



A Peer Reviewed International Journal of Asian  
Academic Research Associates

**AARJSH**  
**ASIAN ACADEMIC RESEARCH**  
**JOURNAL OF SOCIAL**  
**SCIENCE & HUMANITIES**



## **TRAINING SCIENCE TEACHERS OF SECONDARY EDUCATION: FRONTAL TEACHINGS' DESIGN**

**MARIA KALATHAKI<sup>1</sup>**

<sup>1</sup>Ph.D., Med, School Advisor for Science Teachers of Secondary Education, Regional Educational Directorates of Crete, Knossos Avenue 6, Postal Code 71306, Heraklion, Crete, Greece

---

### **Abstract**

In this paper are presented training programs on science teachings' preparation Education which implemented in Secondary Education of west Crete, Greece, during the school years 2014-2016 by the School Advisor for Science teachers. It is described the training procedure from the beginning to the end, which designed, structured and applied according to the Major Training Program for school teachers which implemented in pilot phase by the Greek Pedagogical Institute in the period 2010-1011. The design and implementation of the Science teachers' training program with projects in the west Crete developed in the following thematic areas and important research and educational objects: a. conceptual & methodological framework of the program (educational principles, from the theory to practice), b. structuring and implementation of the program (desire for participation, delivery of the training material, implementation of exemplary micro-teachings, investigation of interest for exemplary teachings-following actions, suggestion of educational activities and material in biology, announcement of a new training program), c. the content subject (theoretical foundation of the teachings, targeting the educational activities, teaching methodology & learning environments, development stages of a teaching, evaluation of teachings), d. expectations and reflections (trainees' expectations, trainees' annotations, trainees' complaints, teachings' valuation)

---

## References

- ✓ Aegean/sppe (2004) School Programs of Environmental Education, available 14.05.2005 on <http://www.Aegean.gr/sppe>
- ✓ Anderson, L.W., Krathwohl, D.R., Airasian, P.W., Cruikshank, K., Mayer, R.E., Pintrich, P., R&S, J., & Wittrock, M.C. (2001). A taxonomy of learning, teaching, and assessing: A revision of Bloom's taxonomy. New York: Longman.
- ✓ Bell J. (1997) Methodological Design of Pedagogical and Social Research, Publications Gutenberg, Athens
- ✓ CEC (2007) Improving the Quality of Teacher Education, Communication from the Commission to the Council and the European Parliament, -Commission of the European Communities Com(2007) 392, Sec(2007) 931, Brussels, 3.8.2007
- ✓ Cedefop (2009) Common European Principles for Teacher Competences and Qualifications, available 20.08.2016 on <http://www.cedefop.europa.eu/en/news-and-press/news/common-european-principles-teacher-competences-and-qualifications>
- ✓ Chatzidimou D (2011) Education, training and evaluation of teachers with micro-teaching, Training material of the Major Training Program, Greek Pedagogical Institute, Athens
- ✓ Chircop D (2015) Education policy in the Europe 2020 Strategy, Briefing November 2015, European Parliamentary Research Service (EPRS), Members' Research Service PE 572.789
- ✓ Cohen L. & Manion L. (1994). Educational Research Methodology, Metaichmio, Athens
- ✓ Delor (1996) Learning the treasure within, Report to UNESCO of the International Committee on Education for the 21st century, UNESCO publishing
- ✓ DEPPS-APS (2010) Design Steps of a teaching- Teaching Framework, available <http://www.pi-schools.gr/programs/depps/>
- ✓ EC (2000) Lisbon European Council 23 And 24 March 2000, Presidency Conclusions, available 190816 on [http://www.europarl.europa.eu/summits/lis1\\_en.htm](http://www.europarl.europa.eu/summits/lis1_en.htm)
- ✓ EC (2006) Modernizing education and training: a vital contribution to prosperity and social cohesion in Europe, 2006 joint interim report of the Council and of the Commission on progress under the 'Education & Training 2010' work programme, Official Journal of the European Union 01.04.2006, C 79/1
- ✓ EC (2009) Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), Notices from European Union Institutions and Bodies (2009/C 119/02), Official Journal of the European Union 28.5.2009
- ✓ Epstein L (1979) In the neighborhoods of Physics, Insight Press, San Francisco, translation in Greek by Publications Katoptro
- ✓ Harlen W (2013) Assessment & Inquiry-Based Science Education: Issues in Policy and Practice, Published by the Global Network of Science Academies (IAP) Science Education Programme (SEP), [www.interacademies.net/activities/projects/12250.aspx](http://www.interacademies.net/activities/projects/12250.aspx)
- ✓ Iosifidis Th. (2003) Qualitative Data Analysis in the Social Sciences, Kritiki Publications, Athens
- ✓ KEE (1998) Evaluation of Children iv Lyceum, General guidelines and methodology information, Ministry of Education, Education Research Center, Athens
- ✓ Kokkos, A. & Lionarakis A. (1999). Open and Distance Education-Relations of educators and learners, vol B, Greek Open University, Patras

- ✓ Komis B. (1999). The influence of the social environment, available on 30-11-2008 at [http://www.csd.uoc.gr/~hy402/lectures\\_transp/theories\\_mathishs\\_kai\\_ypologistes2/tsld023.htm](http://www.csd.uoc.gr/~hy402/lectures_transp/theories_mathishs_kai_ypologistes2/tsld023.htm)
- ✓ Matsagouras H. (2007) Teaching Strategies, 5th edition, Gutenberg, Athens
- ✓ Matsagouras, Gialouris II Kouloumparitsi A (2014) preparatory steps for the Implementation System Evaluation-Training Material for the Evaluation and Management of Primary and Secondary Education Teachers (DPR 152/2013) Educational Policy Institute, Athens, CD-ROM
- ✓ Mikropoulos A. (2011). The Use of ICTs in Education. Basic Training Material: Volume A: General Part, Major Training Program, Greek Pedagogical Institute, Athens
- ✓ Papaioannou I (2013) Assessment in Education, Management Adequacy Certificate National Centre for Public Administration and Decentralization (EKDDA)
- ✓ PI (2007) Environmental Education, Pedagogical Institute <http://www.pi-schools.gr/drast/perivalontiki/> Website, retrieved 05/04/2007
- ✓ PI (2010) Contribution of Investigating Training Needs in Teacher Training: A Comparative Interpretation of Results, Major Program of Training, Oct 2010
- ✓ [http://www.epimorfosi.edu.gr/images/stories/e-books/ap\\_anagk/pdf/8\\_sysxetisi.pdf](http://www.epimorfosi.edu.gr/images/stories/e-books/ap_anagk/pdf/8_sysxetisi.pdf)
- ✓ available 20-08-2016 on [www.epimorfosi.edu.gr](http://www.epimorfosi.edu.gr)
- ✓ PI (2011) "Major Teacher Training Programme Reference Framework, Coordinating Council Decision Pedagogical Institute no. 13/04.07.2001, Athens, 20/8/2016 being available [www.epimorfosi.edu.gr](http://www.epimorfosi.edu.gr)
- ✓ Spanos D. (1994) Methodology of Teaching Geography lesson, ISBN 960-85495-0-7, Thessaloniki
- ✓ Stavridou E. (2011). The teaching and learning of Science-Current trends and their impact on teaching practice, in the Basic Training Material, Volume B: Special Part PE04 Natural Sciences Education Major Program, Athens
- ✓ Thathong K (2010) An integration of teaching and learning activities on environmental education in the subjects, Research in Higher Education Journal
- ✓ UNESCO (2005) Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability, United Nations Decade of Education for Sustainable Development (2005-2014), Education for Sustainable Development in Action, Technical Paper N° 2 – 2005, UNESCO Education Sector
- ✓ VanCleave J (1994) Biology for every child, 101 easy experiments that really work, John Wiley & Sons, Inc, translation in Greek by Educational Publications GA Pneumatikos, Athens
- ✓ Volmari, K., Helakorpi, S., & Frimodt, R. (2009). Competence Framework for Vet Professions, Handbook for practitioners, Finnish National Board of Education and Editors, ISBN 978-952-13-4118-2 (pdf), Vammalan Kirjapaino Oy, Sastamala
- ✓ Wolhuter C.C. (2011) Teacher Education to Meet Twenty-First Century Society, chapter in book 'Teacher Education in Modern Era, Trends and Issues' by Anastasiadis P et al, University of Crete, Pedagogical Institute
- ✓ Zachariou A (2007) Interdisciplinary in Environmental Education Projects, University notes of the Post Graduated studies Program "Environmental Education", applied by Aegean University, Rhodes, Greece.