

Dr. Zacharoula Smyrnaïou

Associate Professor in «Contemporary Learning Theories and Science Education»
Researcher in Educational Technology Lab (ETL)
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Vice President of the B.O.D. of
(Government Gazette 204 / 16.02.2021)

Official member of the research team at the University of Quebec at Montreal
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<http://www.ppp.uoa.gr/an8ropino-dynamiko/melh-dep/tomeas-paidagwgikis/zaxaroyla-smyrnaïoy.html>
<http://etl.ppp.uoa.gr/index-1.htm>

Qualifications:

- BA in Science (Physics) (University of Athens)
- MSc in Informatics (University of Athens)
- DEA in Educational Sciences (University of Paris V (Sorbonne), France).
- PhD in Educational Sciences (Thèse de Doctorat) (University of Paris V (Sorbonne), France).

Scholarship

Scholarship Foundation of Greece for the preparation of master and doctoral studies in Paris V (Sorbonne), France

Languages

French, English

Current Research Interests:

- My research interests and publications concern a) the teaching of science using new information technologies b) the educational design of digital media and accompanying pedagogical scenarios c) implementing research in real classroom settings considering different factors d) supporting teachers and students during the

implementation of innovative educational activities with digital media and e) teaching teacher educators.

Current Teaching:

(a) Postgraduate

Design and teaching of the following postgraduate courses in the field of "Digital Technologies in Education" and in the field of "Educational Design and Teaching" , National and Kapodistrian University of Athens (2009-2020)

- Teaching the courses: "Modern Theories of Learning"
- ICT and Learning Process
- Didactics of Science

In the BI-INSTITUTIONAL PROGRAM OF POSTGRADUATE STUDIES "Digital Transformation and Educational Practice" (2020-2021), DEPARTMENT OF COMPUTER ENGINEERING AND COMPUTERS, UNIVERSITY OF WEST ATTICA

- Special Didactics (Didactics of Science)
- Research (4 hours)
- Supervision of research and diploma theses

(b) Undergraduate

- ICT and Learning Process
- Science Education
- Didactics of Science
- Learning Theories (a course delivered to other Departments " undergraduate students also)

(c) Teacher Training Certificate (2014-present)

- "Educational Psychology" and
- Head of trainees Internships

(d) E-learning of Continuing Education and Training Centre of the National University of Athens (UOA) (2014-2015)

- Academic Coordinator in Educational Purpose "Teaching Scenario: Planning and Implementation"
- Academic Coordinator in Educational Purpose "WEB 2.0 Technologies in Education Area"

Research projects:

- 2020-2023: "Loop". Scaffolding in Teachers Development: Mentoring and Mentors in Induction Programs. Funding body: European Union, Erasmus+
- Platform 21+ Lab' (2020) project of the Institute of Educational Policy (IEP) (<http://iep.edu.gr/en/>; <http://iep.edu.gr/el/psifiako-apothetirio/skill-labs>). Launched in the spring of 2020, this project of the Greek Ministry of Education aims to inform the Greek K-12 curriculum with the skills and literacies needed for students to keep up with the 21st century job market (OECD 2018). The submitted curriculums fall under the thematic cycle entitled 'I take care of the environment-Prevention and Protection from Natural Disasters) and the thematic cycle "Create and Innovate - Creative Thinking and Initiative"and is to be implemented across Greek public middle schools in the following academic year.

- Children's University (2020). The Children's University Pilot Action (2020) is organized by the Attica Regional Development Fund, in the context of the implementation of the Attica Region Innovation Center. This action will involve elementary school and high school students from the Attica Region, who will have the opportunity to learn about Science and Research closely, satisfy their curiosity and understand how applying Science and Research leads to technology, practical solutions and innovation.
- PAKE (2019). The goal of the project is the Training of Educators for Implementation of Digital Technologies in Teaching Act.
- 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917. The CREATIONS coordination action aims to demonstrate innovative approaches and activities that involve teachers and students in Scientific Research through creative ways that are based on Art and focus on the development of effective links and synergies between schools and research infrastructures in order to spark young people's interest in science and in following scientific careers. Z. Smyrniou is involved as Project Manager of the Faculty of Philosophy, Pedagogy and Psychology of the University of Athens (NKUA).
- 'DESCI' - Developing and Evaluating Skills for Creativity and Innovation (2015-2018) Erasmus+ (2015-1-IT02-KA201-015417). The Project is focused on the improvement of European methodological standards of alternating training in secondary technical and professional School system, through the development, at European level, of a kit of methodological tools for teachers, students and tutors, focused on TIC sector that will be modular, simple and easy to use. Z. Smyrniou is involved as Project Manager of the Faculty of Philosophy, Pedagogy and Psychology of the University of Athens (NKUA).
- PLAY4GUIDANCE (2014-2017), Erasmus +, 2014-1-IT02-KA200-004150 Coordinator: FONDAZIONE POLITECNICO DI MILANO. Z. Smyrniou is involved as Project Manager of the Faculty of Philosophy, Pedagogy and Psychology of the University of Athens (NKUA).
- 'Learning Science Through Theater2' (2015-2016) (<http://lsth2.weebly.com/>), that runs in the framework of Creations project), in cooperation with the research team of Science View. Z. Smyrniou is involved as coordinator of the research team of the Faculty of Philosophy, Pedagogy and Psychology of the National Educational Project.
- 'European Student Parliaments on Science2' (2015-2016)), in cooperation with the research team of Science View.
- "Bullying" (2014-2015) Coordinator for the Preparation of Educational Informational Material & Education Studies Program in the national project "Development and Prevention Network Operation Centre and Control of School Violence and Bullying" (Greek Ministry of Education, 10183/07-11-2014).
- "Education of Roma children in the regions of central Greece, Attica and Southern Aegean" (Leader Centre for Intercultural Education, NKUA, Greece). Z. Smyrniou has involved as project manager to ICT work package : to create web applications for the recording of action and data by region.
- "Learning Science Through Theater" (2014-2015) (<http://lsth2.weebly.com/>), that runs for the first time (in the framework of CREAT-It project), in cooperation with the research team of Science View. Coordinator of the research team of the Faculty of Philosophy, Pedagogy and Psychology of the National Educational Project.
- "Development of Educational Informational Material & Training Anti-bullying Program" (2014-2015), the Ministry of Education / Special Education Service

Implementation Actions, by virtue of the 04/11 / 2014 Convention (Doc. Ref. : 10183 / 11.07.2014), Scientific Coordinator of the project.

□ TACT (2013-2015) : Tracing Assessment for learning Capability in Teachers (TACT): Initial teacher education and beyond (<http://tactproject.weebly.com/>). The TACT study aims to investigate how student teacher candidates develop their 'assessment literacy' over the course of their teacher education programme and into the first one/ two years of their classroom practice as beginning teachers. The TACT project seeks to contribute to our understanding of the development of teacher assessment capability through a focus on the nature of assessment education in initial teacher education programmes and their impacts, in a number of countries (including New Zealand, Denmark, Hong Kong, Greece, Canada, Australia and the United States). The intention is learn about assessment education through the sharing and analysis of current practice and its impacts.

□ European Student Parliaments on Science (2014). The European Student Parliaments on Science (EUSP) project aims at strengthening the dialogue and exchange between students and scientists, introducing students to parliamentary procedures on science and research, enabling students to form a qualified opinion and to assess complex topics, and introducing students to a European community. Five students of each student parliament will have the chance to participate in the finals, which take place during the Euroscience Open Forum (ESOF) 2014 (<http://esof2014.org/>). ESOF is the largest conference for scientists and research organisations of all scientific disciplines in Europe. The National Student Parliament on Science is organized by Science View (<http://en.scienceview.gr/news/111>) and National and Kaodistrian University of Athens, Department of Philosophy, Pedagogy and Psychology – Pedagogy (<http://en.ppp.uoa.gr/>) and will take place at: 02-04/04/2014.

□ ERASMUS Intensive Programme (2014) "Jardin des Sciences en Europe" (<http://europe.jardin-des-sciences.fr/>) Innovative practices for teaching science in primary/secondary school. It is an Erasmus intensive programme from 7 European Universities. The intensive programme « Innovative practices for teaching science in primary/secondary school» aims at promoting science education and developing teaching practices in inquiry-based science education, supporting the development of European scientific events in primary/secondary schools, making understand the nature of science for teaching improvement (epistemology of sciences and link with the enquiry-based approach). Partnership: University of Nice - Sophia Antipolis (France), University of Siegen (Germany), University of Malta (Malta), National and Kapodistrian University of Athens (Greece), Leonardo da Vinci Higher School, Brussels (Belgium), Liverpool John Moores University (United Kingdom), University of Geneva (Switzerland).

□ "METAFORA" (2010-2013), Learning to Learn Together: A Visual Language for Social Orchestration of Educational Activities, FP7, IST-5, STREP, 257872. (Leader: Raul Drachman).

□ Education of ROMA children in the regions of central Greece, Attica and Southern Aegean" (Leader Centre for Intercultural Education, NKUA, Greece). Creation of web applications for the recording of action and data by region (2013-14).

□ ERASMUS Intensive Programme (2011) „ B E A M “Building European Identity through Spirit, Sense and Meaning, Klagenfurt, Austria.

□ "KALEIDOSCOPE" (2004-2007), 507838, „TEL“ - „Technology-enhanced Learning and Access to Cultural Heritage“, Network of Excellence, FP6-2002-IST Action line.3.1.12.

- “COMODE” (2005-2006), eTEN/2004/1, e-learning, 517428, (Leader: Lydia Mondandon).
- “RECOIL”, Resources for Collaborative Inquiry Learning (2004-2006), EDU-ELEARN, 2003-4729/001-001 (Leader: Wouter R. van Joolingen)
- “MODELLINGSPACE” (2001-2004), IST-School of Tomorrow Project Information Society Technologies, Education and Training, School of Tomorrow, IST-2000-2538 (Leader: A. Dimitracopoulou)
- “ROSE” Relevance of Science Education και “Analysis of students “Errors” (2003-2004), Education Research Centre of Greece

Experience

- Permanent Assistant Professor , National and Kapodistrian University of Athens, NKUA, 2018 – 2020 (2 years)
- Assistant Professor , National and Kapodistrian University of Athens, NKUA, 2014 – 2018 (4 years)
- Lecturer, National and Kapodistrian University of Athens, NKUA, 2010 – 2014 (4 years)
- Educational Technology Lab (ETL), University of Athens, June 2010 – Present
- Adjunct Lecturer, University of Athens, NKUA, 2008 – 2010 (2 years)
- Science Teacher Secondary Education, 2001 – 2010 (9 years)
- Adjunct Lecturer, University of Peloponnesse, 2005 – 2008 (3 years)
- Consultant Educational Policy, 2004 – 2007 (3 years)
- Cooperating Teacher, ASPETE, 2003 – 2006 (3 years)
- Adjunct Lecturer, University of Thessaly, 2003 – 2004 (1 year)

Contribution to educational policy for the establishment of new technologies in the educational system

The Greek Ministry of Education funded a nation-wide project engaging University-based centres (PAKE) (2011-2012) to prepare teacher educators who would subsequently provide 96 hour-courses to colleagues with the objective to integrate digital technology in their subject teaching. Science teachers participated in a 350 hour-course designed to address the domains of physics, chemistry, biology, geography and environmental education so that they could then act as teacher educators for other science teachers. The course started in May 2011 and lasted until February 2012. It took place at the Educational Technology Lab (ETL) in the School of Philosophy at the University of Athens. (Z. Smyrnaioi was responsible for ICT in Science Education).

In addition, Z. Smyrnaioi was responsible for the Project PAKE 2018-2019) for the NKUA and participated to the project Platform 21+ Lab’ (2020).

Consultancy

Chairman of the Scientific Supervisory Board of 1st Experimental High School of Athens (2011-Present). This is a secondary education school which is located in a central Athens area (Plaka). This school is one of the 15 Experimental High Schools that have been formally established by the Ministry of Educational Affairs to operate in Greece with the aim to promote the implementation of pedagogical innovations and facilitate the realization of pedagogical research.

Science Curriculum Reform in Greece

- The Greek Ministry of Education funded a project to develop the new science curriculum in lower Secondary School, "New School", School of 20th century, 2011-2014 (Member of the committee).
- Coordinator of Assessors for Physics of High School (2015) under. Nos. 41 / 23.06.2014 Board Act of I.E.P. (ΑΔΑ: Ψ6ΚΒΟΞΛΔ-ΣΣΖ) as amended by decision no. 42 / 18.08.2015 Board Act of I.E.P. (ΑΔΑ: ΩΜΛΜΟΞΛΔ-ΒΜ7) for the evaluation of educational material of Primary and Secondary Education (Natural School) under action 6.1. entitled "EVALUATION OF EXISTING EDUCATIONAL MATERIAL COMPULSORY EDUCATION 'of subproject' 6 " COMPULSORY EDUCATION ASSESSMENT" the Act "NEW SCHOOL (21st Century School) - New" curriculum with MIS code ΟΠΣ 295450.

Evaluation Committees

President at three-member committees to evaluate science teachers, Greek Ministry of Education.

Training materials

Creation of training materials for science students and teachers

Board Work

Since my election as a Lecturer and as As. Prof at the Department of Pedagogy I have been following and participating in the scientific activities of the Laboratory for Educational Technology, Pedagogical Sector, Faculty of Philosophy, NKUA.

Supervision of dissertations and thesis

Supervision and successful completion of dissertations and thesis of students of the Physics and Philosophy Department

Practical training

Practical training of graduate students "Theory, Practice and Evaluation of Teaching Project" (Science Education, ICT in Education). The exercise involves monitoring sampling teachings and the development and structuring of students' own teachings.

Practical training of the undergraduate students of the Department of Physics in the context of the course "Education I" and " Education II " .

Organization of International conferences

- Organizer of the 1st International Conference on New Developments in Science and Technology Education, NDSTE 2014, which will be held in Corfu, Greece, from 29 to 31 of May 2014. (<http://ndste2014.weebly.com/>)
- International Conference "Costructionism: Theory, Practice and Impact", Athens, 21-25 August 2012.

Membership in scientific committees (Reviewer)

- Education and Information Technologies, Springer
- Journal of Science Education and Technology, Springer
- Earli2016 - SIG20.

- Eighth International Conference on Mobile, Hybrid, and On-line Learning, eLmL 2016, April 24 - 28, 2016 - Venice, Italy
- CSEDU 2016.
- 1st STUDENT CONFERENCE OF STANDARDS TEST SCHOOL OF ATHENS B "experimenting, exploring, originality ... Science Environment and Technology", May 9-10, 2014, Agricultural Sciences Institute, Athens.
- Cultivation of Research and Innovative Culture (2013), the Research Promotion Foundation, Cyprus
- International Conference "DIDAPRO 5 - Dida&STIC", Clermont-Ferrand (France), 28-30 October 2013.
- 5th International Conference on Computer Supported Education" - CSEDU 2013 (<http://www.csedu.org/>), .May 6-8, 2013, Aachen, Germany
- Special Issue of the Journal for Education and Information Technologies (selected papers of International Conference on Computer Supported Education" - CSEDU 2012).
- "Themes in Science and Technology Education" Journal
- Educational Research Review, Elsevier Editorial System.
- 3rd Panhellenic Conference of ICT in Education, 10-12 May, Athens. Greece (<http://www.ask4research.info/etpe2013/>)
- "4th International Conference on Computer Supported Education" - CSEDU 2012 (<http://www.csedu.org/>), 16-18 April 2012, Porto.
- DIDAPRO 4 - Dida&STIC 2011, University of Patras, Greece.
- 9th Education and Information Systems: Technologies and applications: EISTA 2011» in the context of the 5th International multi-conference on Society, Cybernetics and Informatics: IMSCI 2011, July 19-22, 2011 in Orlando, Florida, USA.
- International Conference on Education, Training and Informatics: ICETI 2010» in the context of the 8th International Conference on Society and Information Technologies: ICSIT 2010 collocated with the 8th International Conference on Computing, Communications and Control Technologies: CCCT 2010 and the 16th International Conference on Information Systems Analysis and Synthesis: ISAS 2010, April 6th-9th, 2010 in Orlando, Florida, USA.

Member in associations

EARLI/SIG 20

ESERA

CBLIS // Computer-based Learning in Science

CSIL // Kaleidoscope

Greek Association for the Utilization of Information Technology and Communications in Education.

Greek Association of Science Education and ICT in Sciences

Greek Union of Greek Physicists

Selected Publications:

Journal

J1. Smyrniou Z., E. Georgakopoulou, S. Sotiriou (2020). Promoting Scientific Creativity through Digital Story Telling. International Journal of STEM Education 7 (1), 1-22, 2020. 1, 2020.

- J2. Smyrniou Z., et al. (2019). The Importance of Embodied Learning as a Semiotic System to Student Cognitive and Socio-emotional Development (submitted).
- J3. Valente A, Pennacchiotti, C., Smyrniou, Z. et al. (2019). Seeking co-production of knowledge in alternating training: insights from DESCI first round of world cafés. *J. Phys.: Conf. Ser.* 1286 012056, pp. 1-8.
- J4. Smyrniou Z., Georgakopoulou E., Sotiriou M., Sotiriou S. (2017). The Learning Science Through Theatre initiative in the context of Responsible Research and Innovation. *Journal on Systemics, Cybernetics and Informatics (JSCI)*, vol. 15, n 5, pp. 14-22, <http://www.iiisci.org/journal/sci/Contents.asp?var=&Previous=ISS1705>
- J5. Smyrniou, Z., Petropoulou, E., Menon, S., Zini, V. (2017). The Innovative Implementation of Evaluation Mechanisms on the P4G Business Game. *International journal of mathematics and computers in simulation*, vol. 11, pp. 75-84.
- J6. Smyrniou Z., Sotiriou M., Sotiriou S. (2017). What Does Scientific Theatre Do? Toward an Inquiry- based and Semiotic Theory through a Cultural approach. *International Journal of Education and Learning Systems*, vol. 2, pp. 47-58.
- J7. Smyrniou Z., Sotiriou M., Sotiriou S. & Georgakopoulou E. (2017). Multi-Semiotic systems in STEMS: Embodied Learning and Analogical Reasoning through a Grounded- Theory approach in theatrical performances. *WSEAS transactions on Advances on Engineering Education*, vol. 14 pp. 99-114.
- J8. Kotsari K., Smyrniou, Z. (2017). Inquiry based Learning and Meaning Generation through modelling on geometrical optics in a constructionist environment. *European Journal of Science and Mathematics Education Vol. 5, No. 1, 14-27.*
- J9. Smyrniou, Z., Petropoulou, E., Sotiriou, M. (2015). 'Applying Argumentation Approach in STEM Education: A Case Study of the European Student Parliaments Project in Greece.' *American Journal of Educational Research*, 3(12), 1618-1628, available online at <http://pubs.sciepub.com/education/3/12/20/>
- J10. Margoudi, M. , Smyrniou, Z. (2015). 'An Educational Application of Online Games for Learning Difficulties'. *World Academy of Science, Engineering and Technology*, International Science Index 103, *International Journal of Social, Behavioral, Educational, Economic and Management Engineering*, 9(7), 2336 - 2340.
- J11. Smyrniou, Z., Petropoulou, E. & I. Psarri (2015). Teachers' development regarding cognitive schemas and creativity through the design of digital learning tools. *International Journal of Education and Information Technology*, Vol. 1, No. 5, 2015, pp. 155-164, available online at <http://www.aiscience.org/journal/paperInfo/ijeit?paperId=2292>.
- J12. Kynigos C. Daskolia M, Smyrniou Z. (2013). Empowering Teachers in Challenging times for Science and Environmental Education: Uses for scenarios and microworlds as boundary objects. *Contemporary Issues in Education KE65011012*, 3 (1).
- J13 Smyrniou, Z., Moustaki, F., Yiannoutsou, N., Kynigos, C (2012). Interweaving meaning generation in science with learning to learn together processes using web 2 tools. *Themes in Science & Technology Education*, 5(1/2), 27-44.
- J14. Smyrniou, Z., Kynigos, C. (2012) Interactive Movement and Talk in Generating Meanings from Science, *IEEE Technical Committee on Learning Technology*, Special Theme "Technology-Augmented Physical Educational Spaces" Hernández Leo, D. (Ed). *Bulletin of the Technical Committee on Learning Technology*, pp. 17-20, Volume 14, Issue 4, October 2012, available online at <http://www.ieeetclt.org/content/bulletin-14-4>
- J15. Smyrniou Z., Moustaki F., Kynigos C. (2012). "Students' Constructionist Game Modelling Activities as Part of Inquiry Learning Processes" *Electronic Journal of e-Learning*, Volume 10 Issue 2, 2012, (pp235 - 248), available online at www.ejel.org

- J16. Smyrnaioy, Z. (2007). « An innovative way for using computers in science teaching -Una Manera Innovadora Para Usar Las Computadoras En La Enseñanza De La Ciencia », *Journal of Science Education*, n 2, vol. 8, p. 99-102.
- J17. Smyrnaioy, Z. (2006). « Les idées des philosophes physiciens anciens Grecs », *Mesogeios*, n° 28, juin, pp 5-12.
- J18. Smyrnaioy, Z. & Weil-Barais, A. (2005). Évaluation cognitive d'un logiciel de modélisation auprès d'élèves de collège, *Didaskalia*, n° 27, Décembre, pp. 133-149.
- J19. Smyrnaioy, Z. & Weil-Barais, A. (2004). L'utilisation des logiciels éducatifs dans l'enseignement de la physique, *Cahiers pédagogiques à la rubrique Faits & Idées*, n° 426, pp 65-66.
- J20. Smyrnaioy, Z. & Weil-Barais, A. (2004). Intégration d'un logiciel dans l'enseignement de la physique, Βρίσκεται με τη μορφή υπερκειμένου στην ιστοσελίδα <http://www.cahierspedagogiques.fr>
- J21. Smyrnaioy, Z. & Weil-Barais, A. (2004). Intégration de l'outil informatique dans l'enseignement des sciences physiques, *EpiNet*, n°65, mai 2004. Βρίσκεται με τη μορφή υπερκειμένου στην ιστοσελίδα: <http://www.epi.asso.fr/revue/articles/a0405c.htm>

Books

1. Z. Smyrnaioy (2017). *New developments in modern learning theories in teaching and learning of different cognitive subjects*. Herodotus Publications, Athens, pp. 930. (Greek)
2. Riopel, M. et Smyrnaioy, Z. (2016). *New Developments in Science and Technology Education*. New York: Springer. 220 p.
3. Smyrnaioy, Z., Riopel, M. et Sotiriou, M. (2016). *Recent Advances in Science and Technology Education, Ranging from Modern Pedagogies to Neuroeducation and Assessment*. Newcastle upon Tyne: Cambridge Scholars Publishing. 390 p.
4. Kassetas, A. I. & Smyrnaioy, Z., Sistanlis, H. (2014). *Middle school physics curriculum*. Study for the "New School". Ministry of Education. Educational Policy Institute (<http://repository.edulll.gr/edulll/handle/10795/1987>). 96 p. (Greek)
5. Smyrnaioy Z., Koutsoukos A. (2013/2007): "Contemporary Educational Psychology", Herodotus Publications, Athens, pp. 320. (Greek)
6. Smyrnaioy Z. & Tsouma E. (2012). "Confronting Challenges Regarding Global Energy Politics" (ISBN 978-3-659-20392-3). LAP LAMBERT Academic Publishing is a trademark of: AV Akademikerverlag GmbH & Co. KG, Saarbrücken, Germany.
7. Smyrnaioy Z. (2008): "Education and Technology: Applications of Information Communication Technology in Education", Publications Herodotus, Athens, pp. 240. (French, Greek)
8. Koutsoukos A., Smyrnaioy Z. (2007/2005): "Cognitive Psychology and Teaching: The Contribution of Jean Piaget to modern pedagogical and didactic thinking," Herodotus Publications, Athens, pp. 255. (The book in its first edition had gotten A Prize at the National Competition "Sicilian 2005"). (Greek)
9. Smyrnaioy Z., Koutsoukos A (2006) (translated into Greek): «Gérard Vergnaud: Lev Vygotski. Educator and thinker of our time " Issalos, Athens, pp. 100.

Chapters in books

- Ch1. Papadopoulou, M., Argyri, P. & Smyrnaïou, Z. (2021). Modeling in Mathematics and History As Teaching and Learning Approaches To Pandemics. In Sahin & S. Jackowicz (Eds.), *Online Education during COVID-19 Pandemic*. ISTES Organization.
- Ch2. Smyrnaïou, Z. (2019). Case Study – Play4Guide Project (Best Practice). *Higher Education in the World 7. Humanities and Higher Education: Synergies between Science, Technology and Humanities*, pp.325-326. <http://www.guninetwork.org/report/higher-education-world-7>
- Ch3. Kynigos C., Smyrnaïou, Z. & Grizioti, M. (2019). AUGMENTED PLAYGROUNDS: Questioning Simulations to Question Intuitions. In *Augmented Reality in Educational Settings*, Brille / Sense, pp. 295-324. DOI: https://doi.org/10.1163/9789004408845_013
- Ch4. Smyrnaïou, Z., Georgakopoulou, E., Sotiriou, M. & Sotiriou, S. (2018). Constructing Scientific Notions: Students' and Teachers' Conceptual Change through a Responsible Research and Innovation Initiative. *Springer* (accepted).
- Ch5. Smyrnaïou, Z., Petropoulou, E., Georgakopoulou, E. & Sotiriou, M. (2018). Tracing Students' Quality of Argumentation in Simulated Parliament Activities. *Proceedings PART 7: STRAND 7, Discourse and Argumentation in Science Education*, pp., 960-971.
- Ch6. Valente, A., Tudisca, V., Pennacchiotti, C., Smyrnaïou, Z. Kotsari, K. Monsonís-Payá, I., Garcés, J., Branchini, B., Ricci, F. and The DESCi Consortium (2018). Actors and Practices in Living Lab for Alternating Training. In “Responsible Research and Innovation Actions in Science Education, Gender and Ethics - Cases and Experiences”, *SpringerBriefs in Research and Innovation Governance*, pp. 27-33.
- Ch7. Smyrnaïou, Z., Petropoulou, E., Menon, S., Zini, V. (2017). From Game to Guidance: The Innovative Evaluation Approach of the P4G Simulation Business Game. *IEEE*, pp. 148-154.
- Ch8. Smyrnaïou, Z., Otreï-Cass, K., Petropoulou, E., & Spinou, E. (2016). Tracing Computer Assisted Assessment for learning Capability in Greek Teachers. In *New Developments in Science and Technology Education*. (pp. 19-31). Springer International Publishing.
- Ch9. Smyrnaïou, Z., Petropoulou, E., Margoudi, M., & Kostikas, I. (2016). Analysis of an Inquiry-Based Design Process for the Construction of Computer-Based Educational Tools: The Paradigm of a Secondary Development Tool Negotiating Scientific Concepts. In *New Developments in Science and Technology Education* (pp. 73-86). Springer International Publishing.
- Ch10. Moore, E. B., Mäeots, M., & Smyrnaïou, Z. (2016). Scaffolding for Inquiry Learning in Computer-Based Learning Environments. In *New Developments in Science and Technology Education* (pp. 87-95). Springer International Publishing.
- Ch11. Smyrnaïou, Z., Moustaki, F., & Kynigos, C. (2016). Inquiry and Meaning Generation in Science While Learning to Learn Together: How Can Digital Media Provide Support?. In *New Developments in Science and Technology Education* (pp. 109-123). Springer International Publishing.
- Ch12. Smyrnaïou, Z., Petropoulou, E., Spinou, E. and Otreï Cass, K. (2016). Tracing Computer Assisted Assessment for Learning Capability in Greek Teachers, *Recent Advances in Science and Technology Education, Ranging from Modern Pedagogies to Neuroeducation and Assessment* (pp. 197-220). Newcastle upon Tyne: Cambridge Scholars Publishing.
- Ch13. Smyrnaïou, Z., Petropoulou, E., Margoudi, M. and Kostikas, I. (2016). Establishing a Common Pattern for Educational Tools' Design Process: The Inquiry-based Development Approach of a Tool Addressing Science Related Issues, *Recent Advances in Science and Technology Education, Ranging from Modern Pedagogies to*

Neuroeducation and Assessment (pp. 220-239). Newcastle upon Tyne: Cambridge Scholars Publishing.

Ch14. Smyrniou, Z. (2015). « La construction et l'usage des modèles réels et virtuels pour aider à l'évolution des représentations des élèves ». Sous la direction de Brigitte Amory, Thierry Evrard, *Les modèles. Des incontournables pour enseigner les sciences ! Apprendre les sciences de 2 ans 1/2 à 18 ans* (pp. 203-210). De Boeck, Brussels, Belgium.

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Conferences

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C2. Argyri, P. & Smyrniou, Z. (2020). Reform of the educational systems for the empowerment of young people's skills. Internationals Perspectives in Education (IPIE2020). Mytilene, Lesvos island, Greece, on 1-2 October 2020.

C3. Papadopoulou, M., Argyri, P. & Smyrniou, Z. (2020). Modeling in Mathematics and History As Teaching and Learning Approaches To Pandemics. In R. Thrupp & I. Sahin (Eds.), *Proceedings of iHSES 2020--International Conference on Humanities, Social and Education Sciences* (pp. 99-103). Monument, CO, USA: ISTES Organization. Retrieved 12 September 2020 from www.2020.ihses.net/proceedings/2/.

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- C8. Smyrniou, Z. (2019). Evaluating the STORIES OF TOMORROW. International Conference 'Creating Conditions for Deeper Learning in Science', 29-30 June 2019, Ellinogermaniki Agogi.
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- C27. Smyrniou Z., Sotiriou M., Georgakopoulou E., Papadopoulou O. (2016). *Connecting Embodied Learning in educational practice to the realisation of science educational scenarios through performing arts*, *International Conference « Inspiring Science Education »*, Athens 22-24 April, pp. 37-45.
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- C30. Riopel, M. & Smyrniou, Z. (2016). *Digital didactics: from specific content learning domains to technologically driven learning outcomes*. *Symposium at XVIII CONGRESS AMSE-AMCE-WAER «Teaching and Training Today for Tomorrow»*, Eskisehir, Turkey, 30 May - 2 June (Symposium).
- C31. Petropoulou, E., Smyrniou, Z. (2016). *Negotiating fundamental particles and neutrinos through CLIL: having an interactive simulating environment as a common ground*.

XVIII CONGRESS AMSE-AMCE-WAER «Teaching and Training Today for Tomorrow», Eskisehir, Turkey, 30 May - 2 June.

C32. Smyrniou, Z., Petropoulou, L. & Sotiriou M. (2015). *Implementation of the Inquiry-based and Argumentation approach in Science education: The paradigm of the 'European Student Parliaments' project in Athens*, International Conference « Inquiry based learning and Creativity in Science Education », CreatIt, 9-10 October, Athens, Greece.

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C36. Renken, M., Cowie, B., Otreel-Cass, K., Smyrniou, Z., Chen, J., Riopel, M. (2014). *Developing an International Survey of Teachers' Assessment Capabilities: Challenges and Strategies*. BERA Conference, 23-25 September, Institute of Education, University of London, London, England.

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C39. Smyrniou, Z., Petropoulou, E., Margoudi, M., Kostikas, I. (2014). *Patternization of an Inquiry-based design process for the construction of a structurally sound educational tool: The paradigm of a secondary development tool negotiating scientific concepts*. Ndste 2014, Corfu, 29-31 May, Greece.

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- C45. Smyrniou, Z., Varypati, E. & Tsouma, E. (2012). Dialogical Interactions Concerning the Scientific Content Through Face to Face and Distance Communication Using Web 2 Tools. In Roser Pintó, Víctor López, Cristina Simarro, Proceedings of 10th International Conference on Computer Based Learning in Science (CBLIS), Learning science in the society of computers, 26th to 29th June 2012, Barcelona, Catalonia/Spain, pp. 117-125.
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- C49. Smyrniou, Z. (2012). L'émancipation intellectuelle passe d'abord par le virtuel? Colloque international CREAD « formes d'éducation et processus d'émancipation ». Proposition de deux symposiums animés par le groupe CoSciEns (Coopération-Scientifiques-Enseignants) (pp. 42-52), Université Rennes 2, Campus Villejean, France 22, 23 & 24 mai 2012.
- C50. Wegerif, Y. Yang, M. De Laat, M. Pifarre, N. Yiannoutsou, F. Moustaki, Z. Smyrniou, M. daskolia, M. Mavrikis, E. Geraniou, R. Abdu (2012). Developing a Planning and Reflection tool to Support Learning to Learn Together (L2L2). IST-Africa 2012 Conference Proceedings, Paul Cunningham and Miriam Cunningham (Eds), IIMC International Information Management Corporation, 2012, ISBN: 978-1-905824-34-2
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- C62. Smyrnaioi Z. & Dimitracopoulou A. (2005). The impact of videos, real objects' experiments and technology-based modelling primitives on the students' reasoning during modelling in chemistry and physics, Kaleidoscope Workshop on Computer Supported Inquiry Learning, 18-20 May, Genoa, Italy.
- C63. Dimitracopoulou A., Orfanos S., Petrou A., Smyrnaioi Z. & Weil-barais A. (2005). Designing a modelling environment for young students: Underlying researches investigating complementary aspects related to cognitive mechanisms and collaboration in school settings, Kaleidoscope Workshop on Computer Supported Inquiry Learning, Genoa, Italy, 18 - 20 May.
- C64. Koutsoukos A. & Smyrnaioi Z. (2005). La relation de futurs professeurs avec la technologie: applications pédagogiques des ordinateurs, 5ème Colloque International

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C66. Vavouraki A., Smyrniou Z. & Dimopoulos K. (2004). Information and Communication Technology and Youth: Implications for educational policy and innovation. In XI IOSTE SYMPOSIUM, Science and Technology Education for a Diverse World- dilemmas, needs and partnerships, Lublin, Poland, 25-30 July.

C67. Smyrniou Z. & Weil-Barais A. (2004). La modélisation : l'apport des logiciels éducatifs. In 7e Biennale Internationale de l'éducation et de la formation, « débats sur les recherches et les innovations », Lyon, 14-17 Avril. Βρίσκεται με τη μορφή υπερκειμένου στην ιστοσελίδα: <http://www.inrp.fr/biennale/7biennale/>

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C71. Dimitracopoulou A., Komis V., Saconides H., Politis P., Smyrniou Z., Dellas. S. (2003). Working in a social ModellingSpace: The need of multiple supports for collaborative modelling activities in sciences, Volos, 10-13 Octobre, pp. 409-410.

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Awards

(2019) Center of Excellence in Science Education, NKUA

(2019) AWARD OF ORIGINAL EDUCATIONAL-TEACHING PROPOSAL

for the work on "Alternative training in European education systems", which is part of the thematic field "Policies for education, orientations and structures of education" <https://www.kriti24.gr/ayta-einai-ta-apotelesmata-toy-diagonismoy-prototypis-epistimonikis-ergasias/>

(2018) "Learning Science through Theater is a National Action and Best Practice in Europe.

(2018) The book "New Developments in Science and Technology Education" (Riopel and Smyrniou), Springer, was among the top 50% of the most "downloaded" e-books in 2018.

(2018) P4G Scientix evaluation report: very good project

(2018) DESCI in the Erasmus + best practices

(2018) P4G evaluation report: it is very positive (90/100)

(2017) Multi- Semiotic systems in STEMS: Embodied Learning and Analogical Reasoning through a Grounded- Theory approach in theatrical performances. EISTA, Orlando, Florida, USA. Best Paper Award.

- Cognitive Psychology and Teaching "The contribution of Jean Piaget in modern pedagogy and teaching thinking. The Book in the first version/edition had taken the 1st prize in the National Competition" Sicilian 2005 "

Technical Reports

- T1. Smyrniou, Z., Sotiriou, M., Georgakopoulou, E. (2018). D3.2. CREATIONS Demonstrators. 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917
- T2. Smyrniou, Z., Sotiriou, M., (2019). D7.9. Effective Learning Environments. 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917
- T3. Chappell, K., Hetherington, L., Slade, C., Ruck Keene, H., Sotiriou, M. and Smyrniou, Z. (2016). A framework for identifying creative best practices in inquiry-based science education. 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917
- T4. Student Parliament
- T5. Smyrniou, Z., Sotiriou, M., Petropoulou, E. (2016). Effective learning environments for inquiry learning and teaching. 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917
- T6. Smyrniou, Z., Sotiriou, M., Grigoriou, V., Petropoulou, E. (2016). D3.1. CREATIONS Demonstrators. 'CREATIONS' (2015-2018), H2020-SEAC-2014-1 CSA, 665917
- T7. Smyrniou, Z. (2016). Self-evaluation tool. PLAY4GUIDANCE (2014-2017), Erasmus +, 2014-1-IT02-KA200-004150
- T8. Smyrniou Z., Petropoulou E., Zini, V. (2016). P4G Self- evaluation tool and Evaluation for Guidance. PLAY4GUIDANCE (2014-2017), Erasmus +, 2014-1-IT02-KA200-004150
- T9. Smyrniou, Z., & Petropoulou, E. (2016). Play4Guidance Pedagogical Framework. PLAY4GUIDANCE (2014-2017), Erasmus +, 2014-1-IT02-KA200-004150
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