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## CURRICULUM VITAE

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### Panagiotis Pantidos

Assistant Professor (Science Education)

Department of Early Childhood Education, National and Kapodistrian University of Athens

## 1. PERSONAL INFORMATION

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Address : Department of Early Childhood Education, National and Kapodistrian University of Athens, Navarinou 13A, 106 80, Athens

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Date/Place of birth : March 03, 1974/Lamia, Greece

## 2. EDUCATION

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**March 1997:** B.Sc. in Physics, Department of Physics, University of Patras. Thesis: '*Teaching and Theatrical Art – Reference to Natural Sciences*'.

**March 2001:** M.A. in "Theory and Praxis in Teaching and Evaluation" (2001), Department of Philosophy, Pedagogy & Psychology, National and Kapodistrian University of Athens. Thesis: '*Analogies as Instructional Tools in Science Education*'.

**June 2004 – February 2008:** Ph.D. student in Science Education, Department of Educational Sciences and Early Childhood Education, University of Patras. Thesis (2008): '*The constitution of a "dictionary" for the semiotic analysis of physics teaching: a context of studying teaching practices by means of theatre semiotics*'. Ph.D. awarded: 02 April 2008.

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### 3. RESEARCH INTERESTS

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- Scientific knowledge representation
  - Semiotics of science teaching and learning
  - Embodied learning in science education
  - Narration and meaning making process in teaching science
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### 4. PUBLICATIONS

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#### 4.1. Edited volumes and conference proceedings

- D1. **Pantidos**, P. (ed.) (2019). *The role of science in early childhood education*. New Technologies Publications, Athens. (in Greek)
- D2. **Pantidos**, P. (ed.) (2019). *Proceedings of 10th Panhellenic Conference: Science in early Childhood Education – Science, Education, Culture*. Aristotle University of Thessaloniki. (in Greek)

#### 4.2. Articles in peer reviewed international journals

- D1. Ioannou, M., Kaliaspos, G., Fragkiadaki, G., **Pantidos**, P., & Ravanis, K. (2023). Thermal concepts and phenomena in early childhood science education: a literature review. *European Journal of Education Studies*, 10(5), 1-12.
- D2. **Pantidos**, P., Fragkiadaki G, Kaliaspos G and Ravanis, K. (2022). Inscriptions in Science Teaching: From Realism to Abstraction. *Front. Educ.* 7:905272. doi: 10.3389/educ.2022.905272
- D3. Webster, C. M., **Pantidos**, P., Clarke, D., & Pachos, J. K. (2022). Break-in' Point: Somatic narratives: The convergence of arts and science in the transformation of temporal communities. *Journal of Dance & Somatic Practices*, 14(1), 109-128.
- D4. **Pantidos**, P., Kaliaspos, G., & Ravanis, K. (2022). Narration and multimodality: The role of the human body and material objects in science teaching. *Int J Eval & Res Educ*, 11(2), 617-627.
- D5. Ravanis, K., Kaliaspos, G., & **Pantidos**, P. (2021). Preschool children science mental representations: the sound in space. *Education Sciences*, 11(5), 242.
- D6. Kaliaspos, G., **Pantidos**, P., Grivopoulos, K., & Ravanis, K. (2021). Teaching electromagnetism: interviewing three Greek high-school teachers. *Mediterranean Journal of Education*, 1(2), 66-77.

- D7. Kaliaspos, G., **Pantidos**, P., Kalogiannakis, M., & Ravanis, K. (2021). A Study of the Understanding of Key Concepts of Electromagnetism of 11th Grade Greek High School Students. *Jurnal Pendidikan IPA Indonesia*, 10(4), 474-485.
- D8. **Pantidos**, P., & Givry, D. (2021). A semiotic approach for the teaching of energy: linking mechanical work and heat with the world of objects and events. *Review of Science, Mathematics and ICT Education*, 15(2), 5-30.
- D9. **Pantidos**, P. (2019). Epistemic, cognitive and semiotic significations in science teaching: the case of sound. *European Journal of Education Studies*, 6(4), 210-231.
- D10. **Pantidos**, P. (2017). Narrating science in the classroom: the role of semiotic resources in evoking imaginative thinking. *Journal of Science Teacher Education*, 28(4), 388-401.
- D11. **Pantidos**, P., Herakleioti, E., & Chachlioutaki, M. E. (2017). Reanalysing children's responses on shadow formation: a comparative approach to bodily expressions and verbal discourse. *International Journal of Science Education*, 39(18), 2508-2527.
- D12. **Pantidos**, P., & Givry, D. (2016). Connecting the teaching of mechanical work with the model of energy: a semiotic approach. *Educational Journal of the University of Patras UNESCO Chair*, 3(2), 317-326.
- D13. Chachlioutaki, M. E., **Pantidos**, P., & Kampeza, M. (2016). Changing semiotic modes indicates the introduction of new elements in children's reasoning: the case of earthquakes. *Educational Journal of the University of Patras UNESCO Chair*, 3(2), 198-208.
- D14. Herakleioti, E. & **Pantidos**, P. (2016). The contribution of the human body in young children's explanations about shadow formation. *Research in Science Education*, 46(1), 21-42.
- D15. Givry, D. & **Pantidos**, P. (2015). Ambiguities in representing the concept of energy: a semiotic approach. *Review of Science, Mathematics and ICT Education*, 9(2), 41-64.
- D16. **Pantidos**, P., Ravanis, K., Valakas, K., & Vitoratos, E. (2014). Incorporating poeticity into the teaching of physics. *Science & Education*, 23(3), 621-642.
- D17. Givry, D. & **Pantidos**, P. (2012). Toward a multimodal approach of science teaching. *Skhole*, 17, 123-129.
- D18. **Pantidos**, P. & Tsitouridou, M. (2012). Future teachers explain the concept of refraction: implications for teacher education. *Skhole*, 17, 235-240.
- D19. **Pantidos**, P., Valakas, K., Vitoratos, V. & Ravanis, K. (2010). The materiality of narrative spaces: a theatre semiotics perspective into the teaching of physics. *Semiotica*, 182-1/4, 305-325.

- D20. Ravanis, K., **Pantidos**, P. & Vitoratos, E. (2010). Mental representations of ninth grade students: the case of the properties of the magnetic field. *Journal of Baltic Science Education*, 9(1), 50-60.
- D21. Ravanis, K., **Pantidos**, P. & Vitoratos, E. (2009). Magnetic field mental representations of 14-15 years old students. *Acta Didactica Napocensia*, 2(2), 1-7.
- D22. Ravanis, K. & **Pantidos**, P. (2008). Science activities in preschool education: effective and ineffective activities in a piagetian theoretical framework for research and development. *The International Journal of Learning*, 15(2), 123-132.
- D23. **Pantidos**, P. (2008). The role of metalinguistic function in the construction of physical knowledge: a theatre semiotics approach for preschool education. *Review of Science, Mathematics and ICT Education*, 2(1/2), 59-70.
- D24. **Pantidos**, P., Valakas, K., Vitoratos, E. & Ravanis, K. (2008). Towards applied semiotics: an analysis of iconic gestural signs regarding physics teaching in the light of theatre semiotics. *Semiotica*, 172-1/4, 201-231.
- D25. **Pantidos**, P. & Patapis, S. (2005). Kinesthetic transverse wave demonstration. *The Physics Teacher*, 43(6), 344-345.
- D26. **Pantidos**, P., Spathi, K. & Vitoratos, E. (2001). The use of drama in science education: the case of Blegdamsvej Faust. *Science & Education*, 10(1/2), 107-117.

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### 4.3. Chapters in edited books

- D27. Ravanis, K., Kaliaspos, G., Arnantonaki, D., & **Pantidos**, P. (2022). The Axes of a Precursor Model for Electricity in the Thinking of 5–6-Year-Old Children. In Precursor Models for Teaching and Learning Science During Early Childhood (pp. 155-168). Cham: Springer International Publishing.
- D28. Kaliaspos, G, **Pantidos**, P. & Ravanis, K. (2020). Sound in the thought of 5-6-year-old children: a qualitative approach. *11th Panhellenic Conference: Science in Early Childhood Education*, Ioannina, November 6th, 7th, and 8th, 2020 (pp. 30-41, e-book).
- D29. Chachlioutaki, M-E., **Pantidos**, P. & Kampeza, M. (2020). Drawing activity as a means of exploring and developing preschool-age children's understanding of the phenomenon of earthquake. *11th Panhellenic Conference: Science in Early Childhood Education*, Ioannina, November 6th, 7th, and 8th, 2020 (pp. 173-188, e-book).
- D30. Herakleioti, E., & **Pantidos**, P. (2019). Modes of expression and construction of meaning: the phenomenon of day/night cycle in early childhood education. In Pantidos, P. (ed.) *The role of science in early childhood education*, New Technologies Publications, Athens, 245-257. (in Greek)

- D31. Chachlioutaki, M.-E., **Pantidos, P.**, & Herakleioti, E. (2018). Speech, drawings and gestures: analyzing children's responses about the phenomenon of earthquakes. In M. Kalogiannakis (ed.) *Science in early childhood education – contemporary trends and prospects*, Gutenberg, Athens, 117-134. (in Greek)
  - D32. Kokka, Z. & **Pantidos, P.** (2016). Young children investigate the concept of torque. In V. Tselfes (ed.) *Preschool age: science in the context of teachers-students' relationships*, 119-135, Artemis Petropoulou Publications (in Greek).
  - D33. **Pantidos, P.**, & Herakleioti, E. (2014). Signifying scientific entities: the formation of shadow as a teaching subject for young children. In P. Kariotiglou & P. Papadopoulou (eds.) *Science and Environmental Preschool Education*, Gutenberg (in Greek).
  - D34. Tseou, E., Tsitouridou, M., & **Pantidos, P.** (2014). Science teachers' pedagogical content knowledge in primary education: a critical review. In P. Kariotiglou & P. Papadopoulou (eds.) *Science and Environmental Preschool Education*, Gutenberg (in Greek).
  - D35. **Pantidos, P.** (2013). Human body as vehicle in representing physics concepts. In A. Dimitriou (ed.), *Physics and Environmental Concepts in Preschool Education*, 103-115, Epikentro (in Greek).
  - D36. **Pantidos, P.** (2012). Material objects as vehicles of signs and meanings: an alternative perspective of approaching aspects of physical knowledge in preschool education (in greek). In K. Plakitsi (ed.), *Sociocognitive and sociocultural approaches to science in early childhood*, 238-251, Athens: Patakis (in Greek).
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### 4.3. Conference proceedings

- D37. Kaliaspos, G., **Pantidos, P.**, & Ravanis, K. (2023, May). Transforming 5-year-old children's mental representations of melting: A storytelling approach. In AIP Conference Proceedings (Vol. 2595, No. 1). AIP Publishing.
- D38. Starakis, J., **Pantidos, P.** & Chalkia, K. (2021). Embodied perspective of the Moon's Apparent Motion in the context of Teaching Experiment: a case study. *12th Panhellenic conference on science and ICT education*, Conference proceedings pp. 306-313.
- D39. **Pantidos, Π.** (2020). Embodied learning and construction of science concepts in early childhood education. *Science Education: Research and Praxis*, 76.
- D40. Chachlioutaki, M.-E., & **Pantidos, P.** (2019). Contradictions in preschool's children thinking about mechanical equilibrium. *11th Panhellenic conference on science and ICT education*, Department of Primary Education, University of western Macedonia, Florina, 19-21 April.
- D41. Konstantinou, P. & **Pantidos, P.** (2019). Approaching simple harmonic motion in a embodied context. In P. Pantidos (ed.) *Proceedings of 10th Panhellenic Conference:*

*Science in Early Childhood Education – Science, Education, Culture*. Aristotle University of Thessaloniki, 88-92. (in Greek)

- D42. Herakleioti, E., **Pantidos**, P., & Birbili, M. (2018). The role of human body in transfer of knowledge: the phenomenon of shadow formation in early childhood education. In D. Stavrou, A. Michailidis, & A. Kokolakis (eds.). *Conference Proceedings of 10th Panhellenic conference on science and ICT education*, 222-229. (in Greek) <http://synedrio2017.enepnet.gr>
- D43. Chachlioutaki M-E., **Pantidos**, P., & Kampeza, M. (2018). Young children develop their reasoning through the synergy between different semiotic systems: the case of volcanoes. In D. Stavrou, A. Michailidis, & A. Kokolakis (eds.). *Conference Proceedings of 10th Panhellenic conference on science and ICT education*, 731-740. (in Greek) <http://synedrio2017.enepnet.gr>
- D44. **Pantidos**, P. & Herakleioti, E. (2015). Speech and body: a mutual dependency in the construction of scientific concepts. In D. Psillos, A. Molochidis, & M. Kallery (eds.) *Conference Proceedings of 9th Panhellenic conference on science and ICT education*, 296-304. (in Greek). <http://synedrioenepnet-2015.web.auth.gr>
- D45. **Pantidos**, P. (forthcoming). The role of the context in the construction of meanings: towards a morphological-cognitive approach in the teaching of science. 1st reunion meeting of the postgraduate programme "Theory and Praxis in Teaching and Evaluation", 20-21 June 2011, Athens.
- D46. **Pantidos**, P. (2008). The contribution of perceptive data in the shaping of meanings: towards a semiotic perspective for learning environments in preschool education. In P. Koumaras & F. Seroglou (eds.), *Proceedings of the 4<sup>th</sup> Pan-Hellenic conference of the Association for Science Education "Curricula and school science textbooks: critical perspectives and prospects"*, Thessaloniki: Christodoulidis Editions, 240-246. (in Greek)
- D47. **Pantidos**, P. & Patapis, S. (2001). Closed circuits: the reformed train analogy. In *Proceedings of Third International Conference on Science Education Research in the Knowledge Based Society*, European Science Education Research Association (ESERA), Thessaloniki, 835-837.
- D48. Sarantopoulos, P., **Pantidos**, P. & Patapis, S. (2001). Using an analogy to represent a transverse wave. In *Proceedings of Third International Conference on Science Education Research in the Knowledge Based Society*, European Science Education Research Association (ESERA), Thessaloniki, 841-843.
- D49. **Pantidos**, P. & Sarantopoulos, P. (2000). Designing a chemistry lesson based on the curriculum (in greek). In *Proceedings of the Pan-Hellenic conference of chemistry – The role of chemistry in society and its teaching in middle school*, Patras, 63-66.
- D50. **Pantidos**, P., Spathi, K. & Vitoratos, E. (1996). The teaching of physical sciences as theatrical performance. In J. Sebesta (ed.), *International Conference on History and*

## 5. CONFERENCE PRESENTATIONS

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- [1]. Starakis, I., Kaliampos, G., Ravanis, K. & **Pantidos**, P. (2023). Designing activities based on the precursor model for electricity in early childhood education. SIEST MEDITERRANEE 2023 CONFERENCE: Scientific and technological education for all facing the challenges of the future. Hammamet (Tunisia) - 19 and 20 May 2023.
- [2]. Chachlioutaki, M-E., & **Pantidos**, P. (2020). Exploring learning about the phenomenon of mechanical equilibrium through semiotically differentiated situations. *11th Panhellenic Conference: Science in Early Childhood Education*, Ioannina 6, 7 & 8 November 2020.
- [3] Herakleioti, E., & **Pantidos**, P. (2019). Embodied developments in preschool children's ideas about day/night cycle. *11th Panhellenic conference on science and ICT education*, Department of Primary Education, University of western Macedonia, Florina, 19-21 April.
- [4] Givry, D. & **Pantidos**, P. (2015). How a science teacher makes meaning through semiotic resources in an ordinary classroom? Presented in the symposium "Multimodality: how the teacher and students use multimodality to construct meaning? ESERA conference, Helsinki, 31/8 – 4/9.
- [5] Webster, C., Pachos, J. & **Pantidos**, P. (2015). Break-in Point: somatic narratives, the convergence of art and science in the transformation of temporal communities. 2015 SDHS/CORD joint conference, "Cut and Paste: Dance Advocacy in the Age of Austerity", Athens, 4-7 June.
- [6] **Pantidos**, P. (2013). Human body and the construction of meanings in the science teaching. 10th International Conference on Semiotics "Changing worlds & Signs of the times", Volos, 4-6 October.
- [7] Tsitouridou, M. & **Pantidos**, P. (2012). Children's mental representations: students exploit them in teaching science. 7<sup>th</sup> Pan-Hellenic conference "Science in kindergarten", Florina, 19-21 October.
- [8] **Pantidos**, P., Vitoratos, E., Sakkopoulos, S & Ravanis, K. (2012). Science and art: a dialogue through literature and visual arts. 8th BPU, the 8th General Conference of Balkan Physical Union, Constanta, 5-7 July 2012.
- [9] Panoutsopoulos, P., **Pantidos**, P., Sakkopoulos, S. and Vitoratos, E. (2011). Main problems of science teaching in primary schools and an example of good practice for training of "in service" primary school teachers: "Didaskaleion". EUPEN's 13th General Forum - EGF2011. "Preparing good physics teachers" Limassol, 28-30 August.

- [10] **Pantidos, P.**, Ravanis, K., Valakas, K. & Vitoratos, E. (2011). Meaningful signs contribute in science teaching-learning process. EUPEN's 13th General Forum - EGF2011. "Preparing good physics teachers", Limassol, 28-30 August.
- [11] **Pantidos, P.** & Vitoratos, E. (2002). Theatre semiotics in science Classroom. *6<sup>th</sup> General Forum: Convergence of Physics Studies in Europe?*, EUPEN (European Physics Education Network), Varna, 6-7 September.
- [12] **Pantidos, P.** (1999). Natural sciences and theatrical art. *Educators' meeting in Environmental Education Programs*, Directorate of secondary education, Prefecture of Achaia, Greece.
- [13] **Pantidos, P.**, Spathi, K. & Vitoratos, E. (1998). The use of theatre in representing physics concepts - 'The Blegdamsvej Faust'. *1<sup>st</sup> Pan-Hellenic Conference in Science Education and ICT Education*, 29-31 May, Thessaloniki.
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## 6. RESEARCH PROJECTS

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### February 2013 – January 2014

Supervisor of the project: *Research on the modes representing scientific knowledge: the concept of energy as a subject of teaching for students 5-12 years*. Funded by the Research Committee of Aristotle University of Thessaloniki (project: 89371) and it was carried out in collaboration with Damien Givry from Aix Marseille Université.

### June 2008 – June 2010

Participation in the European research project: Science in Society FP7 – HIPST (*History and Philosophy in Science Teaching*). The aim of the program was the development of teaching activities and educational material with respect to history and philosophy of science.

### September 2002 – January 2003

Participation in the working group for the development of educational material: "Designing & Strategies of Knowledge Guidance". Ε.Π.Ε.Α.Ε.Κ. II – «Reformation of Postgraduate Studies», Department of Philosophy, Pedagogy & Psychology, National and Kapodistrian University of Athens.

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## 7. ACADEMIC POSITIONS AND EMPLOYMENT

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June 2019 -

: Assistant professor at the Department of Early Childhood Education, National and Kapodistrian University of Athens

October 2015 – June 2019

: Assistant professor at the School of Early



December 2010 – September 2015	Childhood Education, Aristotle University of Thessaloniki : Lecturer at the School of Early Childhood Education, Aristotle University of Thessaloniki
March 2008 – August 2010	: Adjunct Lecturer at the Department of Preschool Education, University of Crete.
September 2009 – February 2010	: Adjunct Lecturer at the Department of Preschool Education, University of Thessaly.
March 2009 – August 2009 & September 2010 – February 2011	: Adjunct Lecturer at the Department of Educational Sciences and Early Childhood Education, University of Patras.
October 2001 – May 2008	: Secondary and high school teacher (physics, chemistry)
2000 – 2001 & 2002-2005	: Administrative staff in the Program: 'Students' practice in tertiary education', Department of Philosophy, Pedagogy & Psychology, University of Athens.

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## 8. TEACHING EXPERIENCE

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### *Under graduate courses*

#### a) **Department of Preschool Education, University of Crete (2008-2010):**

- *Science in preschool education*
- *Preschool science education*
- *Seminar on diploma thesis*
- *Seminar on science education*

#### b) **Department of Preschool Education, University of Thessaly (winter semester 2009-2010):**

- *Science education*

#### c) **Department of Educational Sciences and Early Childhood Education, University of Patras (spring semester 2008-2009 and winter semester 2010-2011)**

- *Preschool physics education*

#### d) **School of Early Childhood Education, Aristotle University of Thessaloniki (2011 – spring semester 2018-2019)**

- *Science concepts and applications*

- *ICT in education* (co-teaching with M. Tsitouridou)
- *Natural and environmental sciences* (co-teaching with M. Tsitouridou)
- *Semiotics of science teaching*
- *Science experiments for children*
- *Practicum IV* (co-teaching with M. Tsitouridou)
- *Science education*
- *Practicum II*

e) **Department of Early Childhood Education, National and Kapodistrian University of Athens (2019 - )**

- *Science in early childhood education*
- *Semiotics of science teaching*
- *Science education*

***Post graduate courses and seminars***

a) **In Greek universities**

- Participation in the course *ICT in education* (2011-2012 and 2012-2013). Post graduate programme: "Didactiques du plurilinguisme et politiques linguistiques - Diffusion des langues et cultures en contexte multilingue", **School of Early Childhood Education, Aristotle University of Thessaloniki.**
- Participation in the course *Applied pedagogical approaches in learning science* (2015-2016). Post graduate programme: "Mathematics, Science and ICT: Teaching and Learning", **School of Early Childhood Education, Aristotle University of Thessaloniki.**
- Supervisor in the course *Special topics of science education* (2015-2016). Post graduate programme: "Mathematics, Science and ICT: Teaching and Learning", **School of Early Childhood Education, Aristotle University of Thessaloniki.**

b) **In foreign universities**

- Seminars in the context of Erasmus+ programme at: a) **Alexandru Ioan Cuza University of Iasi, Faculty of Physics** (2012-2013 and 2014-2015), and b) **Aix-Marseille Université (ESPE)** (2013-2014, 2014-2015 and 2016-2017).

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## **9. OTHER EXPERIENCE**

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- [1] Member of the Curriculum Committee and of the Internal Evaluation Team of the Department of Early Childhood Education.

- [2] Coordinator of the Organizing Committee of the *10th Panhellenic Conference: Science in Early Childhood Education – Science, Education, Culture*. Aristotle University of Thessaloniki, 4-6 May 2018.
- [3] Coordinator of the direction “Mathematics, Science and ICT: Teaching and Learning”, Post graduate program: Educational Sciences, School of Early Childhood Education, Aristotle University of Thessaloniki.
- [4] Peer reviewed journal referee: (a) *Science Education*, Willey Periodicals, Inc., (b) *Science and Education*, Springer, (c) *The Physics Teacher*, AAPT, (d) *Education Sciences*, MDPI, (e) *Psychonomic Bulletin & Review*, Springer.
- [5] Supervisor of 28 theses of undergraduate students and 3 of postgraduate students. Member of the examining committee of the Ph.D. students E. Tseou, E. Papadopoulou, V. Koulountzos, G. Fragiadaki and A. Gioka. Supervisor of Ph.D. student M-E. Chachlioutaki.
- [6] Coordinator in the *Erasmus Plus programme* agreements with Alexandru Ioan Cuza University of Iasi, Faculty of Physics and Aix-Marseille Université (ESPE).
- [7] Former member of the School of Early Childhood Education General Meeting (Aristotle University of Thessaloniki). Former member of the committee for the revision of School of Early Childhood Education curriculum.
- [8] Translation for the greek edition of the journal *Quantum* (title of the article: *'Do you Know the Binding Energy?'*, *Quantum*, July/August 2000, v. 7, issue 4.
- [9] Participation in the working group for the production of the booklet for the theatrical performance 'The Life of Gallilei', Group: "Teaching and Dramatic Art", 4th Technical High School of Patras, April 1999.
- [10] Atteadant of the course “Introduction to acting” (two semesters), Department of Theatrical Studies, University of Patras, 1995-1996.

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## 10. CITATIONS

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### 1. Google scholar (10/1/2024)

**Citations: 320, h-index: 11**

### 2. Scopus (10/1/2024)

**Citations: 120, h-index: 8**