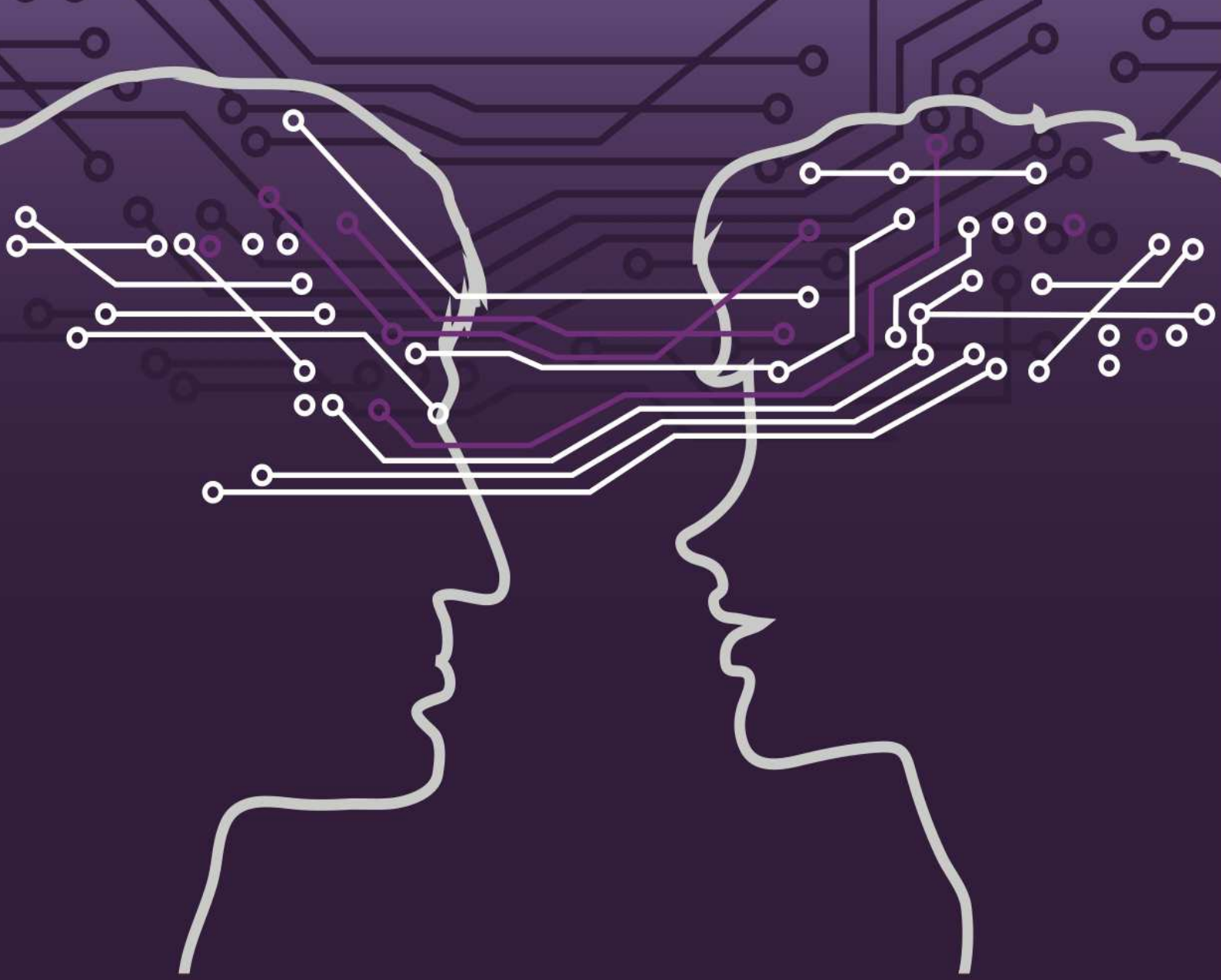

Proceedings of the 3rd Workshop on Awareness and Reflection in Technology-Enhanced Learning

In conjunction with the 8th European Conference on Technology-Enhanced Learning: Scaling up learning for sustained impact

Paphos, Cyprus, September 17, 2013

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Awareness and Reflection in Technology Enhanced Learning

Awareness and reflection are viewed differently across the disciplines informing Technology-Enhanced Learning (CSCW, psychology, educational sciences, computer science...). The ARTEL workshop series brings together researchers and professionals from different backgrounds to provide a forum for discussing the multi-faceted area of awareness and reflection.

The theme of the 2013 workshop was:

> How can awareness and reflection *support learning in different settings* (work, education, continuing professional development, lifelong learning, etc.). What are the *roles that technology can play to support awareness and reflection* in these contexts?

This theme was covered in several topics of the workshop. The main interests were about the theoretical discussion of awareness and reflection in TEL and related concepts (e.g., collaborative learning, creativity techniques, experiential learning, etc.). The methodologies to identify, study and analyse awareness and reflection in the context of (technology-enhanced) learning. Besides theory and methodology the workshop informed about empirical studies about technology support for awareness and reflection. A special aim was to showcase technology (design, application, evaluation) supporting awareness and reflection. Here, the central question was how awareness and reflection technologies can help to enhance the learning experience, by researching learner's awareness of social context, knowledge, artefacts and processes, and awareness and reflection in specific contexts, such as higher education, work-integrated learning, learning networks, etc.

The workshop included a paper session, demo and prototype slam as well as interactive sessions. The workshop provided a forum for presenting and discussing research on awareness and reflection in TEL, and created an interactive experience that connects participants' research, current tools or latest prototypes and models with real end users' learning experiences and requirements regarding reflection technology. Researchers and practitioners came together to work on the future agenda of ARTEL research and development (see the topic map below).

Papers and Demos on Awareness and Reflection

The workshop received 11 papers from which eight submissions were selected for the workshop after the review process. The submissions included in the proceedings are as follows:

The paper "Linking Reflective Learning and Knowledge Maturing in Organizations" by Krogstie, Schmidt, Kunzmann, Krogstie, and Mora links knowledge maturing and reflective learning in order to better understand support actions for reflection in the workplace. Guided by three propositions they illustrate the application of their theoretical framework with two empirical studies in the area of care homes. Based on this, they outline implica-

tions for the design of reflection tools.

Ullmann, Wild, and Scott present in their paper "Reflection - quantifying a rare good" an approach to determine how rare occurrence of reflections in writings are. Based on forum posts of online courses, a crowdsourcing approach was chosen to annotate sentences regarding several elements of reflections. These there then analysed to describe their frequency in texts. With this approach the intuition that reflections are rare in writings received empirical support.

The paper "Support for Collaborative Reflection in Healthcare: Comparing two Workplaces" by Prilla and Degeling describes the Talk Reflection App as socio-technical support for collaborative reflection. The paper makes the case for collaborative reflection and distinguishes between individual reflection and collaborative reflection (CR). Moreover, the authors present the evaluation of the Talk Reflection app in two medical cases and outline strengths and shortcomings of their approach.

Krogstie, Krogstie, and Prilla paper on "Modeling computer-supported reflective learning: Combining a high-level timeline view with reflection cycles and tool use" describes the current state of the Computer Supported Reflective Learning (CSRL) model developed in the MIRROR FP7 project. They introduce patterns to describe the reflective process. The evaluation of the model informs the refinements of the model, its notation, as well as usage instructions.

The paper of Charleer, Klerkx, Santos, and Duval "Improving awareness and reflection through collaborative, interactive visualizations of badges" describes the "Navi Badgeboard", a tool used on an interactive table to get an overview of the badges people have received during their learning. The tool aims at generating awareness of the goals and tasks required for a successful completion of a course.

The paper "Feeler: feel good and learn better. A tool for promoting reflection about learning and well-being" by Durall and Toikkanen describes a combination of visualisation of learning performance in relation to individual well being to achieve a better learning progress. Their goal is to develop a tool, which spans approaches of the the quantified self community and of the field of learning analytics aiming at technological support for individual and collective reflection-after-action processes.

"SpirOnto: Semantically Enhanced Patient Records for Reflective Learning on Spiritual Care in Palliative Care" by Kunzmann, Roser, Schmidt, and Stiehl describes an approach in creating, using, and extending an ontology to support (reflective) learning on spiritual care. Their idea is to enrich documentation of interaction with patients on e.g. palliative wards with concepts from an ontology including elements of spiritual care for different cultural and other backgrounds in order to help workers improve their caring skills.

"REFLECT: Community-Driven Scaffolding for Voice-enabled Reflection on the Go" by Schmidt, Kunzmann, Attwell, Chan, Heinemann-Grüder, Hughes, Lan, Vratny, and Heberle describes a mobile app called REFLECT, which aims at supporting GPs (General Practitioners) in their day-to-day reflection via voice-based questions.

Future Challenges of Awareness and Reflection

A central element of the workshop was to collaborate and to discuss the future challenges of awareness and reflection research for technology-enhanced learning. The outcome of this discussion is captured in the following mind map.

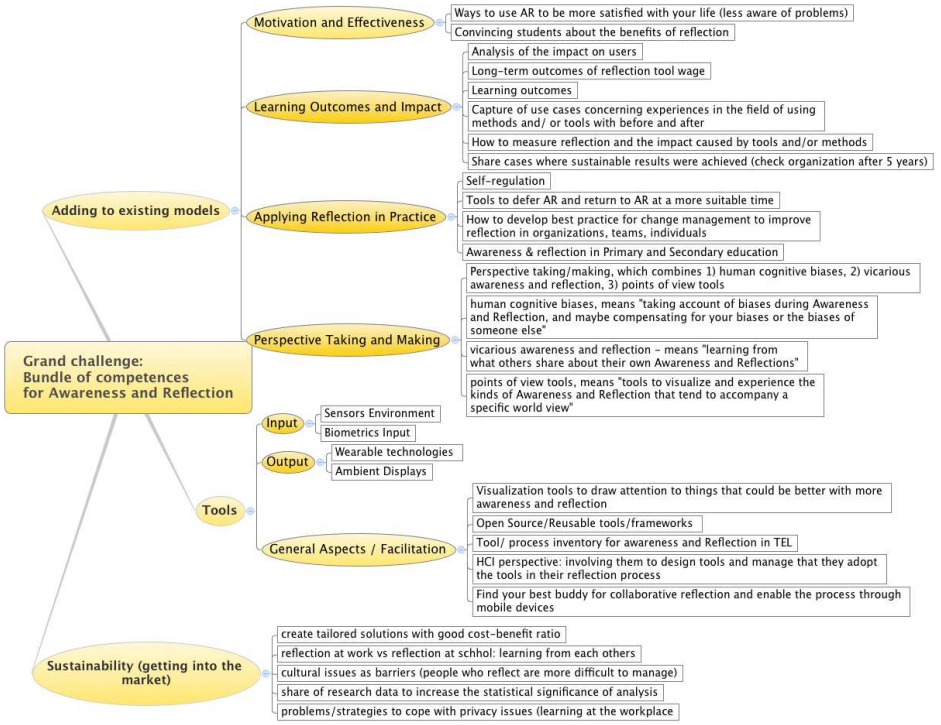

Figure 1: Future challenges of awareness and reflection

A version, which can be commented, can be found here: Future Challenge Map of Awareness and Reflection in Technology-Enhanced Learning.

Awareness and Reflection Workshop Series

The official workshop webpage can be found at `http://teleurope.eu/artel13`

The 3rd Workshop on Awareness and Reflection in Technology-Enhanced Learning (ARTEL 2013) is part of a successful series of previous workshops.

- 2nd Workshop on Awareness and Reflection in Technology-Enhanced Learning (AR-

TEL12). Workshop homepage: `http://www.teleurope.eu/artel12`. Proceedings: `http://ceur-ws.org/Vol-931/`.

- 1st European Workshop on Awareness and Reflection in Learning Networks (ARNets11). Workshop homepage: `http://teleurope.eu/arnets11`. Proceedings: `http://ceur-ws.org/Vol-790/`
- Augmenting the Learning Experience with Collaboratice Reflection (ALECR11). Workshop homepage: `http://www.i-maginary.it/ectel2011/index.html`
- 1st Workshop on Awareness and Reflection in Personal Learning Environments (ARPLE11). Workshop homepage: `http://teleurope.eu/arple11`. Proceedings: `http://journal.webscience.org/view/events/The_PLE_Conference_2011/paper.html#group_Proceedings_of_the_1st_Workshop_on_Awareness_and_Reflection_in_Personal_Learning_Environments`

As with the last year's workshops, Twitter was used as a back channel before, during and after the workshop. The vivid Twitter conversation around the hashtag #artel13 is summarised in the following wordcloud.

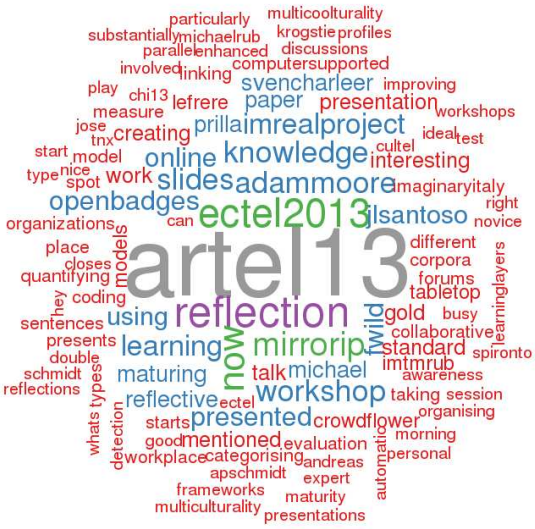

Figure 2: Twitter wordcloud of the ARTEL13 workshop

To stay updated about future events, to share your research, or simple to participate with other researchers, consider joining the Awareness and Reflection in Technology-Enhanced

Learning group.
`http://teleurope.eu/artel`

We want to use this opportunity to thank the authors for their contributions and the program committee for their support and reviewing activity.

November 2013

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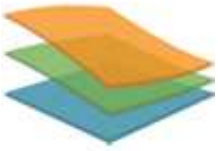
Supporting FP7 Projects

http://www.mirror-project.eu

http://www.imreal-project.eu



http://learning-layers.eu

http://www.tellme-ip.eu/

http://wespot-project.eu

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