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PBL 3.0 for problem based learning, semantics & learning analytics

Christian M. Stracke, OUNL

14-17 June 2016, Budapest



www.pbl3-project.eu

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Dr. Christian M. Stracke: Open Learning & Education, Innovations, Policies, Quality & Competences, Impact

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INTEGRATING LEARNING ANALYTICS AND SEMANTICS IN PROBLEM BASED LEARNING

Erasmus+ Forward-Looking Cooperation Projects

Call: EACEA/33/2014

Project Number: 562236-EPP-1-2015-1-EL-EPPKA3-PI-FORWARD

01/01/2016-31/12/2018 (3 years)



Co-funded by the
Erasmus+ Programme
of the European Union

PROJECT TEAM

- University of Macedonia, Greece - Coordinating partner
- Open University of the Netherlands
- Aalborg University Copenhagen, Denmark
- University of Alcalá, Spain
- BOC Asset Management GmbH, Austria

MOTIVATION

- The current ever-changing world requires competent workforce with skills to quickly adapt to rapid changes
- The Problem Based Learning (PBL) strategy addresses this challenge. However, PBL in its present mode exploit innovative ways to unleash new capabilities.
- On the other hand, innovative approaches, like Learning Analytics (LA), can be confusing and overwhelming since they are still under-explored and lack structure.

OVERALL AIM

- Enhance **Problem Based Learning (PBL)** with **Learning Analytics (LA)** and **Learning Semantics (LS)** in order to produce a new educational paradigm and pilot it to produce relevant policy recommendations

PROJECT GOALS

Construct a new educational approach that combines PBL with LA respecting legal and ethical considerations (termed PBL_LA). This approach will take into consideration the whole LA lifecycle:

- design a **semantic model** for PBL_LA for the annotation of learning resources
- adapt **open source tools** to support PBL_LA and develop an intuitive semantic annotation tool
- create relevant, **semantically annotated educational materials** and perform **trials** to draw evidence-based conclusions
- produce relevant **policy recommendations** that can raise the quality in education and training
- create an **organic ecosystem** of organizations, researchers, learners, etc. with an interest in PBL_LA

LEARNING ANALYTICS IN PBL

- **Data gathering** by identifying educational data that is generated in **each and all steps of PBL**
- Information processing by analyzing processes and techniques that transform **educational data to meaningful, multi-modal information**
- Knowledge application by identifying all **intervention mechanisms** that could be put into practice based on all LA feedback during **course design** and **course execution**

LEARNING SEMANTICS IN PBL

- Design a **semantic model** for PBL_LA which will indicate all the necessary elements (e.g. learning objectives, learning topic, skills, learning outcomes, type of materials etc)
- A **semantic annotation tool** based on this model in order to enable learning resources annotation by all learning content providers
- Foster content **discoverability** and **linkage** of learning resources with the **Web of Data**

PROJECT APPROACH

- A new paradigm that will bring about PBL3.0 and will merge PBL with Web 3.0
- Test all the innovative solutions identified and designed in various educational and training settings and derive valuable conclusions on their validity and ability to be mainstreamed
- Propose new innovative pedagogical and technological approaches that will tackle existing issues in education and training and raise their quality

PROJECT IMPACT

- Educators and trainers will be able to use novel pedagogical approaches
- Learners will be equipped with competitive skills
- Learning resources will be semantically annotated and opened for re-use
- Policy actions will be available for adoption by universities and organizations that carry out trainings
- A culture of collaboration will be developed to foster innovation in the new PBL3.0 paradigm

CONTACT

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Thank you! Questions?

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