Fostering creativity in learning through digital games

C²Learn

creative learning

Creative Emotional Reasoning Computational Tools Fostering Co-Creativity in Learning Processes

www.c2learn.eu

REPORT ON DISSEMINATION AND EXPLOITATION ACTIVITIES YEAR 3

C²LEARN PROJECT DELIVERABLE NO. D6.3.3

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Dissemination level: Public

DOCUMENT IDENTITY

Project category	Details
Deliverable code	D6.3.2
Full title	'Report on Dissemination and Exploitation Activities Year 3'
Work package	WP6 'Dissemination & Exploitation'
Task	T6.1 'Dissemination & Exploitation Planning and Reporting'
Consortium partner leading	EA
Consortium partners contributing	UEDIN, OU, NCSR-D, UoM, SGI, BMBF (formerly BMUKK)

DOCUMENT HISTORY

Version	Date	Handling partner	Description
1.0	21/09/2015	EA	Initial draft
1.1	19/10/2015	EA	Partner input integrated
2.0	30/10/2015	EA	Final draft

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Abbreviations used

A) Abbreviated names of the project consortium partners

Abbreviation	Explanation
EA	Ellinogermaniki Agogi, Greece (coordinator)
UEDIN	The University Of Edinburgh, UK
OU	The Open University, UK
NCSR-D	National Centre For Scientific Research "Demokritos", Greece
UoM	Universita ta Malta, Malta
SGI	Serious Games Interactive, Denmark
BMBF	Bundesministerium für Bildung und Frauen (formerly BMUKK)

B) Other abbreviations

Abbreviation	Explanation
C^{2}Learn	Acronym of the project (full title: Creative Emotional Reasoning Computational Tools Fostering Co-Creativity in Learning Processes)
DAP	Dissemination and Awareness Plan
DoW	Description of Work of the project (Annex I of the Grant agreement no. 318480)
EC	European Commission
FP7	The Seventh Framework Programme for Research and Technological Development (2007-2013)
ICT	Information and Communications Technologies

Abbreviation	Explanation
M#	#th month of the project (M1=November 2012)
TEL	Technology-Enhanced Learning
WP	Work Package

Executive summary

C²Learn at a glance

C2Learn (www.c2learn.eu) is a three-year research project supported by the European Commission (EC) through the Seventh Framework Programme (FP7), in the theme of Information and Communications Technologies (ICT) and particularly in the area of Technology-Enhanced Learning (TEL) (FP7 grant agreement no 318480). The project started on 1st November 2012 with the aim to shed new light on, and propose and test concrete ways in which our current understanding of creativity in education and creative thinking, on the one hand, and technology-enhanced learning tools and digital games, on the other hand, can be fruitfully combined to provide young learners and their teachers with innovative opportunities for creative learning. The project designs an innovative digital gaming and social networking environment incorporating diverse computational tools, the use of which can foster co-creativity in learning processes in the context of both formal and informal educational settings. The C²Learn environment is envisioned as an open-world 'sandbox' (non-linear) virtual space enabling learners to freely explore ideas, concepts, and the shared knowledge available on the semantic web and the communities that they are part of. This innovation is co-designed, implemented and tested in systematic interaction and exchange with stakeholders following participatory design and participative evaluation principles. This happens in and around school communities covering a learner age spectrum from 10 to 18+ years.

About this document

The present document constitutes Deliverable D6.3.3 'Report on Dissemination and Exploitation Activities Year 3' of the C²Learn project, delivered at the end of the third project year. This report concisely describes the dissemination and awareness-raising work carried out by the consortium from month 25 until month 36, as well as updating on decisions made relating to the exploitation of the project outcomes, implementing the Dissemination and Awareness Plan (DAP) of the project (deliverable D6.2). The reported activity is within the provisions of the DAP for the third project year and constitutes the final step towards meeting the overall dissemination and awareness-raising objectives of the project.

1   Introduction

The present document constitutes Deliverable D6.3.3 'Report on Dissemination and Exploitation Activities Year 3' of the C^{2}Learn project, delivered at the end of the third project year.

The second chapter of this report concisely describes the dissemination and awareness-raising work carried out by the consortium during the third year of the project.

The third chapter of this document provides an update of the decisions made relating to the exploitation of the project outcomes.

The reported activity overall is within the provisions of the Dissemination and Awareness Plan (DAP) of the project (deliverable D6.2) for the third project year and constitutes a step towards meeting the overall dissemination and awareness-raising objectives of the project. The principles and methods defined in the DAP were systematically used in all dissemination activities of the C^{2}Learn project in this period.

1.1   DISSEMINATION OBJECTIVES FOR THE PERIOD

During the third project year, the C^{2}Learn project aimed to bring its messages and achievements, as these were emerging in this period, to the attention of as a wide audience as possible, addressing several of the stakeholder communities, widely in Europe and beyond.

In addition to informing about the project results, many of the dissemination activities in the third project year aimed at carefully targeting particular school communities and other stakeholder groups and individuals in order to attract their interest and establish their involvement in the various stages of the participatory field research.

2   Dissemination activities

The C^{2}Learn project has managed to address all of its targeted stakeholder communities defined in the DAP at various levels including audiences beyond Europe. This is demonstrated below through a summative presentation of the numerous dissemination activities t5hat took place in the third project year.

The dissemination activities are presented below in concise tabular form, reflecting the stakeholder communities addressed in each case. The activities are grouped into the following subsections: dissemination of the public project deliverables; scientific publications and events; community building; materials; and exploiting the internet.

2.1   DISSEMINATION OF THE PUBLIC PROJECT DELIVERABLES

Dissemination activity	Stakeholders addressed	
Public deliverables of the project become publically available through the project website. The relevant web page is the following: http://project.c2learn.eu/?q=node/195 For ease of reference, the following improvement was introduced: the final iteration of each deliverable is listed on the first page, while a link leads to a second page in which all public project deliverables, including all their previous iterations, are accessible.	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	Education
	☑	research and innovation
	☑	M**edia/general public**

2.2   SCIENTIFIC PUBLICATIONS AND EVENTS

During its third year, C²Learn continued very actively to communicate its messages to the scientific and academic world through publications and events. Relevant details are provided below.

2.2.1   SCIENTIFIC PUBLICATIONS

In the third project year, consortium members produced the following scientific publications. These fall within diverse scientific areas including education and pedagogy, cognitive science and philosophy, technology-enhanced learning, game design and game-based learning, as well as knowledge representation.

Dissemination activity	Stakeholders addressed	
S. Konstantinidis, P. Karampiperis, M. Sicilia, "Enhancing the Levenberg-Marquardt Method in Neural Network training using the direct computation of the Error Cost Function Hessian", in Proc. of the 16th International Conference on Engineering Applications of Neural Networks (EANN 2015), Rhodes, Greece, September 25-28 2015. Link to pre-print: http://cru.iit.demokritos.gr/sites/cru.iit.demokritos.gr/files/IC79.pdf **Relevant C2Learn activity:** Machine Learning Training Methodology used in the context of Emotive Reasoning Computational Tools (WP3/T3.3). *C²Learn partners involved: NCSR-D*		**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed		
G. Panagopoulos, P. Karampiperis, A. Koukourikos, S. Konstantinidis, "Creativity Profiling Server: Modelling the Principal Components of Human Creativity over Texts", in Proc. of the 1st Workshop on Deep Content Analytics Techniques for Personalized and Intelligent Services (DECAT 2015), in conjunction with the 23rd Conference on User Modelling, Adaptation and Personalization (UMAP), Dublin, Ireland, June 19- July 3, 2015. Link to pre-print: http://cru.iit.demokritos.gr/sites/cru.iit.demokritos.gr/files/IC78.pdf **Relevant C2Learn activity:** Creativity Profiling Server (WP3/T3.4 – User Profiling & Behaviour Detection). *C²Learn partners involved: NCSR-D*	**School communities/education**		
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
		game design and game-based learning	
	☑	knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed	
P. Karampiperis, A. Koukourikos, G. Panagopoulos, "From Computational Creativity Metrics to the Principal Components of Human Creativity", in Proc. of the 9th International Conference on Knowledge, Information and Creativity Support Systems (KICSS 2014), Limassol, Cyprus, November 6-8, 2014 Link to pre-print: http://cru.iit.demokritos.gr/sites/cru.iit.dem okritos.gr/files/IC77.pdf *C²Learn partners involved: NCSR-D*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
R. Abela, A. Liapis, G. N. Yannakakis: "A Constructive Approach for the Generation of Underwater Environments," in Proceedings of the FDG workshop on Procedural Content Generation in Games, 2015. http://pcg.fdg2015.org/papers/a_constructive_approach_for_the_generation_of_underwater_environments.pdf **C2Learn partners involved: UoM**	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
W. Cachia, A. Liapis, G. N. Yannakakis: "Multi-Level Evolution of Shooter Levels," in *Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference*, 2015.	**School communities/education**	
	Academic communities	
	education and pedagogy	
	cognitive science and philosophy	
http://antoniosliapis.com/papers/multi-level_evolution_of_shooter_levels.pdf	technology-enhanced learning	
	☑	game design and game-based learning
	knowledge representation	
	Industries	
	☑	gaming and edutainment
	educational technologies	
	Policy makers	
C²Learn partners involved: UoM	education	
	research and innovation	
	Me**dia/general public**	

Dissemination activity	Stakeholders addressed	
C. Holmgard, A. Liapis, J. Togelius, G. N. Yannakakis: "Monte-Carlo Tree Search for Persona Based Player Modeling," in *Proceedings of the AIIDE workshop on Player Modeling*, 2015.	**School communities/education**	
	Academic communities	
	education and pedagogy	
	cognitive science and philosophy	
http://antoniosliapis.com/papers/monte-carlo_tree_search_for_persona_based_player_modeling.pdf	technology-enhanced learning	
	☑	game design and game-based learning
	knowledge representation	
	Industries	
	☑	gaming and edutainment
	educational technologies	
	Policy makers	
C²Learn partners involved: UoM	education	
	research and innovation	
	Me**dia/general public**	

Dissemination activity	Stakeholders addressed	
	School communities/education	
A. Hoover, W. Cachia, A. Liapis, G. N. Yannakakis: "AudioInSpace: Exploring the Creative Fusion of Generative Audio, Visuals and Gameplay," in *Evolutionary and Biologically Inspired Music, Sound, Art and Design* (EvoMusArt), vol. 9027, LNCS. Springer, 2015.	**Academic communities**	
	education and pedagogy	
	cognitive science and philosophy	
	technology-enhanced learning	
http://antoniosliapis.com/papers/audio_in_space.pdf	☑	game design and game-based learning
	knowledge representation	
	Industries	
	☑	gaming and edutainment
	educational technologies	
	Policy makers	
C²Learn partners involved: UoM	education	
	research and innovation	
	Me**dia/general public**	

Dissemination activity	Stakeholders addressed	
A. Liapis, C. Holmgard, G. N. Yannakakis, and J. Togelius, ``Procedural Personas as Critics for Dungeon Generation," in *Proceedings of Applications of Evolutionary Computation*, 2015. [**Best Paper Award**] http://antoniosliapis.com/papers/procedural_personas_as_critics_for_dungeon_generation.pdf *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
A. Liapis, "Map Sketch Generation as a Service," in Proceedings of the *AIIDE workshop on Experimental AI in Games*, 2015. http://antoniosliapis.com/papers/map_sketch_generation_as_a_service.pdf *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
A. Liapis, A. K. Hoover, G. N. Yannakakis, C. Alexopoulos, E. V. Dimaraki: "Motivating Visual Interpretations in Iconoscope: Designing a Game for Fostering Creativity," in *Proceedings of the 10th Conference on the Foundations of Digital Games*, 2015. http://antoniosliapis.com/papers/motivating_visual_interpretations_in_iconoscope.pdf *C²Learn partners involved: UoM, UEDIN, EA*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed		
	School communities/education		
A. Liapis, G N. Yannakakis: "Refining the Paradigm of Sketching in AI-Based Level Design," in *Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference*, 2015. http://antoniosliapis.com/papers/refining_the_parad igm_of_sketching_in_ai-based_level_design.pdf *C²Learn partners involved: UoM*	**Academic communities**		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed		
	School communities/education		
P. Lopes, A. Hoover, and G. N. Yannakakis, "Toward Procedural Music in Digital Games". *Ludomusicology Conference*, 2015. http://www.ludomusicology.org/past-events/call-papers-2015/ludo2015-programme/ *C²Learn partners involved: UoM*	**Academic communities**		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed		
	School communities/education		
P. Lopes, A. Liapis, G. N Yannakakis: "Sonancia: Sonification of Procedurally Generated Game Levels," in *Proceedings of the ICCC workshop on Computational Creativity & Games*, 2015. http://www.ccgworkshop.org/wp-content/uploads/2015/06/CCGW2015_submission_4.pdf *C²Learn partners involved: UoM*	**Academic communities**		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed		
P. Lopes, A. Liapis, G. N Yannakakis: "Targeting Horror via Level and Soundscape Generation," in *Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference*, 2015. http://antoniosliapis.com/papers/targeting_horror_via_level_and_soundscape_generation.pdf *C²Learn partners involved: UoM*		**School communities/education**	
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Me**dia/general public**		

Dissemination activity	Stakeholders addressed		
G. N. Yannakakis and J. Togelius, "Experience-driven Procedural Content generation (Extended Abstract)", in *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2015. **[Most Influential IEEE TAC Paper Award]** http://yannakakis.net/wp-content/uploads/2015/11/PID3821875.pdf *C²Learn partners involved: UoM*		**School communities/education**	
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Me**dia/general public**		

Dissemination activity	Stakeholders addressed		
P. Koulouris, E. Stouraitis 'Digital Games for Creativity in Education: History Learning through Story-telling Oriented to Creative Thinking'. The Learner Conference: 22nd International Conference on Learning, Madrid, Spain, 9 - 11 July 2015 *C²Learn partners involved: EA*	☑	**School communities/education**	
	Academic communities		
	☑	education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
	Policy makers		
	☑	education	
		research and innovation	
	Me**dia/general public**		

Dissemination activity	Stakeholders addressed		
P. Koulouris, N. Zygouritsas, E. Dimaraki, E. Stouraitis 'Co-Designing Digital Gaming Activities to Foster Co-Creativity In Learning'. EDEN Open Classroom 2015, Athens, 18-21 September 2015. *C²Learn partners involved: EA*	☑	**School communities/education**	
	Academic communities		
	☑	education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
	Policy makers		
	☑	education	
		research and innovation	
	Me**dia/general public**		

Dissemination activity	Stakeholders addressed		
P. Koulouris, 'Games Fostering Co-Creativity in Learning as Contributions to the "Maker Movement"'. Make2Learn: International Workshop of Making as a Pathway to Foster Joyful Engagement and Creativity in Learning, in conjunction with the International Conference on Entertainment Computing (ICEC 2015), Trondheim, Norway. 29 September 2015. *C²Learn partners involved: EA*		**School communities/education**	
	Academic communities		
	☑	education and pedagogy	
		cognitive science and philosophy	
	☑	technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Me**dia/general public**		

2.2.1.1 AWARDS RECEIVED

The C²Learn consortium warmly congratulates its UoM members who have received the following awards:

Dissemination activity	Stakeholders addressed		
Most Influential IEEE Transactions on Affective Computing Paper Award: G. N. Yannakakis and J. Togelius, "Experience-driven Procedural Content generation (Extended Abstract)". Awarded at the *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2015. *C²Learn partners involved: UoM*		**School communities/education**	
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
	☑	research and innovation	
	Me**dia/general public**		

Dissemination activity	Stakeholders addressed	
Best Paper Award: A. Liapis, C. Holmgard, G. N. Yannakakis, and J. Togelius, ``Procedural Personas as Critics for Dungeon Generation," in *Proceedings of Applications of Evolutionary Computation*, 2015. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
	Media/general public	

2.2.1.2 FORTHCOMING PUBLICATIONS

In addition to the above, at the time of writing the present report, the following scientific publications are accepted, under review or planned.

Dissemination activity	Stakeholders addressed	
Chappell, K., Walsh, C., Kenny, K, Wren, H., Scmoelz, A., & Stouraitis, E. (in review). Wise humanising creativity: changing how we create in a virtual learning environment, Digital Culture & Education. *C²Learn partners involved: OU, BMUKK, EA*	**School communities/education**	
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
Walsh, C., Chappell, K., & Craft, A. (under review). The potential for fostering wise humanising creativity (WHC) in a digital gaming and social networking environment. Thinking Skills and Creativity. *C²Learn partners involved: OU, BMUKK, EA*	**School communities/education**	
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
Beavis, C., Walsh, C.S., Bradford, C., O'Mara, J., Apperley, T., and Gutierrez, A. (in press). 'Turning around' to the affordances of digital games: English curriculum and students' lifeworlds. *English in Australia.* ***C²Learn partners involved: OU, BMUKK, EA***	**School communities/education**	
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
"Creativity: Emotive Lateral Thinking", Digital Culture and Education, 2015 (Under Review) ***C²Learn partners involved: UEDIN***	**School communities/education**	
	Academic communities	
		education and pedagogy
	☑	cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
A. Liapis, G. N. Yannakakis, C. Alexopoulos, "Can Computers Foster Human User's Creativity? Theory and Praxis of Mixed-Initiative Co-Creativity", Digital Culture & Education ***C2Learn partners involved: UoM, UEDIN***	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		Education
	☑	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
J. Togelius and G. N. Yannakajis "Emotion-driven level Design" in Karpouzis and Yannakakis, (Eds.) *Emotion in Games: Theory and Praxis*, Springer, (to appear in 2016). *C²Learn partners involved: UoM*		**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		Education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Stenning, K., Schmoelz, A., Alexopoulos, K., Aichhorn, A., Stouraitis, E., Wren, W., Scaltsas, T. (2016) Creativity through Socratic Dialogue?, Digital Culture and Education, (under review) *C²Learn partners involved: EDIN, BMBF, EA,OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Schmoelz, A., Weixelbaumer, T. (2016) Playful Pedagogy as occasion for co-creativity? Digital Culture and Education, (under review) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Schmoelz, A. (2016) Digitale Spiele als Anlass für Ko-Kreativität, In. Gruber, W. (eds) Games Based Learning. Dialogorientierung & spielerisches Lernen analog und digital, Wien: IKON, (under review) *C^{2}Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		Me**dia/general public**

Dissemination activity	Stakeholders addressed	
Walsh, C. S., Schmoelz, A. (2015) Stop the Mob! Pre-service teachers designing a serious game to challenge bullying, Springer Lecture Notes in Computer Science (accepted) *C^{2}Learn partners involved: OU, BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		Me**dia/general public**

Dissemination activity	Stakeholders addressed	
G. Panagopoulos, S. Konstantinidis, A. Koukourikos, P. Karampiperis, V. Karkaletsis, "Creative Stories: Modelling the Principal Components of Human Creativity Over Texts in a Storytelling Game", Digital Culture & Education, Special Edition, 2015 (submitted) *C^{2}Learn partners involved: NCSR-D*		School communities/education
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		Me**dia/general public**

2.2.2 EDITED BOOK OR SPECIAL ISSUE

Dissemination activity	Stakeholders addressed	
A C2Learn Special Themed Issue of *Digital Education & Culture* is planned to be published in the first half of 2016, thanks to an initiative of OU. Papers are contributed by all partners, and the editorial is made by EA. Digital Culture & Education (DCE) is an international inter-disciplinary, peer-reviewed, open-access web-published journal for those interested in digital culture and education. The journal is devoted to analysing the impact of digital culture on identity, education, art, society, culture and narrative within social, political, economic, cultural and historical contexts. ***Partners involved: OU, EA, UEDIN, NCSR-D, BMUKK***		**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
The publication of an edited book on Games for Creativity in Learning inspired by C2Learn is being planned by EA, inviting contributions from all project partners as well as widely from researchers and practitioners in the field from Europe and beyond. Contacts with relevant international publishers are underway. ***Partners involved: EA***	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**
	☑	

2.2.3 CONFERENCES AND WORKSHOPS

In the third project year, consortium members presented the research carried out in the project to scientific and stakeholder communities through their participation in several scientific conferences with papers and posters, as well as through the organization of or participation in workshops and panel discussions.

Dissemination activity	Stakeholders addressed		
Stouraitis E., "Fostering Creativity in the Sixth Grade at history education through a story-telling digital game: An empirical study", 12th International Conference of History Educators International Research Network (Heirnet2015), UCL Institute of Education, London, United Kingdom, 7-9/9/2015 **URL** http://www.cvent.com/events/history-educators-international-research-network-heirnet-12th-international-conference/custom-22-8f20382eff7d4db78d8285a9ba47f2ac.aspx *C²Learn partners involved:* **EA**	**School communities/education**		
	Academic communities		
	☑	education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
		educational technologies	
	Policy makers		
	☑	education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed		
P. Karampiperis, "Usage of Brain-Computer Interfaces on Modeling and Measuring Human Creativity", Invited Talk, NCSR-D Summer School 2015 *C²Learn partners involved: NCSR-D*	**School communities/education**		
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
		game design and game-based learning	
	☑	knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed		
Workshops on machine learning techniques and Brain-Computer Interfaces, NCSR-D Summer School 2015 *C²Learn partners involved: NCSR-D*	**School communities/education**		
	Academic communities		
		education and pedagogy	
		cognitive science and philosophy	
		technology-enhanced learning	
		game design and game-based learning	
	☑	knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
	Policy makers		
		education	
		research and innovation	
	Media/general public		

Dissemination activity	Stakeholders addressed	
Demonstrations / gaming sessions using the Creative Games Suite, NCSR-D Educational Program 2015 (ongoing, September 2015-May 2016) *C²Learn partners involved: NCSR-D*	☑	School communities/education
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Keynote: International GameOn Conference, Amsterdam, December 2015 *C²Learn partners involved: UoM*		**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
	☐	knowledge representation
	Industries	
	☐	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☐	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Keynote: 15th Conference of Hellenic Psychological Society, Cyprus, May 2015. *C²Learn partners involved: UoM*		**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
	☐	knowledge representation
	Industries	
	☐	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☐	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Keynote: 9th International Workshop on Semantic and Social Media Adaptation and Personalization, Corfu, November 2014 *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Invited Talk: Cyprus University of Technology, Limassol, Cyprus, 2015. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Invited Talk: Goldsmiths, University of London, UK, 2014. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed
G. N. Yannakakis, Invited Talk: University College London, UK, 2014 *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☒ game design and game-based learning
	☒ knowledge representation
	Industries
	☒ gaming and edutainment
	educational technologies
	Policy makers
	education
	☒ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed
G. N. Yannakakis, Dagstuhl seminar 15051: Artificial and Computational Intelligence in Games. Invited Speaker, 2015. *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☒ game design and game-based learning
	☒ knowledge representation
	Industries
	☒ gaming and edutainment
	educational technologies
	Policy makers
	education
	☒ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed
A. Liapis, Keynote: Designing CAD tools for novices: can algorithms enhance productivity or foster creativity?" at the nucl.ai: Artificial Intelligence in Creative Industries conference (2015) *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☒ game design and game-based learning
	☒ knowledge representation
	Industries
	☒ gaming and edutainment
	educational technologies
	Policy makers
	education
	☒ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed
A. Liapis, Invited talk: "Mixed-initiative Design, Designer Modeling and Game Development" at the Sapienza University of Rome (2015) *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☑ game design and game-based learning
	☑ knowledge representation
	Industries
	☑ gaming and edutainment
	educational technologies
	Policy makers
	education
	☑ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed
A. Liapis, Invited talk: "AI-assisted Game Design" at the **Dagstuhl Seminar** 15051: Artificial and Computational Intelligence in Games: Integration (2015) *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☑ game design and game-based learning
	☑ knowledge representation
	Industries
	☑ gaming and edutainment
	educational technologies
	Policy makers
	education
	☑ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed
A. Liapis, Invited talk: "Interactive Creativity of Man and Machine" (translated title) at the School of Fine Arts, University of Athens (2015) *C²Learn partners involved: UoM*	**School communities/education**
	Academic communities
	education and pedagogy
	cognitive science and philosophy
	technology-enhanced learning
	☑ game design and game-based learning
	☑ knowledge representation
	Industries
	☑ gaming and edutainment
	educational technologies
	Policy makers
	education
	☑ research and innovation
	Media/general public

Dissemination activity	Stakeholders addressed	
IEEE CIG 2014: Computational Intelligence and Games Conference – **Papers presented and C2Learn (C2Create) Demonstrators.** *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⊡	game design and game-based learning
		knowledge representation
	Industries	
	⊡	gaming and edutainment
		educational technologies
	Policy makers	
		education
	⊡	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
FDG 2015: Foundations of Digital Games Conference – **Papers presented.** *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⊡	game design and game-based learning
		knowledge representation
	Industries	
	⊡	gaming and edutainment
		educational technologies
	Policy makers	
		education
	⊡	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
ICCC 2015: International Conference on Computational Creativity – Papers presented on Computational Game Creativity, short presentation of the C2Learn project, and general networking with the computational creativity community. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⊡	game design and game-based learning
		knowledge representation
	Industries	
	⊡	gaming and edutainment
		educational technologies
	Policy makers	
		education
	⊡	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
PCG 2015: Workshop on Procedural Content Generation – **Papers presented.** *C²Learn partners involved: UoM*		**School communities/education**
		Academic communities
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⬚	game design and game-based learning
		knowledge representation
		Industries
	⬚	gaming and edutainment
		educational technologies
		Policy makers
		education
	⬚	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
EvoStar 2015 – **Papers presented** *C²Learn partners involved: UoM*		**School communities/education**
		Academic communities
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⬚	game design and game-based learning
		knowledge representation
		Industries
	⬚	gaming and edutainment
		educational technologies
		Policy makers
		education
	⬚	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Ludomusicology Conference – **Paper presented.** *C²Learn partners involved: UoM*		**School communities/education**
		Academic communities
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	⬚	game design and game-based learning
		knowledge representation
		Industries
	⬚	gaming and edutainment
		educational technologies
		Policy makers
		education
	⬚	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
AAAI AIIDE: Artificial Intelligence for Interactive Digital Entertainment Conference 2015 – **Papers presented,** _C²Learn partners involved: UoM_		**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2-Learn/ENIS-Tagung in-Bad Hofgastein (October 2014) _C²Learn partners involved: BMBF_	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Interpädagogika 2014 _C²Learn partners involved: BMBF_	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2-Learn/ENIS-Tagung in-Bad Hofgastein (January 2015) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
'Digital games, simulation and virtual worlds for teaching and learning', University Course for pre-service teachers at the University of Vienna (Spring 2015) *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		Media/general public

Dissemination activity	Stakeholders addressed	
Mini-Pilot at Higher Secondary School, Klosterneuburg (February 2015) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		Media/general public

Dissemination activity	Stakeholders addressed	
'Wise Humanising Creativity: Learning experienced as transformational agency', University Course for pre-service teachers at the University of Vienna (Spring 2015) *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		Media/general public

Dissemination activity	Stakeholders addressed	
KidZ Conference, Linz (March 2015) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
National Agency for LifeLongLearning - Promotion Event (May 2015) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
C2-Learn/ENIS-Tagung in-Bad Hofgastein (September 2015) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2Learn Workshop and Conference: "Whats Next for Creativity" in Exteter (October 2015) *C²Learn partners involved: OU, BMBF, SGI*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Science and the City, 2015; Malta's Science and Art Festival and the EU corner http://scienceinthecity.org.mt/ C2Learn prototype games were shown to exhibition participants. *C²Learn partners involved: UoM*	☐	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	☐	M**edia/general public**

Dissemination activity	Stakeholders addressed	
	☑	**School communities/education**
	Academic communities	
C2learn at the athens-science-festival.gr, 17-22/3/2015	☑	education and pedagogy
		cognitive science and philosophy
C^{2}Learn partners involved: EA, NCSR-D	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
	☑	**School communities/education**
	Academic communities	
The Learner Conference: 22nd International Conference on Learning, Madrid, Spain, 9 - 11 July 2015	☑	education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
C^{2}Learn partners involved: EA	**Industries**	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
Workshop focused on game- based learning during the Open Discovery Space Summer School, 16/7/2015		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
C^{2}Learn partners involved: EA,		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
EDEN Open Classroom 2015, Athens, 18-21 September 2015. *C²Learn partners involved: EA*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
International Workshop of Making as a Pathway to Foster Joyful Engagement and Creativity in Learning (Make2Learn), September 29 2015 in conjunction with the International Conference on Entertainment Computing (ICEC 2015) in Trondheim, Norway *C²Learn partners involved: EA*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☑	research and innovation
		M**edia/general public**

2.2.3.1 FINAL PROJECT WORKSHOP

Dissemination activity	Stakeholders addressed	
Creativity, Games, Learning: Messages to Europe. The lively final C2Learn workshop, Athens, Friday 30th October 2015 (meet.c2learn.eu) *C²Learn partners involved: EA, All*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
	☑	cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

The final project workshop titled 'Creativity, Games, Learning: Messages to Europe' took place in Ellinogermaniki Agogi, Pallini, Athens, Greece on Friday 30th October 2015. It was designed to have the shape of a lively stakeholder workshop on the crossroads of creativity, games and learning, including short informal talks followed by reflective discussion. It was based on a 'two-minute-elevator-pitch' format with the motto: 'Make your point in the time span of an elevator ride – two minutes maximum is the time you have available!'. The challenging overall question posed was: 'What's your take on creativity or games in the ecosystem of technologies for learning? Have your say!'. Next to presentation in person, people were also offered the chance to submit their elevator pitch(es) in writing. The organisers worked actively to attract and involving stakeholders, end users and various public and private sector players in the contemporary diverse landscapes of learning and teaching, including representatives of other EU-funded projects and initiatives. The gathered contributions, edited and supplemented, are published in the workshop proceedings titled 'Creativity, Games, Learning: Messages for Europe. A Grassroots White Paper', which will be circulated widely in Europe. The full six-hour workshop was video-streamed on the internet through its dedicated website (meet.c2learn.eu), with several viewers attending at a distance. Edited extracts of the video recording will be posted on the website as well as in YouTube and the social media sites of the project. The organisation of the workshop was also supported through intense communication in Facebook (https://www.facebook.com/events/415101485366857/), especially at the stage of invitations, as well as through the C²Learn twitter account (https://twitter.com/c2learnproject) before, during and after the event.

2.2.3.2 FORTHCOMING PRESENTATIONS

In addition, at the time of writing this report, the following presentations in scientific events are planned:

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Invited Talk: Imperial College London, December 2015. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
	☐	knowledge representation
	Industries	
	☐	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☐	research and innovation
	Me**dia/general public**	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Invited Talk: Technical University Santa Maria, Valparaiso, Chile, November 2015 *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
	☐	knowledge representation
	Industries	
	☐	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☐	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
G. N. Yannakakis, Invited Talk: University of Conception, Conception, Chile, November 2015. *C²Learn partners involved: UoM*	**School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
	☐	knowledge representation
	Industries	
	☐	gaming and edutainment
		educational technologies
	Policy makers	
		education
	☐	research and innovation
	Media/general public	

Dissemination activity	Stakeholders addressed	
Interpädagogika 2015 *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**M**edia/general public

Dissemination activity	Stakeholders addressed	
Games and Learning Alliance conference 2015, Rome *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
ENIS-Tagung in-Bad Hofgastein (January 2016) *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2Learn was included in a lecture on the MA Education Creative Arts course focused on applications of the Wise Humanising Creativity concept. *C²Learn partners involved: OU*		**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2learn presentation at the Samsung Fair & Conference on Digitale Bildung

C²Learn partners involved: BMBF | **School communities/education** | |
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
	☑	knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
		education
		research and innovation
	☑	M**edia/general public**

2.3 DISSEMINATION AIMING AT COMMUNITY BUILDING

In addition to informing about the project results, dissemination activities in the third project year aimed in particular at carefully targeting school communities and other stakeholder groups and individuals in order to attract their interest and establish their involvement in the various stages of the participatory field research. The aim and effect of these activities was double: on the one hand they produced input from stakeholders into the project, and on the other hand they made the project known and accessible to members of important stakeholder communities.

Dissemination activity	Stakeholders addressed	
"A co-creativity methodology to evidence wise humanising creativity (WHC) in virtual learning environments (VLEs)." Connect ERSI Research Seminar at The University of Wollongong, Wollongong, NSW. To be held on November 4, 2015. Powerpoint: https://www.academia.edu/18227446/A_co-creativity_methodology_to_evidence_wise_humanising_creativity_WHC_in_virtual_learning_environments_VLEs_

C²Learn partners involved: OU | ☐ | **School communities/education** |
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		Education
		research and innovation
	☐	M**edia/general public**

Dissemination activity	Stakeholders addressed	
"Fostering co-creativity in learning: Students as games designers" Research Seminar for the Australian Literacy Educator's Association, Wollongong, NSW. Held on November 4, 2015. Powerpoint: https://www.academia.edu/18416007/Fostering_co-creativity_in_learning_Students_as_games_designers *C²Learn partners involved: OU*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		Education
		research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
"Possibility thinking: What can I do with this to connect students to literacy?". 2015 South Australian Literacy & Numeracy Expo. Held at the Department for Education and Childhood Devel/ opent, Adelaide Monday 24th August 2015. Powerpoint: https://www.academia.edu/15135754/Keynote_Address_South_Australian_Literacy_and_Numeracy_Week_Possibility_thinking_What_can_I_do_with_this_to_connect_students_to_literacy *C²Learn partners involved: OU*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		Education
		research and innovation
		M**edia/general public**
	☑	

Dissemination activity	Stakeholders addressed	
Science and the City, 2015; Malta's Science and Art Festival and the EU corner http://scienceinthecity.org.mt/ C2Learn prototype games were demonstrated to exhibition participants. *C²Learn partners involved: UoM*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		Education
		research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Meeting with the Major of Vienna, Dr. Michael Haupl, Vienna 2014		**School communities/education**
		Academic communities
C²Learn partners involved: BMBF		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
		Industries
		gaming and edutainment
		educational technologies
		Policy makers
	☑	education
	☑	research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Meeting with Head of District 21 of Vienna School Council, Vienna 2014		**School communities/education**
		Academic communities
C²Learn partners involved: BMBF		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
		Industries
		gaming and edutainment
		educational technologies
		Policy makers
	☑	education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
Meeting with various School Directors, Vienna 2015	☑	**School communities/education**
		Academic communities
C²Learn partners involved: BMBF		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
		Industries
		gaming and edutainment
		educational technologies
		Policy makers
		education
		research and innovation
		M**edia/general public**

Dissemination activity	Stakeholders addressed	
School Pilot, Vienna 2015 @ Middle School Schopenhauerstraße *C²Learn partners involved: BMBF*	☑ **School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	M**edia/general public**	

Dissemination activity	Stakeholders addressed	
School Pilot, Vienna 2015 @ Higher Secondary School Klosterneuburg *C²Learn partners involved: BMBF*	☑ **School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	M**edia/general public**	

Dissemination activity	Stakeholders addressed	
School Pilot, Vienna 2015 @ School of Vienna Boys Choirs *C²Learn partners involved: BMBF*	☑ **School communities/education**	
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
	M**edia/general public**	

Dissemination activity	Stakeholders addressed	
Weekly demonstrations of technological innovations for visiting primary and secondary schools in the NCSR-D/CRU laboratory, including brief gaming sessions using the games of the Creative Games Suite. Until 30/10/2015, 12 schools represented by 45 students each have attended the relevant workshops (540 students in total). The activity will be taking place until the end of May 2016 (44 schools, 2000 students overall expected). *C^{2}Learn partners involved: NCSR-D*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
		educational technologies
	Policy makers	
		education
		research and innovation
		Media/general public

2.4 DISSEMINATION MATERIALS

Dissemination activities in the third project year were supported through the production and circulation of various printed dissemination materials, including leaflets, brochures, booklets, posters, etc. These materials were of particular use in the effort to inform schools and other stakeholders about the project and gain their interest and involvement in the field research. In addition to materials produced by partners to address their local needs and circumstances, the project also developed a project-level leaflet and poster in English, which is available through the project website (http://project.c2learn.eu/?q=node/149) in electronic form, and printed to be used in various circumstances for general project promotion (e.g. in conferences, exhibitions, other public events, etc). Furthermore, the c2learn consortium developed the following:

Dissemination activity	Stakeholders addressed	
Video: 2. C2Learn School Pilot @ Middle School Jochbergengasse https://youtu.be/qkSaxGaPwuo *C^{2}Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
Video: 3. C2Learn School Pilot @ Middle School Schopenhauerstraße https://youtu.be/l0J9P-id9x4 **C²Learn partners involved: BMBF**	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Video: Overview of Austrian School Pilot Activities and Dissemination https://youtu.be/FLq4r2G5kII **C²Learn partners involved: BMBF**	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Various Leaflets on C2Learn For various conference such as Interpädagogik 2013, 2014, 2015 / eLearning Conference in Eisenstadt 2013, 2014, 2015, etc. **C²Learn partners involved: BMBF**	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Various printed materials of the project disseminated mainly to the educational community, including Project leaflets and posters, final workshop programme, call to c2challenges, call to c2academy, Knowledge Kit, and Knowledge Kit - Greek summary, final workshop proceedings. *C^{2}Learn partners involved: EA*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

2.5 PROJECT PRESENCE IN THE MEDIA

Dissemination activity	Stakeholders addressed	
Yannakakis G. "Is there really an app for that?" *Think* magazine, September 2015. *C^{2}Learn partners involved: UoM*	☐	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
		knowledge representation
	Industries	
	☐	gaming and edutainment
	☐	educational technologies
	Policy makers	
	☐	education
		research and innovation
	☐	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Yannakakis, G. "I Compute, I Create, I Am. Magazine Feature Article" *Think* magazine, March 2015. *C^{2}Learn partners involved: UoM*	☐	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
	☐	game design and game-based learning
		knowledge representation
	Industries	
	☐	gaming and edutainment
	☐	educational technologies
	Policy makers	
	☐	education
		research and innovation
	☐	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Learning App against Bullying in Schools @ futurezone / technology news http://futurezone.at/apps/lern-app-aus-wien-gegen-mobbing-an-schulen/149.571.241 *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
Learning Apps: We need new approaches to teaching Interview with Alexander Schmölz @ futurezone / technology news http://futurezone.at/digital-life/lern-apps-brauchen-neue-konzepte-fuer-guten-unterricht/132.763.814 *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

| Dissemination activity	Stakeholders addressed	
Teachers-to-be developing learning app against bullying in schools **@ Kurier (Second largest daily print newspaper in Austria)** *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

2.6   EXPLOITING THE INTERNET

The internet has been providing the project with a major dissemination platform. The project has established its presence in the internet through its dedicated project website, through references to it in other websites, as well as through the exploitation of popular social networks, as presented in the following sections.

2.6.1   THE WEBSITE OF THE PROJECT

During the third year of the project, a new dynamic website was created in order to showcase the results of the project better. The new website was carefully designed to run smoothly independently of platforms and technologies (tablets/smart phones and computers). The new website uses the project's established url: www.c2learn.eu.
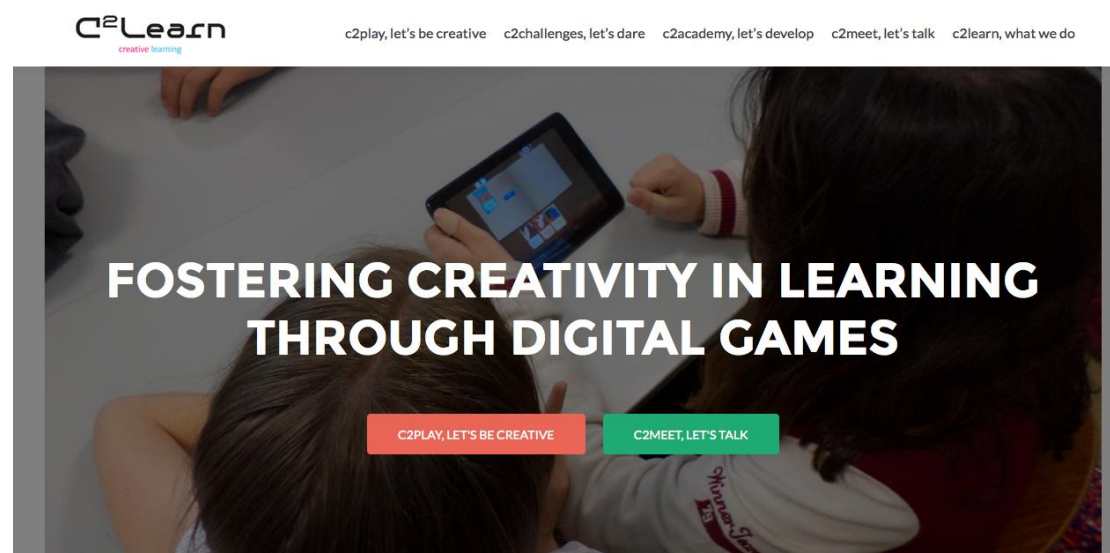
The visitor of the website can easily get information about the games developed during the lifespan of the project and access or download them.
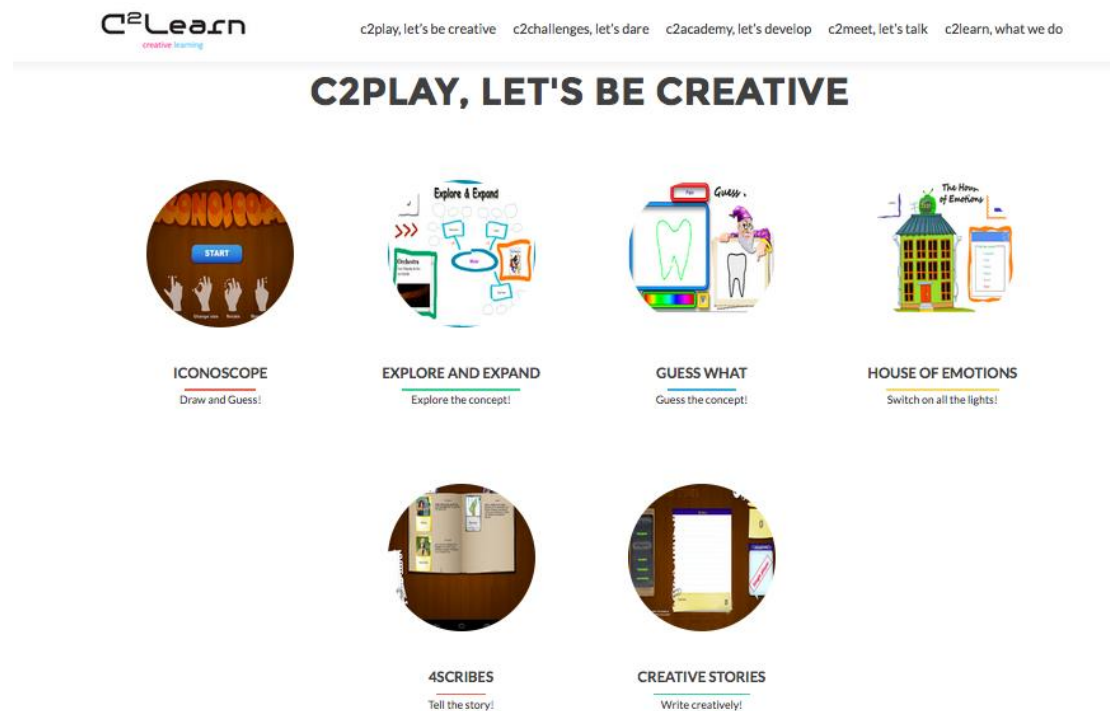
A project website has been available since the very first days of the project in November 2012. Since then it has gone through a process of continuous development, closely reflecting progress in the project. That first website continues to be functional and updated, available now at project.c2learn.eu, devoted to information about the project, events, public deliverables, etc. Publishable material and reports of the project are available here.

In addition, for the needs of the final workshop of the project an additional website was developed at meet.c2learn.eu. It contains all relevant information as well as the "c2pitches", messages of cooperation from relevant European projects.
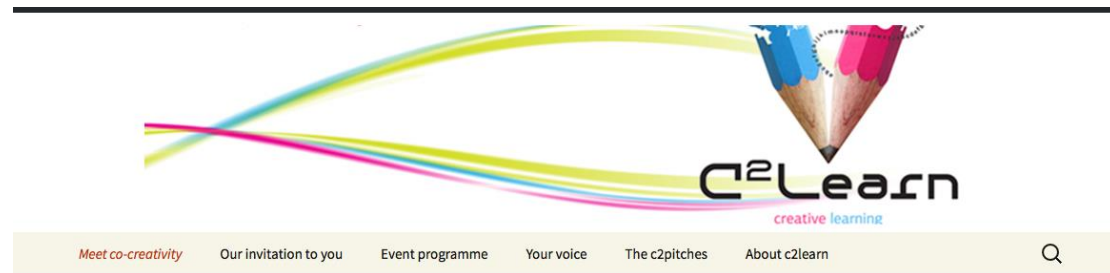
2.6.2 OTHER WEBSITES

News on C²Learn has spread significantly in the web. Websites of all project partners include relevant information. Relevant links:

Iconoscope Competition Page: http://iconoscope.institutedigitalgames.com/

Iconoscope Facebook Competition Page: https://www.facebook.com/iconoscope/

Computational Game Creativity [online article] http://antoniosliapis.com/articles/gamecreativity.php

Mixed-initiative Content Creation [online article]
http://antoniosliapis.com/articles/pcgbook_mixedinit.php

Dissemination activity	Stakeholders addressed	
Students as Experts For Change http://studentsasexperts4change.org *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

Dissemination activity	Stakeholders addressed	
Playful Pedagogy that makes a serious difference http://www.playful-pedagogy.org *C²Learn partners involved: BMBF, OU*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
		educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2Learn (BMBF Virtual School Webpage) http://virtuelleschule.bmbf.gv.at/projekte-international/eu-projekte-aktuell/c2learn/ *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
	☑	game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Samsung creative a homepage in 'Digital Bildung', in which C2Learn Tools and School activities are disseminated: www.digitalebildung.at *C²Learn partners involved: BMBF, cooperating partner Samsung*	☑	**School communities/education**
	Academic communities	
		education and pedagogy
		cognitive science and philosophy
		technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed		
	☑	**School communities/education**	
C2Learn School Pilot on School Homepage	**Academic communities**		
	☑	education and pedagogy	
http://www.schop79.at/index.php?option= com_content&view=article&id= =230:c2learn&catid=35:projekte		cognitive science and philosophy	
	☑	technology-enhanced learning	
		game design and game-based learning	
		knowledge representation	
	Industries		
		gaming and edutainment	
		educational technologies	
C²Learn partners involved: BMBF	**Policy makers**		
	☑	education	
	☑	research and innovation	
	☑	M**edia/general public**	

Dissemination activity	Stakeholders addressed		
	☑	**School communities/education**	
Analogue and digital Games as Occasion for Co-Creativity	**Academic communities**		
	☑	education and pedagogy	
https://skill.fhstp.ac.at/2015/10/digitale-und-analoge-spiele-als-anlaesse-fuer-ko-kreativitaet-von-alexander-schmoelz/		cognitive science and philosophy	
	☑	technology-enhanced learning	
	☑	game design and game-based learning	
		knowledge representation	
	Industries		
	☑	gaming and edutainment	
C²Learn partners involved: BMBF	☑	educational technologies	
	Policy makers		
	☑	education	
	☑	research and innovation	
	☑	M**edia/general public**	

Dissemination activity	Stakeholders addressed		
	☑	**School communities/education**	
10 Years European Network of Innovative Schools: A Review	**Academic communities**		
	☑	education and pedagogy	
http://www.enis.at/tl_files/themes/standard/ content/images/vorstand/10_jahre_enis.pdf		cognitive science and philosophy	
	☑	technology-enhanced learning	
		game design and game-based learning	
		knowledge representation	
	Industries		
		gaming and edutainment	
C²Learn partners involved: BMBF	☑	educational technologies	
	Policy makers		
	☑	education	
	☑	research and innovation	
	☑	M**edia/general public**	

Dissemination activity	Stakeholders addressed	
	☑	**School communities/education**
Serious Gamers	**Academic communities**	
		education and pedagogy
www.serious-gamers.at		cognitive science and philosophy
		technology-enhanced learning
C²Learn partners involved: BMBF		game design and game-based learning
		knowledge representation
	Industries	
	☑	gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	**Media/general public**

http://www.ea.gr/ea/main.asp?id=602&proID=20100108133311&lag=en

https://www.iit.demokritos.gr/project/c2learn

http://www.game.edu.mt/index.php/homepage/research/project

http://virtuelleschule.bmukk.gv.at/projekte-international/eu-projekte/c2learn/

http://eidyn.ppls.ed.ac.uk/c2learn

http://www.open.ac.uk/education-and-languages/main/people/c.s.walsh

http://itu.dk/~anli/gamecreativity.php

http://game.edu.mt

http://www.open.ac.uk/creet/main/research-themes/education-futures/c2learn

https://www.linkedin.com/pub/christopher-walsh/0/8bb/807

https://open.academia.edu/ChristopherWalsh

https://www.academia.edu/8893971/Creative_learners_creative_teachers

http://prezi.com/dj2lsxlynv2y/creative-learners-creative-teachers/

http://www.trinitylaban.ac.uk/alumni/alumni-profiles

http://c2learn.ea.gr/

2.6.3   SOCIAL NETWORKING

Interactive communication with the audiences of the project, and especially the stakeholder communities involved in or supporting the research, is also pursued via popular social media such as facebook and twitter.

https://www.facebook.com/C2Learn-project-189764471213648/

www.facebook.com/groups/c2learn

https://twitter.com/C2LearnProject
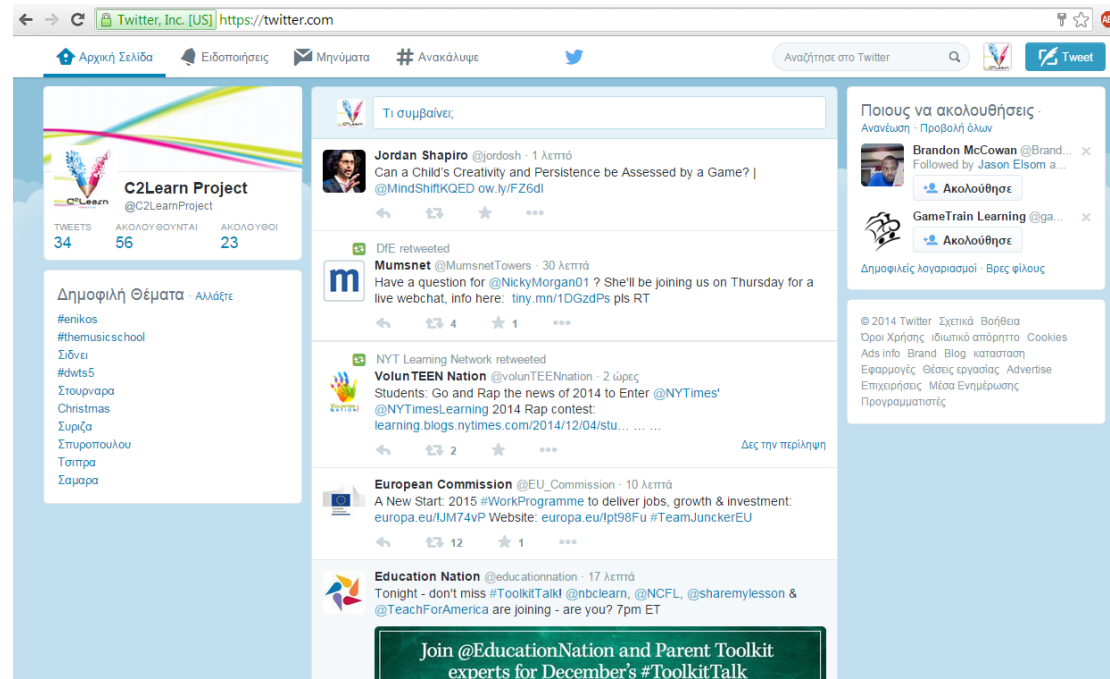
The project has been using social media on other occasions:

Dissemination activity	Stakeholders addressed	
C2Learn School Pilot	☑	**School communities/education**
	Academic communities	
@ Middle School Jochbergengasse	☑	education and pedagogy
		cognitive science and philosophy
https://youtu.be/qkSaxGaPwuo	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
C²Learn partners involved: BMBF	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
C2Learn School Pilot @ Middle School Schopenhauerstraße https://youtu.be/l0J9P-id9x4 *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
'Stop the Mob' Facebook Page https://www.facebook.com/stopthemob/ *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

Dissemination activity	Stakeholders addressed	
Overview of Austrian School Pilot Activities and Dissemination https://youtu.be/FLq4r2G5kII *C²Learn partners involved: BMBF*	☑	**School communities/education**
	Academic communities	
	☑	education and pedagogy
		cognitive science and philosophy
	☑	technology-enhanced learning
		game design and game-based learning
		knowledge representation
	Industries	
		gaming and edutainment
	☑	educational technologies
	Policy makers	
	☑	education
	☑	research and innovation
	☑	M**edia/general public**

2.7   LIST OF NETWORKS AND COLLABORATIONS FOR DISSEMINATION AND EXPLOITATION

The C2learn consortium partners have built strong relations with national and international projects and networks in order to disseminate the outcomes of the project and to build synergies in related initiatives. The efforts to build a community of interested and motivated stakeholders around the project has yielded many other interesting results, including active links for potential collaboration in the third project year with schools, creative learning clubs, and university researchers in many places in Greece. What is more, close collaboration of the C2Learn project, through EA, with large-scale European networks such as Open Discovery Space (http://opendiscoveryspace.eu) and Inspiring Science Education (http://www.inspiring-science-education.net) is contributing a lot to C2Learn community building and extended dissemination and exploitation possibilities in Europe. The following is a more detailed list of the pertinent projects and networks.

ENIS (European Network of Innovative Schools) - http://www.enis.at/

Teach for Austria - http://www.teachforaustria.at/

Creative Classrooms Lab Schools - http://creative.eun.org/schools

PROSECCO network.

Computational Creativity Group at Universidad Complutense de Madrid.

Computational Creativity Group at Goldsmiths University of London.

Center for Computer Games Research at IT University of Copenhagen.

Computational Creativity and Digital Media Lab at University of Coimbra.

ConCreTe – Concept Creation Technology (Gerraint A. Wiggins, Queen Mary University of London)

Lrn2Cre8 – Learning to Create (Gerraint A. Wiggins, Queen Mary University of London)

WHIM – The What-If Machine (Simon Colton, Goldmsiths, University of London)

COINVENT – Concept Invention Theory (Marco Scholemmer, Artificial Intelligence Research Institute)

COLLAGE – Discovering ideas together (Neil Maiden, City University London)

Open Discovery Space Communities

Inspiring Science Education Communities

PROSECCO network.

Computational Creativity Group at Universidad Complutense de Madrid.

Computational Creativity Group at Goldsmiths University of London.

Center for Computer Games Research at IT University of Copenhagen.

Computational Creativity and Digital Media Lab at University of Coimbra.

ConCreTe – Concept Creation Technology (Gerraint A. Wiggins, Queen Mary University of London)

Lrn2Cre8 – Learning to Create (Gerraint A. Wiggins, Queen Mary University of London)

WHIM – The What-If Machine (Simon Colton, Goldmsiths, University of London)

COINVENT – Concept Invention Theory (Marco Scholemmer, Artificial Intelligence Research Institute)

COLLAGE – Discovering ideas together (Neil Maiden, City University London)

Network: European Network of Innovative School (www.enis.at)

The European Network of Innovative Schools (ENIS) plays an important and unique role in the European education and is one of the main activities of the European Schoolnet (http://enis.eun.org) It is a network consisting of 401 nationally networked innovative schools in 19 countries , ENIS schools' are already the schools of tomorrow, with an innovative use of ICT (Information and Communication Technology) to enhance or teaching and learning, and their high quality standards. ENIS schools can serve as role models for other schools. They inspire others and presenting pioneering practices. Innovation is the key to creating effective educational systems of the future and the achievement of national and European objectives: increase of standards, training of workforce, effective management of schools and the creation of nation and EU citizens. Successful change in teachers and learners can only be achieved by substantial evidence and exemplary role models. The ENIS network provides such a model. The ENIS Network provide several meaningful opportunity both for finding schools for piloting activities and dissemination and exploitation.

Collaboration: Major of Vienna: Dr. Michael Häupl

Michael Häupl (born 14 September 1949) is the mayor of Vienna since 1993. He is a member of the Social Democratic Party of Austria. Häupl is the Deputy Federal Party chairman of the SPÖ. On 14 December 2004 Häupl was elected unopposed to succeed Valéry Giscard d'Estaing as President of the Council of European Municipalities and Regions. He embraced the C2learn school activities publicly and was great support for disseminating C2Learn outcome. His statement on C2Learn can be found at the end of the following C2Learn dissemination material: https://youtu.be/FLq4r2G5kII

Collaboration: University of Vienna (www.univie.ac.at)

The University of Vienna is the biggest University in all german-speaking countries. It holds a total number of 93.00 students and 6.800 researcher. Its capacity is far reaching and it covers a total number of 181 degree program. The Faculty of Teacher Education showed special interest in C2Learn activities and decided to funds 2 university courses for pre-service teachers that cover the core elements of c2learn. The names of the course are the following:
- 'Digital games, simulation and virtual worlds for teaching and learning', University Course for pre-service teachers at the University of Vienna (Spring 2014)
- 'Wise Humanising Creativity: Learning experienced as transformational agency', University Course for pre-service teachers at the University of Vienna (Spring 2014)

Network: Playful Pedagogy Initiative (www.playful-pedagoy.at)

Playful Pedagogy is an initiative of scholars, teachers & students that engage in the design of educational games that aim to make a serious difference in classrooms. Through course work, game reviews and collaborative debate, we work to constantly rethink how digital games can be used by pre & in-service teachers to make learning more relevant to children & young people's lifeworlds. The initiative emerges from the course entitled 'Digital games, simulation and virtual worlds for teaching

and learning' at the University of Vienna (Universität Wien, Zentrum für Lehrer/-innenbildung), which derived from a cooperation within the EU-FP7-Project Creativity2Learn

Collaboration: Samsung Electronics Austria GmBh (http://www.samsung.com/at/home/)

Samsung is the leading cooperation for selling mobile devises around the global. They have a strong Corporate Citizenship Program which showed special interest in C2Learn. They create a huge contest 'Samsung mLearning Contest' for serious games and learning apps. One projects from the university course on digital games (see above) won the first price. The winning prototype 'Stop the Mob' (https://play.google.com/store/apps/details?id=at.stopthemob.stopthemob&hl=en) was develop and released as additional game of C2Learn. Furthermore, the Samsung Smart School Technology was provided to C2Learn piloting school, to support the C2Learn activities in Austria. Furthermore, Samsung creative a homepage, in which C2Learn Tools and School activities are disseminated: www.digitalebildung.at

3   EXPLOITATION OF PROJECT OUTCOMES AFTER THE END OF THE PROJECT

In the third project year, all partners of the C²Learn consortium reconfirmed their commitment to support and actively promote the exploitation of the outcomes of the C²Learn project after the end of the funded period.

Already in the first months of the project the consortium laid the foundations for an exploitation strategy, described in deliverable D6.2. In accordance with this, during the whole project exploitation-related plans were kept updated and adjusted, and were eventually finalized at the end of the funded period. Thus the project is concluded with concrete decisions on how its outcomes will be exploited by the consortium as well as how they will be available for use and exploitation by the educational and technological communities more widely.

3.1   EXPLOITABLE OUTCOMES AND INTELLECTUAL PROPERTY

The main exploitable outcome of the project is the C²Learn solution: an integrated solution offered to schools as well as to a wide spectrum of spaces of non-formal and informal learning (from museums and camps to groups of friends and families) so that they can gamefully foster creative thinking and co-creativity in their learning activities.

The solution is integrated but also modular: it makes sense to use it as a whole; at the same time its various components have their independent identities and potential usefulness as tools in other contexts. The components of the solution are the following:

- The C²Space: a gameful web-based environment for co-creativity and learning, which can be deployed in diverse ways depending on preference and data protection considerations: from being installed within an institution such as a school for own use, to being accessed as a service.
- The C²Experiences: games and playful applications; some of these can be used both as integral components of C²Space and independently as stand-alone applications, and some as stand-alone applications only.
- The C²Methodology: a conceptual and pedagogical framework enabling a complete gameful creative learning experience, ready to support diverse uses of C²Space and C²Experiences.
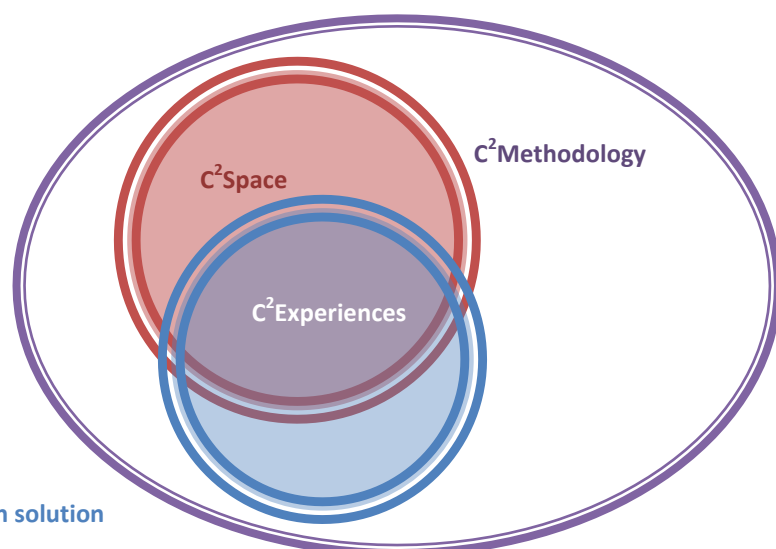
The components of the C²Learn solution

		In C2Space	Stand-alone
C²Experiences: **integral components of C²Space and/or independent stand-alone applications**	*Creative play with words*	4Scribes	
		Creative Stories	Creative Stories
			Explore and Expand
	Creative play with words and images	Iconoscope	Iconoscope
			Guess What
	Creative play with emotions		House of Emotions

The above are the front-end products of C²Learn. At the back end, there is an array of intellectual outcomes and technologies developed within the project in order to enable the production of the front-end products:

- C²Learn co-creativity theory and methodologies, including Creative Emotional Reasoning and Wise Humanising Creativity
- Semantic, diagrammatic, emotive reasoning computational tools
- User profiling methodologies and technologies
- Mixed-initiative procedural content generation methodologies and technologies
- Game design
- Educational scenarios of C²Learn use
- C²Learn evaluation research.

3.1.1 INTELLECTUAL PROPERTY OF EXPLOITABLE PROJECT OUTCOMES

This project foreground (front-end products and back-end intellectual outcomes and technologies) is intellectual property of the members of the C²Learn consortium, all members of which are interested in exploiting it, i.e. using it and/or developing it further as well as promoting it widely to diverse audiences so that it may be used further by communities and individuals beyond the consortium. To this end, the consortium members have made project foreground openly available to the public.

For each of the elements of this foreground, the distribution of intellectual property rights among the consortium members is agreed to be as specified by the provisions of the Grant Agreement, the Consortium Agreement, as well as the authorship of the relevant project deliverables and publications (accounted, where necessary, on the basis of time of delivery, i.e. when a new construct first appeared). While all consortium members acknowledge the strongly collaborative nature of the

project, which in the majority of cases has led to the production of project outputs with contributions from multiple sides, the following tables indicate the main developers/creators/authors for each of the elements of the project foreground:

Project foreground: conceptual and methodological elements	Main developer/creator/author
Creative Emotional Reasoning, as delivered in deliverables D2.1 and applied in the Co-creativity Assessment Methodology (deliverables D2.3) and the Co-creativity Evaluation Analysis (deliverables D5.4)	UEDIN
Wise Humanising Creativity, as delivered in C2Learn Learning Design (deliverables D2.2) and applied in the Co-creativity Assessment Methodology (deliverables D2.3) and the Co-creativity Evaluation Analysis (deliverables D5.4)	OU
C2Learn Learning Design (deliverables D2.2)	OU Jointly with EA for the part of 'C²Learn practice'
Co-creativity Assessment Methodology (deliverables D2.3)	UEDIN and OU (see distinction between Creative Emotional reasoning and Wise Humanising Creativity above)
Semantic Reasoning Computational Tools (deliverables D3.1)	NCSR-D
Diagrammatic Reasoning Computational Tools (deliverables D3.2)	NCSR-D
Emotive Reasoning Computational Tools (deliverables D3.3)	NCSR-D
User Profiling (deliverables D3.4)	NCSR-D
Game Design (deliverables D4.1)	UOM
Mixed-initiative Procedural Content Generation (deliverables D4.3)	UOM (see next table on digital prototypes)
C2Learn Game Prototyping (deliverables D4.4)	SGI (see next table on digital prototypes)
Scenarios / Use Cases / Requirements, User Evaluation Plan and Pilots (deliverables D5.1, D5.2 and D5.3)	EA for the overall scheme, and for content and activities in Greece OU for content and activities in UK BMBF for content and activities in Austria
Co-creativity Evaluation Analysis (deliverables D5.4)	OU and UEDIN for the overall scheme (see distinction between Creative Emotional reasoning and Wise Humanising Creativity above) EA for Greece data and analysis OU for UK data and analysis BMBF for Austria data and analysis
Project Website (deliverable D6.1)	EA
Dissemination and Exploitation methodology (deliverables D6.2, D6.3)	EA for the overall methodology Each partner for their own activities and initiatives
Conceptual organization of C2Learn and Knowledge Kit ('additional deliverable' and deliverables D6.4)	EA

Project foreground: digital prototypes	Main designer/developer
4Scribes	Design: UOM Development: SGI
Creative Stories in C2Space	Design: NCSR-D Development: SGI
Creative Stories stand-alone	NCSR-D
Explore and Expand	NCSR-D
Iconoscope in C2Space and stand-alone	Design: UOM Development: SGI
Guess What	NCSR-D
House of Emotions	NCSR-D
C2Space Frontend Interface and PHP Backend Components	SGI
C2Learn VM Installation Package (C2Space with 4Scribes, Iconoscope, Creative Stories)	NCSR-D

Consortium members agree: a) to acknowledge, in their further work, the above indicated origin and authorship for the element(s) of the foreground which they may decide to use, following appropriate academic and technical referencing practices and respecting all access rights that may apply; b) inform the relevant developers/creators/authors about such use of the C2Learn foreground.

3.1.2 AVAILABILITY OF AND ACCESS TO PROJECT OUTCOMES

All the above project deliverables are available for further use and exploitation mainly through the project website as well as through appropriate alternative routes.

In relation to digital prototypes produced by the project, in particular, most C²Learn components, with the exception of the APKs of the games/gamified demonstrators, are made available as open-source software. The source code of the services implementing the C²Learn Computational Tools produced by NCSR-D is available under the GPL v3.0 license. It is available to download via GitHub, a popular code hosting platform. All services implemented by UOM (C²Assistants) are also made available under the GPL v3.0 license and hosted at C²Learn and UOM webpages as well as GitHub.

The following table summarises the availability and access details for each of the digital prototypes produced by the project:

Project foreground: digital prototypes	Technology	End-user's device	Installation/ Source Code	Consortium member involved
C2Space Server Package (see following section)	PHP	Server	VM Installation Package downloadable through a public link	NCSR-D
C2Space Web Interface	PHP/HTML	Any device with a web browser	Demo accessible through the project website on request Code available through GitHub	SGI
4Scribes for C2Space	Unity	Android devices (playable through	Link to installer available through the project website	SGI

Project foreground: digital prototypes	Technology	End-user's device	Installation/ Source Code	Consortium member involved
		C2Space)		
Iconoscope for C2Space (playable through C2Space only)	Flash	Android devices (playable through C2Space)	Link to installer available through the project website	SGI
Creative Stories for C2Space (playable through C2Space only)	Flash	Android devices (playable through C2Space)	Link to installer available through the project website	SGI
Iconoscope stand-alone application for Android	Flash	Android devices	Available at Google Play	SGI, UOM
Iconoscope stand-alone web-based application	Flash	Any device with a web browser	Dedicated website and link to it through the project website	SGI, UOM
Creative Stories stand-alone application for Android	Native Android App	Android devices	Available at Google Play	NCSR-D
Creative Stories stand-alone application for Windows	Native Win32 App	Windows devices	Link to installer for Windows (win32) available through the project website On Windows 10 also accessible through Store	NCSR-D
Explore and Expand stand-alone application for Android	Native Android App	Android devices	Available at Google Play	NCSR-D
Explore and Expand stand-alone application for Windows	Native Win32 App	Windows devices	Link to installer for Windows (win32) available through the project website On Windows 10 also accessible through Store	NCSR-D
Guess What stand-alone application for Android	Native Android App	Android devices	Available at Google Play	NCSR-D
Guess What stand-alone application for Windows	Native Win32 App	Windows devices	Link to installer for Windows (win32) available through the project website On Windows 10 also accessible through Store	NCSR-D
House of Emotions stand-alone application for Android	Native Android App	Android devices	Available at Google Play	NCSR-D
House of Emotions stand-alone application for Windows	Native Win32 App	Windows devices	Link to installer for Windows (win32) available through the project website On Windows 10 also accessible through Store	NCSR-D
Computational Tools services	Java Web Services	Accessed through corresponding games/applications	Code available through GitHub	NCSR-D
C²Assistants services	Java	Accessed through corresponding games/applications	Code available through GitHub	UOM

3.1.2.1 C2SPACE VM INSTALLATIONS

NCSR-D provides a VM Installation Package available via a public link. The Installation package includes an administration manual targeting system administrators who will manage the installations.

The existing VM installations of C2Space, which during the course of the project were hosted by NCSR-D, EA, and SGI, will be maintained until the end of the 2015-2016 school year. At the end of this period, the respective VMs, together with all content created by their usage, will be delivered to the involved partners. All C²Learn Consortium members will have anonymized access to all CPS data from all installations. The specific personnel that will be granted access to this data will be nominated after an internal agreement of C²Learn Consortium members.

3.1.2.2 UPDATE SUPPORT

SGI, NCSR-D and UOM will provide updates relating to fixing any critical bugs and reported issues in the existing functionality of the relevant components until the end of the 2015-2016 school year. No additional components or additional functionality to the existing components will be introduced after the end of the project. NCSR-D will integrate the updated components for the agreed time period (end of the 2015-2016 school year).

Consortium members agree: a) to acknowledge, in their further work, the above indicated origin and authorship for the element(s) of the foreground which they may decide to use, following appropriate academic and technical referencing practices and respecting all access rights that may apply; b) inform the relevant developers/creators/authors about such use of the C2Learn foreground.

3.2   POTENTIAL FOR IMPACT

At the end of the second project year and much more so in the third year, the shape of the C²Learn products was finalized on the basis of design and development decisions that bore promise for increased project impact. Of decisive importance in this direction was the development of the stand-alone games and gamified applications next to those hosted within C2Space. In this way, the consortium can now invite everyone to easily download an application onto their device and instantly play a game, without requiring a registration with a C2Space installation.

On this background, the consortium developed initiatives with potential for both short-term impact, i.e. impact even before the end of the funded project period, as well as long-term, sustained impact after the completion of the project. It became high priority for the consortium to disseminate the now publically presentable prototypes intensively and widely, exposing the C²Learn solution to motivated users not only in the context of narrowly defined piloting, but also in the context of extrovert communication initiatives which complemented and enhanced the main piloting activities. The aim in the short term was to approach potential future users of the C²Learn solution in the world of education and convince them of the quality and value of the solution so as to generate a demand for use of C²Learn in real everyday learning settings. In addition, this showcased to the consortium how the C²Learn innovation could practically be taken up and sustained after the end of the project in educational practice.

To motivate this development, the consortium was engaged both in rich dissemination activities that had already been foreseen and enacted, as well as dynamic new initiatives such as the organization of contests, which attracted the attention and engaged larger numbers of students and teachers. While

dissemination activities have been reported in the first part of this document, the focus is here on the initiatives that bear promise for further penetration of C²Learn into educational practice.

3.2.1 C²LEARN CHALLENGES AND CONTESTS

Next to the more 'conventional' dissemination initiatives, to help drastically increase C²Learn awareness in the public and especially among young people, learners and teachers and thus generate demand for use of the C²Learn products, the consortium made decisions in the third project year which facilitate the organization of C²Learn-based contests, not only during the funded period of the project, but importantly also and mainly after its end. Of decisive importance in this direction was the development of the stand-alone games and gamified applications next to those hosted within C2Space. In this way, the consortium can now invite everyone to easily download an application onto their device and instantly play a game taking part in a contest, without requiring a registration with a C2Space installation.

Thus, a central element in the final public image of the project as reflected in its updated website is '**c2challenges**'[1]. The 'creativity challenges' format was inspired by the successful 'Algebra Challenges'[2] of the Center for Game Science at the University of Washington, USA, as a platform that will allow regular repetition of contests with the participation of large numbers of students and teachers.

Under the motto '*c2challenges, let's dare*' C²Learn is inviting members of the public to discover how exciting creativity is, especially when you play with it towards specific aims. This has been designed as a continuous open-ended scheme of contests and calls for action based on the C²Learn concept. There can be c2challenges for everyone, such as an Iconoscope contest ('*Draw smartly to confuse the others*') or a Creative Stories contest ('*Write creatively, amaze with your choices*'); as well as c2challenges specifically addressing teachers and schools, who are invited to design their own creative learning activities, share it with the C²Learn creative communities and in this way 'win their pass' to c2academy (cf. section further below on C²Learn Academy). The c2challenges are supported by technological arrangements in the stand-alone games and applications that allow for integration with and promotion through the popular social networks, such as facebook.

During the last months of the project, UOM in collaboration with EA and SGI realized a major Iconoscope contest[3], which is running beyond the end of the funded project period, proving the technical viability of the initiative.

EA is going to actively utilize and further develop the scheme of c2challenges in the following years, in the framework of its initiatives linked to school communities across Europe (cf. ODS and its contests; more in next section) and European teacher training (cf. C²Learn Academy; more further below).

3.2.2 LINKS TO INITIATIVES

During the course of the project the consortium established links to several other projects and initiatives, as was reported in the previous Dissemination and Exploitation reports and in the first part of the current document. This section is highlighting some of those links which offer increased potential for the uptake of the C²Learn outcomes in education.

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[1] http://www.c2learn.eu/index.php/lets-dare/
[2] http://algebrachallenge.org/
[3] http://iconoscope.institutedigitalgames.com/index.php

Through the project coordinator (EA), C²Learn has established active links to large-scale European educational networks such as Open Discovery Space[4] (ODS) and Inspiring Science Education[5] (ISE). During the course of the project, collaboration with these initiatives significantly supported community building and dissemination of C²Learn. At the end of the funded project period, EA is linking the continuation of its efforts for further exploitation of C²Learn to these and similar large-scale initiatives. EA particularly sees potential and concrete guidance for the introduction of the innovation proposed by C²Learn into schools in the Open Discovery Space Innovation Model produced by ODS, a leading, very successful large-scale European initiative for open eLearning resources and the introduction of change in school education in Europe. EA has played a very central role in ODS, leading the efforts for community building involving more than 2,500 schools across Europe (24 countries).
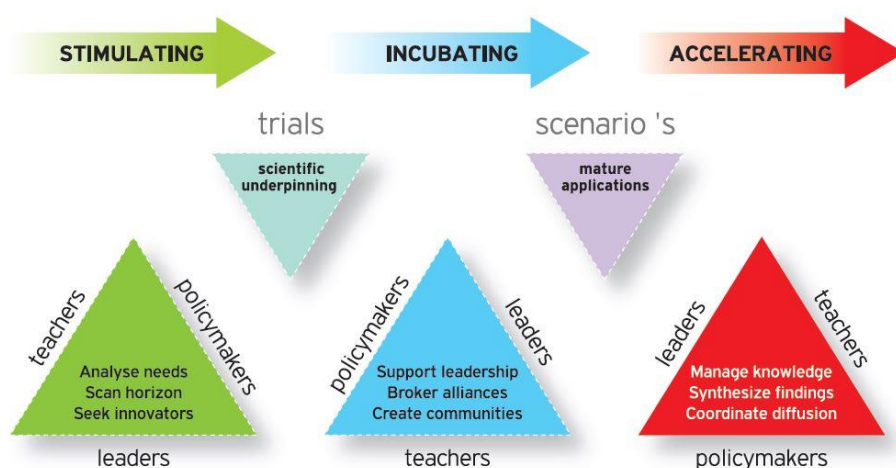
The Open Discovery Space Innovation Model

In addition, C²Learn will continue to make use of the ODS infrastructure (portal and school communities) to host and further promote online community building and exploitation activities as well as for getting access to educators and educational policy makers in Greece and many other European countries. This is also directly linked to the C²Learn contests (c2challenges) and teacher training (c2academy) initiatives.

In addition to these central initiatives by the coordinator, the project consortium has started several other collaborations during the course of the project, which bear significant promise for further exploitation of the outcomes of C²Learn by teachers and students in various contexts. For example, UOM has established links to the Ministry of Education in Malta and promoted the introduction of C²Learn outcomes in Maltese classrooms in the context of existing initiatives such as the one-tablet-per-child programme. In Austria, too, C²Learn partner BMBF (i.e. the Austrian Ministry of Education), in collaboration with the University of Vienna, has dynamically promoted the exploitation of C²Learn outcomes through other initiatives, such as various Samsung Smart School initiatives and schemes, through which C²Learn has already entered many Austrian classrooms. EA is actively supporting both these initiatives in Austria and Malta, already working on developing the next steps reaching far beyond the end of the C²Learn project itself. In this context, EA is shaping initiatives for the realization of teacher training courses that will spread the word and practice of C²Learn to educators in Greece, Austria and Malta, as well as across Europe. Following a dynamic open-ended approach, EA is linking

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[4] http://opendiscoveryspace.eu
[5] http://www.inspiring-science-education.net

this to the realization of teacher training courses on game-based learning in 2016 as well as the combination of this with the efforts of other projects and initiatives (e.g. the SIREN project), organized by the C^{2}Learn Academy initiative described in one of the following sections.

3.3   CONSIDERATION OF POTENTIAL FOR COMMERCIAL EXPLOITATION

Commercial exploitation of each consortium partner's foreground as defined further above, is considered by the project as an open option for all partners. Given the nature of the organisations participating in the consortium, expectedly, SGI, a serious games SME, and EA, a private education institution, have investigated the potential for the commercial exploitation of the C^{2}Learn products.

3.3.1   C^{2}LEARN IN THE SERIOUS GAMES MARKET

SGI has extensive experience in the market of serious games. This experience clearly shows the existence of problems associated with sales and distribution of digital products and especially serious games to the education market. However, during the project SGI actively sought to enhance the potential that might exist for C^{2}Learn products in the serious games market, focusing especially on promoting and enabling design and development decisions that appeared to bear increased promise for product impact – something important for the convincing power of any C^{2}Learn market initiative. As a result, in the third project year emphasis was placed on the delivery of easily accessible stand-alone applications, too, next to those hosted within C2Space, as well as enabling the realization of extrovert initiatives such as c2challenges (see further above).

Regarding distribution and sales in the serious game market, it is noted that SGI already operates a school portal as a specific distribution and sales channel for schools[6]. This portal is designed as a response to the problems associated with sales and distribution to the education market. Therefore, the infrastructure to succeed in the distribution of the C^{2}Learn products to the education market is already present in the consortium.

3.3.2   C^{2}LEARN IN THE EDUCATIONAL SERVICES MARKET

EA is a private education institution offering mainly school education from the pre-primary to the upper secondary level of general education. In addition, in the context of its very rich educational Research and Development activity, in the last seven years it has been successfully engaged in the provision of European teacher training in innovative educational approaches and practices[7].

3.3.2.1 C^{2}LEARN IN SCHOOLS

In the field of school education, EA declares its strong interest in using the C^{2}Learn products for the benefit of its approximately 2000 students and 200 teachers. In addition, EA will always actively explore possibilities, in current and future initiatives, for the use of C^{2}Learn in several school communities in Greece and in Europe, with which it has developed synergies and collaboration. As an indication of potential, it is noted that among various other networks and initiatives, the Open Discovery Space (ODS) network of schools alone, which EA coordinates, includes more than 2,500 school communities in 24 countries across Europe[8].

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[6] https://school.seriousgames.net
[7] e.g. http://ea.gr/ep/summerschools
[8] http://portal.opendiscoveryspace.eu/

EA sees some potential for commercial activity in the provision of educational support services aiming at more impactful use of C²Learn (e.g. supporting the design of appropriate scenarios of use and effective introduction of the C²Learn innovation in schools and other places of learning), most probably as part of a wider framework of services supporting the development of game-based learning and creativity-oriented learning activities. This remains an open possibility in the longer term, which EA is investigating further, including by, but not limited to, using appropriate funding tools that will support next steps towards the market. In the short term, EA is focusing exploitation efforts that may carry potential for the generation of revenue, in the direction of international teacher training, as described below.

3.3.2.2 C²LEARN ACADEMY: INTERNATIONAL TEACHER TRAINING

Utilizing its expertise in the provision of European teacher training in innovative educational approaches and practices[9], EA has decided to implement, beyond the end of the funded project period, a programme of international teacher training courses on the use of C²Learn outcomes and, through this, more widely on game-based and creativity-enabling learning approaches in education.

Therefore, EA added '**c2academy**'[10] to the final public image of the project as reflected in its updated website. This is a continuation of the efforts for the organization of C²Learn summer schools in the previous project years. Under the motto '*c2academy, let's develop*', the project is inviting education professionals to join c2academy to explore how they can foster creativity in education, how they can use student-engaging games in this effort, how educators can design learning activities to this end, as well as how they can involve students as creative agents in this design.

The aim of this initiative is to offer a variety of training activities exploring synergies of creativity and digital games in schools and other formal and informal learning spaces, by getting trainers to co-design educational activities together with educators. By offering such learning experiences, C²Learn can have a positive and long-lasting impact on the participants and, through them, their institutions and wider educational systems and learning environments.

Through the realization of the c2academy courses, EA expects to be able to secure revenue that will allow sustainable operation and maintenance of the C²Learn solution either on its own IT infrastructure, or on the infrastructure of a partner such as SGI following an appropriate agreement. This expectation is based on the following grounds.

In average, courses of this kind organized by EA in the last years have been attended by 20 participants or more, who receive financial support for this from the European Commission through the Erasmus+ Programme[11] (Key Action 1: Learning Mobility of Individuals – School Education Staff; previously, Comenius In-Service Training grants). The current Erasmus+ Programme will be offering funding opportunities at least up to 2020.

The usual course duration is 5-6 days in the summer-school format, while the organisation of shorter courses (e.g. weekend workshops) is also a possibility. The average tuition fee per day is 70 euros, adjusted to the level of Erasmus+ tuition fee allowance. While current planning includes more events annually, even with the organisation of just one summer school per year it can be safely estimated that the revenue generated through tuition fees could support the costs of sustainably keeping the C²Learn products available for use by the trainees as well as their students. This estimation is taking

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[9] e.g. http://ea.gr/ep/summerschools
[10] http://www.c2learn.eu/index.php/lets-develop/
[11] http://ec.europa.eu/programmes/erasmus-plus

into account event organization costs as well as the average level of cost of games for learning on the market (cf. for example prices to schools for SGI products[12] as an indication).

The promotion of the C^{2}Learn products through the international teacher training courses is expected to generate considerable demand for C^{2}Learn use across Europe. It should be noted that typically teachers are financed to attend these courses so that they subsequently become introducers, supporters and multipliers of innovation in their schools. Therefore, a very modest estimation of 20 different course participants per year corresponds to 20 different new schools from various European countries, rather than just 20 isolated individual teachers. The C^{2}Learn project has tested the feasibility of the approach through the successful organization of the C^{2}Learn Summer School in the first project year[13], as well as through the several courses of similar nature that it has organized in the last seven years.

On this background, EA has already made plans to offer at least one summer school course in summer 2016, which will be advertised in December 2015 so that schools can apply, by the next deadline of February 2016, for Erasmus plus KA1 funding for their staff to attend it. Aiming to generate increased potential for demand for C^{2}Learn, the c2academy course offer will be linked to teacher training initiatives originating in Open Discovery Space, so as to address not only teachers, but in particular also school leadership and change agents with the expectation that they will initiate the introduction of C^{2}Learn use in their schools.

EA is also currently exploring the possibility of organizing joint c2academy activities with other consortium partners, so that courses can be hosted in more than one of the countries represented in the consortium (e.g. Malta or Austria). This will give the flexibility to each partner to promote the teacher training courses offered in the other countries, to school communities in their own country context, as Erasmus+ only funds teachers to attend teacher training courses outside their country. Through the pilot and dissemination activities of the project, considerable numbers of teachers have already been reached, who, as well as colleagues of theirs, may well be potential applicants for Erasmus+ funding supporting them to attend c2academy courses abroad.

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[12] https://school.seriousgames.net/en/pricing
[13] http://c2learn2013.ea.gr