

Digital Games for
Creativity in
Education:
History Learning
through Story-
telling Oriented to
Creative Thinking



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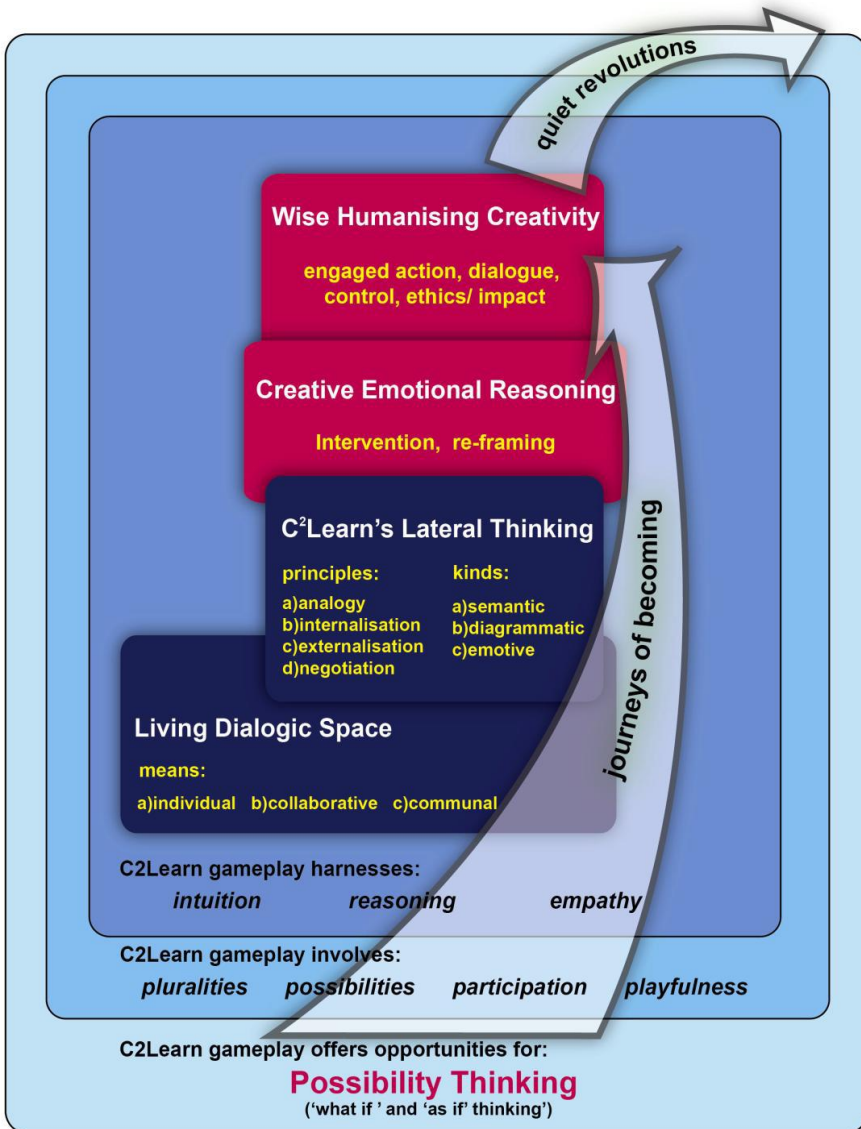
Technologies for co-creativity



- A 3-year research and development project supported by the EC (FP7, ICT-TEL)
- Combining our current understandings of **creativity in education** and **creative thinking** with **technology-enhanced learning tools** and **digital games** to provide innovative opportunities for co-creativity in learning.
- Educational innovation co-designed, implemented and tested in systematic interaction and exchange with teachers in schools.

C2Learn Co-creativity Conceptual Framework

Pedagogical context within and beyond C2Learn Game:
valuing learner agency, standing back, time and space, "meddling".



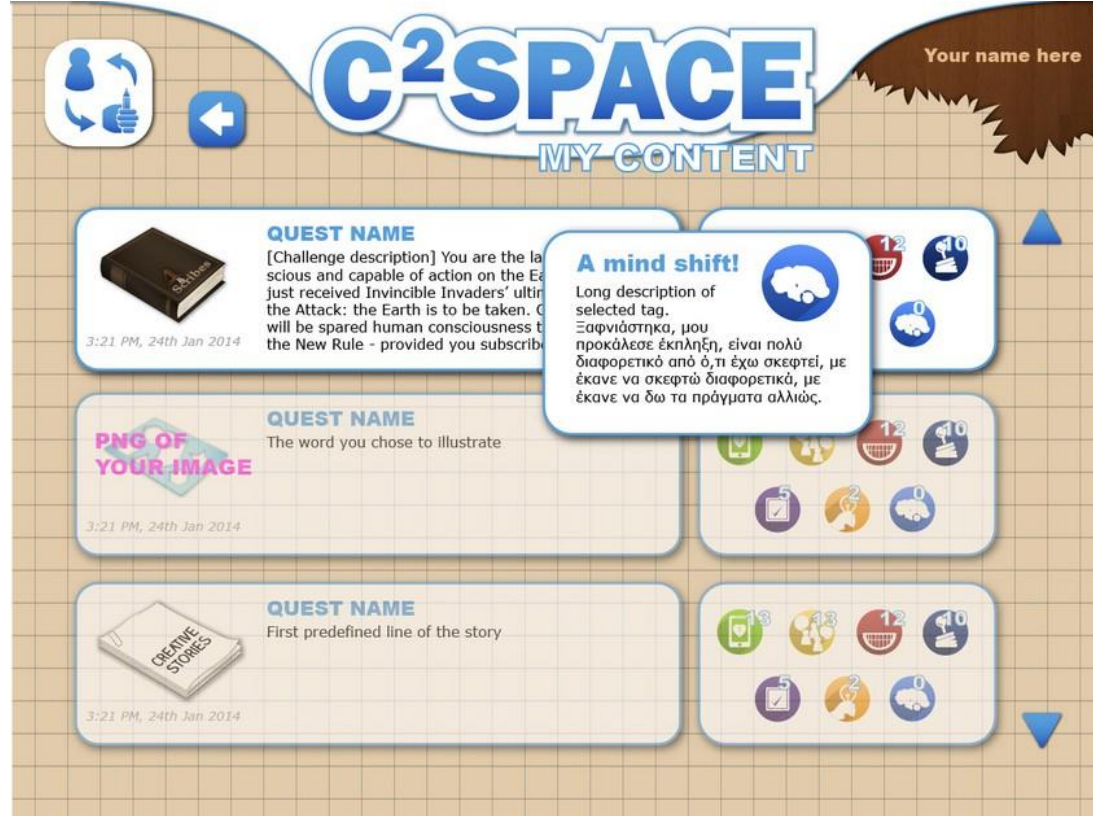
- Strong theoretical foundations

Pedagogic strategies are built into the game and alongside it (in classroom) to enable WHC through LTC².

C2Learn:

fostering co-creativity in learning

- Learners, **individually** as well as mainly **collaboratively** and also **communally**, come up with **novelty**, new ideas. These new ideas:
 - Have emerged through asking ‘**what if**’ and ‘**as if**’ questions and through the use of **disruptive** techniques resulting in **re-framing**
 - Have emerged from **shared** ideas and actions in an **immersed dialogic** rather than hierarchical pedagogical environment
 - Are captured or selected because they **matter to the community** and have a **valuable impact** on it.
 - Learners take into account the impact of that novelty on the individual, collaborative and communal dimensions of their community.

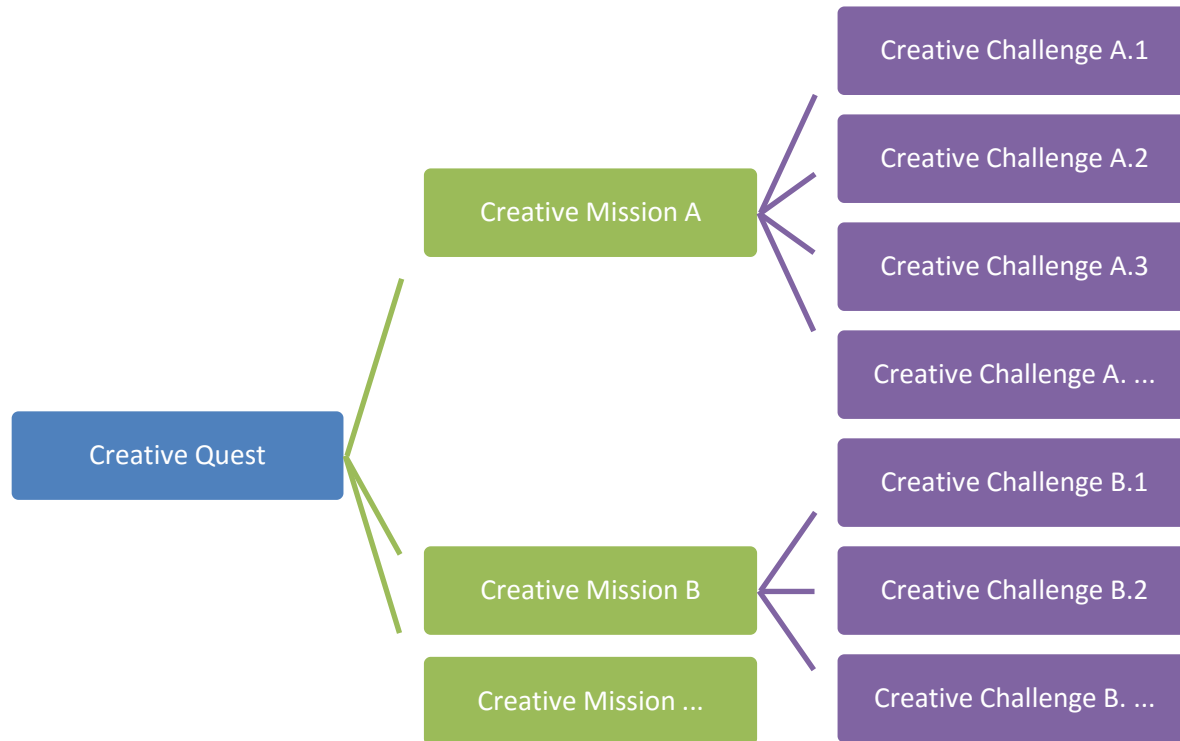


C2Space:

- a digital space integrating all technological constituents into a unified user experience
- A gameful social networking environment designed to foster co-creativity as theorized in the C2Learn project.

Gameful learning design

- Playful learning experiences for students to engage with
- Structured in C2Space as:
 - Quests
 - Missions
 - Challenges



Creative Quests	Journeys towards specified goals Longer-term ventures
Creative Missions	Actions with specific objectives contributing towards achieving the goals of the quest A Quest can include a number of shorter-term Missions
<p>In the heart of each Mission lies a Problem; with no obvious ‘correct’ answers, e.g. a dilemma. To address the Problem, players choose Creative Challenges to pursue. A Mission can include a number of relatively short-time Challenges The Challenges can be of the following types:</p>	
<i>4Scribes</i>	Structured story-telling game to generate ideas for innovative scenarios of action (~20-30 min)
<i>Creative Stories</i>	Playful free writing to generate ideas for innovative scenarios of action (~10-20 min)
<i>Iconoscope</i>	Drawing game for playing with concepts to understand them better (~5-10 min)

4Scribes



- A story-making game
- The objective:
 - to collaboratively create a story, while each player tries to steer the narrative towards their secret ending
- At the end, players vote which ending was the best
- The premise of the story is given by the teacher (but could also be decided by the students-players)

Creative Elements (cards) as disruptors

- Creative seeds in story-making
- Ideas/ archetypes to spark players' imagination; not to be interpreted literally
- The Creative Elements deck consists of four suits:
 - Fire (emotions and relationships)
 - Water (thoughts, ideas and imagination)
 - Wind (society, systems and communication)
 - Earth (the physical world)
- ... and three different types:
 - Character
 - Myth
 - Scene



Pilots



Our focus here:

A year 6 History classroom in Greece

- Application of a History teaching scenario in primary school
 - Methodology
 - Data
 - Findings
 - outcomes
 - Discussion
 - Conclusion

Why C2Learn in History?

A subject indifferent to students, as they report:

- ✓ Many historical events and persons without any relevance to students' present life
- ✓ Simply information to memorize, *'no creativity at all'*
- ✓ Typically, teaching approaches built mainly around teacher's narration

Creativity in the History class

Some of our open questions in the wider context:

- How can we foster creativity in History learning and teaching?
- How can we use student-engaging games in this effort?
- How can we, educators, design learning activities to this end?
- How can we involve our students as creative agents in this design?

- History lesson: narration or construction, recitation or creativity?
- Historical thinking and creative thinking (asking “What if” and “As if” questions)
- Taking historical perspectives, understanding ethical dimensions of History through story-telling, role-play and visual representation games
- Bridging formal, non-formal, and informal spaces of History learning

Back to our focus study: Creating the scenario

- Scenario designed by teachers, in collaboration with researchers
- Based on the co-creativity conceptual framework
- Choosing a history era: *Greece under Ottoman Rule*
- Devising a role-play situation with students taking roles while facing Greek population's challenges under Ottoman rule.
- Adding cards to the basic deck of the 4Scribes game representing characters from the period such as "*Pasha*", "*Tsar*", "*Western European*", etc.

Quest, Missions, Challenges

- QUEST:
 - Live in Tripolitsa under Ottoman Rule!
- A MISSION:
 - Face the economic and social constraints!
 - The problem: How will you live under the economic and social constraints imposed to your region by the Ottomans?

Quest, Missions, Challenges

- CHALLENGES: Play 4Scribes! Some of the premises:
 - *You are a farmer who has just paid the 10% tax on your crop. You feel wronged because the wheat that the tax collector withheld was more than your proper dues. You decide to seek audience with the Pasha and present your problem. The Pasha listens to you and...*
 - *You are a 10-year-old boy and you have just heard that the Pasha decided to close down the school in your own village. The only school you can now attend is rather far away. How do you deal with this situation?*
 - *The head of your village makes a public announcement in the square: “Mustafa’s goat is missing. There is suspicion that Kemal, his brother-in-law from the next village has stolen it. But Mustafa claims that he saw George, the teacher’s son, loitering near his yard”. Now the matter rests with the Pasha to decide...*

Methodology

- Applying C2Learn's Co-creativity Assessment Methodology

Research questions →

Co-creativity Assessment

Methodology: Research Questions

- How do participants manifest co-creativity (WHC and CER) through C2Learn gameplay?
- How does manifesting of co-creativity (WHC and CER) in C2Learn change over time?
 - [a] Assessment of the change in students' thinking patterns and reasoning processes along the CER dimension.
 - [b] Assessment of students' lived-experience in terms of co-creativity along the WHC dimension.
- What role is played by C2Learn technological tools and corresponding pedagogical interventions, focusing in particular on students' experience?

Methodology

- 24 students of the 6th grade (11-year-olds) in a school in the suburbs of Athens, and their teacher
 - Voluntary participation in this pilot implementation of C2Learn
- Duration of this focus study: 4 teaching hours, in which students played 4Scribes and then discussed the experience and the outcomes
- Researchers collected rich data through observation, interviews and discussions, and custom-made participant reporting tools.

Data

- Group discussion (*'Socratic Dialogue'*) in the class
- Custom-made self-reporting tools for students to evaluate their experience
- Interview with the teacher
- Students' game outcomes (their stories)
- Video and audio of classroom activity
- Classroom observation by the researcher

Some findings

Students' stories

- ✓ Students created stories which were fiction- rather than History-oriented
- ✓ Many students led their stories out of the historical context which the teacher had embedded in the scenario.
- ✓ The disruptors (random words on the cards) worked as stimuli to students, who used them to advance the story (and steer it towards their secret ending), but not always within the context that the teacher had defined.

Some findings

Researcher's observation

- ✓ Not all students 'immersed' in the historical context designed by the teacher into the scenario.
- ✓ The teacher promoted dialogue among students to help them imagine, think differently, out of the box of typical History narration based on the textbook.

Some findings

Video and audio analysis

- ✓ The teacher acted as facilitator and moderator, structuring the activity for students to start playing 4Scribes, avoiding intervention in the play.
- ✓ Students are generally engaged in the action. They appear to foreground pure play rather than playful learning.
- ✓ Interaction and dialogue among students was rich, sometimes relating to conflict and managing conflict, but generally not overtly/directly related to possibility thinking.

Some findings

Students' self-evaluation

- ✓ Most students reported that they used the stimuli so as to create a *creative* story.
- ✓ Collaboration to make their own stories was one of the positive points they emphasized most.
- ✓ They found it tricky to have to create their stories within the limitations posed by the random cards while simultaneously having to lead the story to their secret ending.

Overall:

- ✓ Students clearly engaged in playful collaboration, but not closely following the History context defined by the teacher.
- ✓ As everyone reported, *it was creative* for them to make their own stories during the History lesson, in comparison to what typically happens in a History class.
- ✓ Considerable added value to the activity is generated through post-play class reflection on students' creations (stories).

Finally:

- ✓ This short pilot implementation was a first step towards understanding whether and how a History class could become a more creative and playful pedagogical space using the C2Learn approach.
- ✓ Further research will give us better insights into how creativity works in this subject area and the kind of educational scenarios and teaching practices needed to foster this creativity.

Thank you!

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Fostering **creativity** in **learning**
through digital **games**

