

E-Maieutics in Post-industrial Engineering Education

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“Man cannot remake himself without suffering, for he is both the marble and the sculptor.”

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Abstract: The paper continues research about adapting engineering education to lifelong learning in a service-based society. Since the solution proposed was based on “*e-maieutics*”, the paper aims at illustrating this new concept by using doctoral studies in Computers and Information Technology as testbench. This target is approached through four sub-objectives: a) Investigating heutagogy and meta-learning as main implementation tools. b) Exploring the role of agent-orientation in lifelong learning within the post-industrial era from three perspectives: non-engineering specialties, engineering education, and IT). c) Illustrating the first attempt to test e-maieutics in a real-world situation. d) Suggesting (by serendipity) the need of easing paradigm shifts by instilling into syllabi elements of transdisciplinary knowledge. After reassessing conclusions of recent research the paper proposes a flexible holistic approach based on heutagogy and meta-learning (for learners) and on simulating e-maieutics through doctoral advisors (for teachers). On this groundwork, some heutagogic guidelines are outlined considering the threefold role of agents, the paradigmatic shifts made urgent by the unprecedented speed of change (due to Moore’s law) as well as some metascience basics and elements of transdisciplinary knowledge, necessary to explore and exploit the transdisciplinary niches entailed by modern post-industrial engineering education. Conclusion: approach and provisional results are promising.

Keywords: E-Maieutics; Knowledge Society (KS); Engineering Education (EE); Lifelong Learning (LL); Agent Orientation (AO).