A Pilot Project on Non-Conventional Learning

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ABSTRACT
This poster presents a pilot project on non-conventional learning strategies based on students' active participation in real-life FLOSS projects. The aim of the project is to validate the hypothesis that the peer-production model, which underlies most FLOSS projects, can enhance the learning-teaching process based on extensive and systematic collaborative practices.

Consisting of a semester-long experiment with a class of 23 Master Information and Technology (MSc IT) students, organized in small groups, this pilot project aims at exploiting FLOSS communities and the respective FLOSS projects as learning opportunities. This pilot project is part of a course assignment on Teaching Software Engineering in the Master in Informatics taking place during the spring semester of 2013, at the University of Minho, in Portugal. The students participate in real FLOSS projects by choosing one of the following roles: 1) requirement analyst, writing software requirements; 2) programmer, developing source code; or 3) tester, writing bug reports.

As a real-life experience conducted with students in Portugal, the project enables the systematic study of the dynamics of peer-to-peer learning and assessment of the didactic value and potential of this kind of non-standard learning experiences. Moreover, as a beneficial side effect, students have the opportunity to experience full immersion in a real FLOSS community and learn about project management and organized participation.

Categories and Subject Descriptors
K.3 [**Computers and Education**]: K.3.1 [Computer Uses in Education]: Computer-assisted instruction (CAI); K.3.2 [**Computer and Information Science Education**]: Computer science education; Information Systems Education

General Terms
Experimentation, Human Factors

Keywords
FLOSS, Software Engineering, Non-Conventional Learning, Peer-to-Peer Learning.

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REFERENCES
[1] P. Papadopoulos, I. Stamelos, and A. Meiszner. Students' Perspectives on Learning Software Engineering with Open Source Projects – Lessons Learnt after Three Years of Program Operation. In Proceedings of *International Conference on Computer Supported Education* (CSEDU 2012)*,* Porto, Portugal, April 2012, Vol.2, pp: 313-322. 2012

[2] S. Fernandes, A. Cerone, and L. S. Barbosa. A preliminary analysis of learning awareness in FLOSS projects. In Proceedings of *1sh International Symposium on Innovation and Sustainability in Education* (INSUEDU 2012)*,* Thessaloniki, Greece, October 2012, 2012 (in press).

[3] S. Fernandes, A. Cerone, and L. S. Barbosa. FLOSS Communities as Learning Networks. *In International Journal of Information and Education Technology*, Vol. 3, No. 2, April 2013, pp. 278-281, 2013.

[4] J. S. Brown and R. P. Adler. Minds on fire: open education, the long tail, and learning 2.0. *Educause Review Magazine,* Vol.43, No. 1, pp.16-32, 2008.

[5] A. Cerone and S. K. Sulayman. Using Free/Libre Open Source Software Projects as E-learning Tools. In *Pre-proceedings of the 4th International Workshop on Foundations and Techniques for Open Source Software Certification* (OpenCert 2010)*,* pp. 154, 2010

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