Thematic / cognitive area	
- Religious Education	4
English Language	2
♣ Visual Arts Education	6
Special Education	0
<b>♣</b> Biology	2
+ Modern Greek Literature	3
<b>♣</b> History	13
♣ Electrical Engineering	2
♣ Modern Greek Language	4
♣ Mechanical Engineering	0
♣ Geography - Geology	26
+ Environmental Education/Education for Sustainable Development	13
<b>→</b> Mathematics	17
+ Music Education	3
Management & Economics	0
+ Health Education	2

a Megalou @ EDULEARN 2022, Palma de Mallorca 4th - 6th of July, 2022

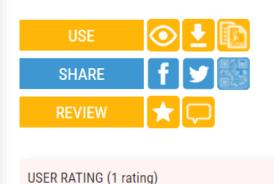


# Photodentro Learning Scenario Repository photodentro.edu.gr/ls



open and view online published learning scenarios





Content quality

Easy of use

Effectiveness

download (pdf) copy and adapt share review (rate or comment)

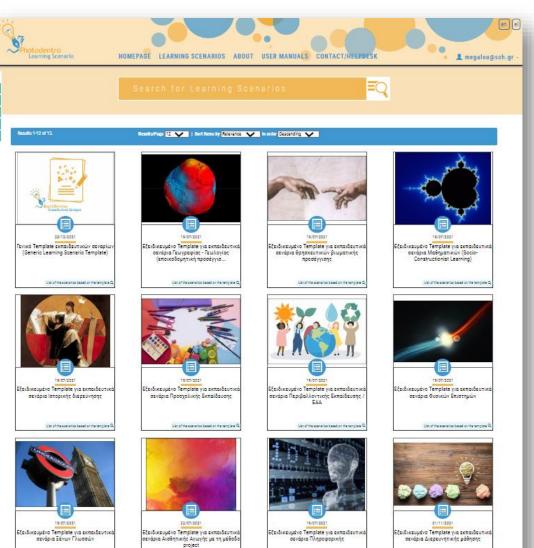




# Photodentro Learning Scenario Repository photodentro.edu.gr/ls

Find and view Learning Scenario **Templates** developed by pedagogical and scientific experts





### Specialized LS Templates

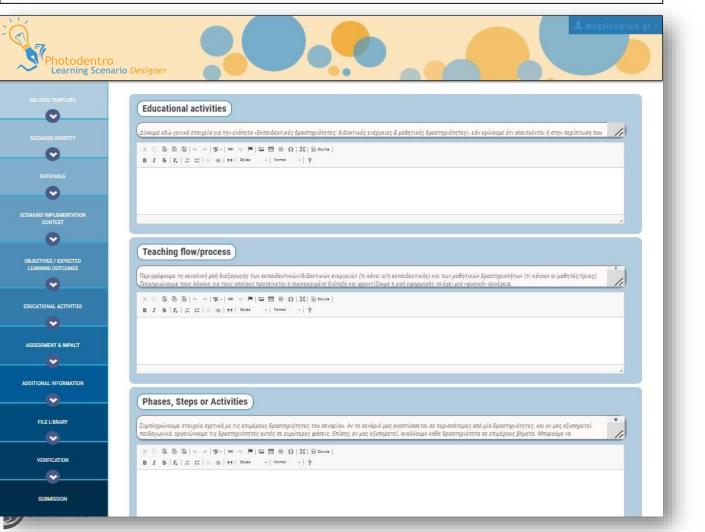
- each focuses on a methodology, learning approach, or cognitive domain
- provides pedagogical guidelines and instructions

view available learning scenarios based on each LS Template



# Photodentro Learning Scenario *Designer*

A web-based tool for creating, managing, and publishing structured learning scenarios, based on customizable LS Templates



### Teachers are guided:

- to create learning scenarios with didactic activities
- save and organize learning scenarios
- publish learning scenarios on the Photodentro LS Repository, and
- manage learning scenarios (modify, edit, delete, republish)

Open and free via registration with school or academic e-mail accounts

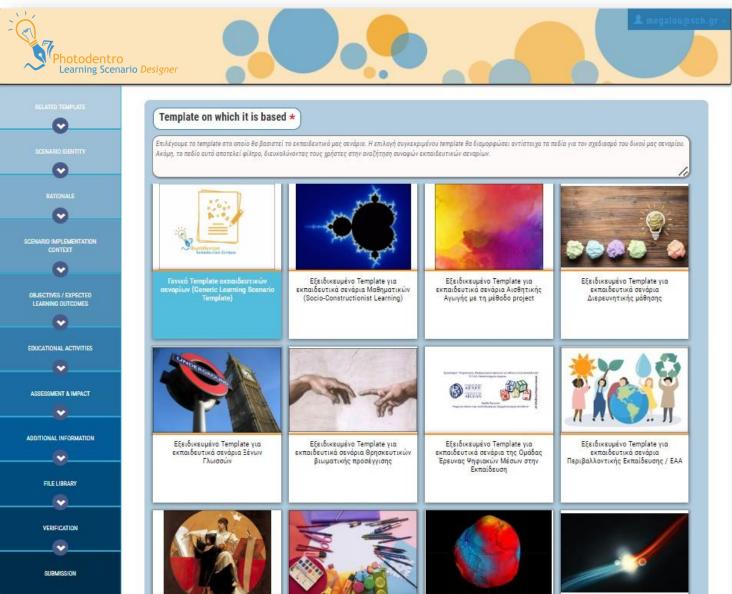
White list with domain names of academic institutions



# **Photodentro Learning Scenario Designer**

photodentro.edu.gr/ls

# **Creating Learning Scenarios**



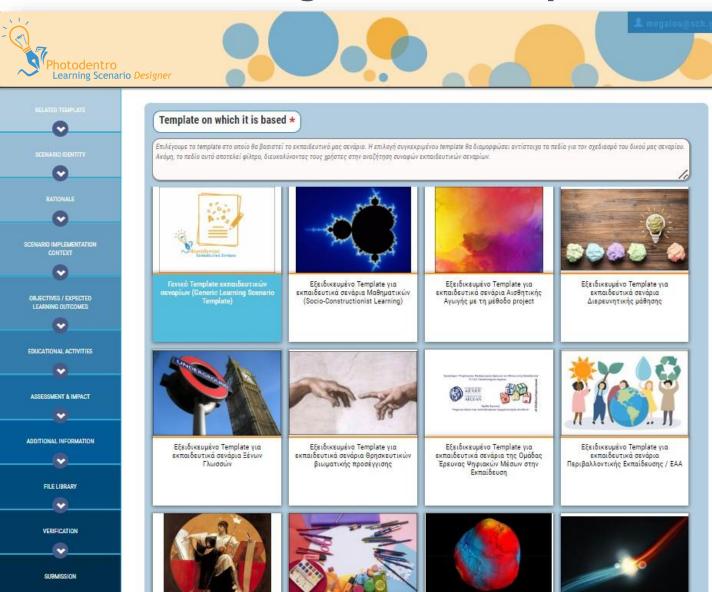
# Three ways:



Start from a new, empty Learning Scenario **Template form** 

Select one of the available LS Templates which fits best to the Learning Scenario they wish to create.

### **Available Learning Scenario Templates**



### One (1) Generic LS Template

**Eleven (11) specialized Templates** defined by the scientific and pedagogical committee of the Digital School project.

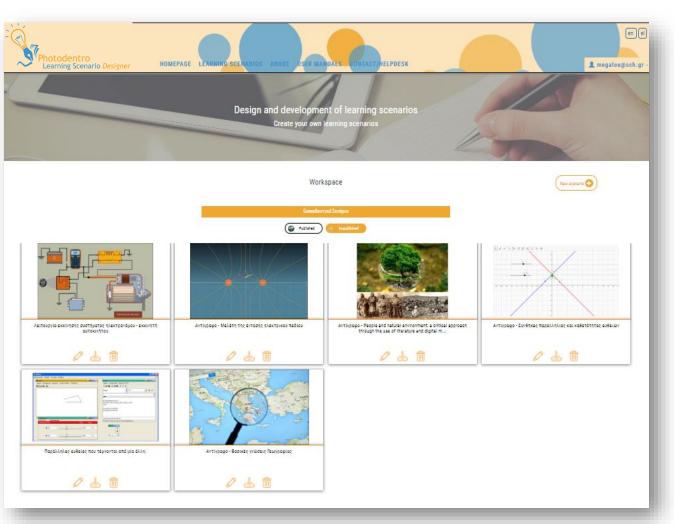
10 focus on a subject matter under a specific pedagogical approach:

- Geography (constructive approach)
- History (historical inquiry-based learning)
- Religious Education (experiential learning)
- Mathematics (socio-constructionist learning)
- Aesthetic Education (project method)

1 interdisciplinary (exploratory learning)

# **Photodentro Learning Scenario Designer**

# **Creating Learning Scenarios**

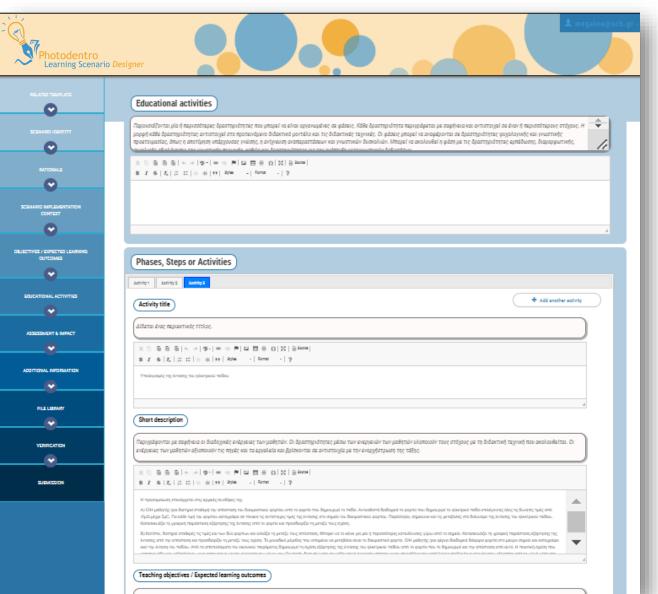


# Three ways:



Start from one of their own learning scenarios they have developed and saved in their workspace

# **Creating Learning Scenarios**



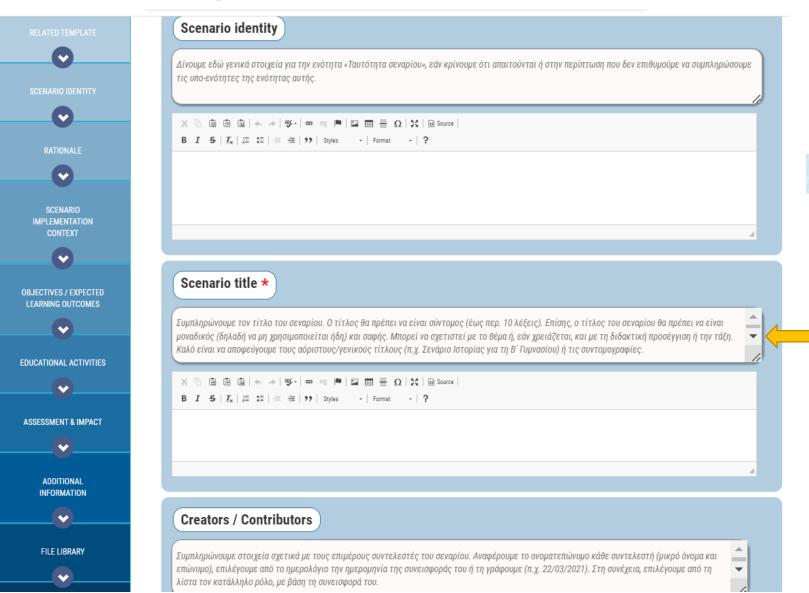
# Three ways:



Start from a copy of an existing learning scenario, developed and published in the Photodentro LS Repository by another user

Photodentro LS Designer automatically makes references to the creators of the original scenarios

# **The Learning Scenario Template form**



Seven Navigation Tabs, each one corresponding to a different section of the Learning Scenario.

### Each form and section:

contains *only* the fields selected at the underlying Template

provides the corresponding custom guidelines and instructions

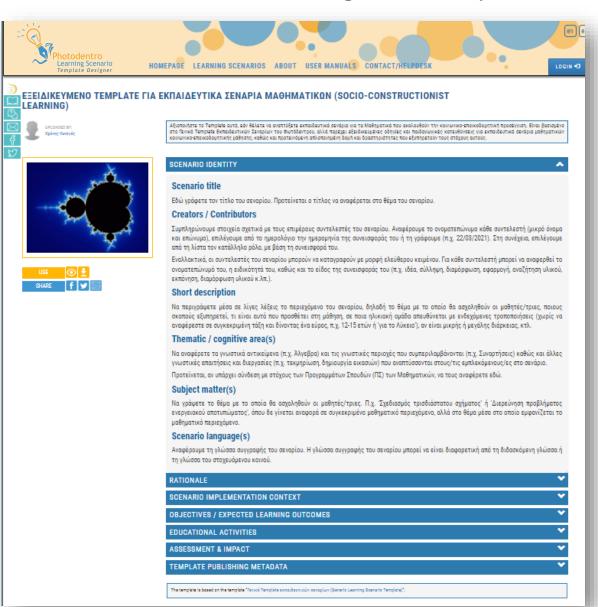
support various pedagogical approaches



# Photodentro LS Template Designer



### A web-based tool for defining custom, specialized **Templates** for Learning Scenarios



It is addressed to pedagogical/scientific experts, academics, scientific teams (authorized users)

### To define a custom LS Template, experts:

- decide on the elements of the full, generic LS Template that are considered relevant and important (simplify)
- write guidelines and pedagogical directions for the specific category of learning scenarios
- publish LS Template to the Photodentro LS Repository

instructions are targeted to learning scenario authors

# **Technologies used**





photodentro.edu.gr/ls



https://duraspace.org/dspace

based on Dspace v6.3

- ❖ Java, Javascript, CSS, HTML, HTML5
- PostgreSQL relational database
- Solr indexing mechanism

### **Learning Scenarios & Templates**

### Metadata



IEEE-LOM specification



Photodentro IEEE LOM-GR Application Profile

### **Open Licenses**







**Nationwide** 

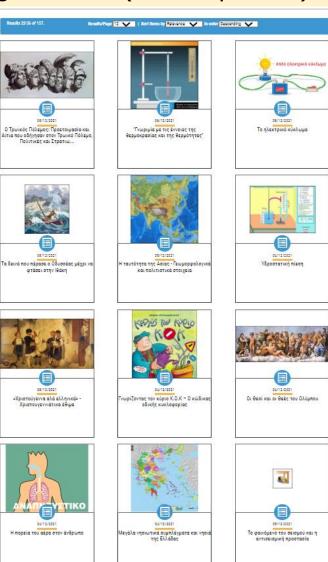
use

# **Photodentro Learning Scenarios**



### 137 learning scenarios (since Sept 2021)





Adopted by pedagogical faculties in three Greek Universities (training students on learning scenarios)





# **Photodentro Learning Scenarios**



Support national teacher training and professional development programs

Develop a corresponding app for the e-me Greek Digital Educational Platform



**Next Steps** 

Full English version

Expand its use at European level







# Thank you!



Operational Programme Human Resources Development Education and Lifelong Learning

### **Dr Elina Megalou**

Director of the Strategy & Digital Educational Content Directorate @CTI megalou@cti.gr



14th annual International Conference on Education and New Learning Technologies

Palma de Mallorca (Spain) 4th - 6th of July, 2022