Supporting Self-Regulated Learning in Personalised Learning Environments

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Outline

Context of Research:
- What is ROLE? What is a PLE? What is SRL?

Empirical study
- Research Question and Methodology

Presentation of three widget-based PLE scenarios:
- Scenario 1
- Scenario 2
- Scenario 3

Empirical results

Conclusion

http://www.role-project.eu/
Responsive Open Learning Environments (ROLE)
• …are based on the idea of Personal Learning Environments (PLEs) by exploiting Cloud Computing Technology. Goal: Empower the learner to build their own PLE.

Personal Learning Environments (PLEs)
• …help learners to take control of and manage their own learning. A PLE enables a learner to create and maintain a user profile, which facilitates her/him to set learning goals, identify resources, and communicate as well as collaborate with people in a community of interest or practice.

Self-regulated Learning (SRL)
• …is a kind of autonomous learning and important in the context of lifelong learning. A learner is able to set individually suitable learning goals, to plan, learn and reflect his/her individual learning content, process and outcome. Videos on examples for SRL: http://www.role-project.eu/Videos

 Research Question and Methodology

Research Question:
• What are the attitudes and reasons for accepting widget-based PLE technology by students and teachers?

Evaluation:
• Three PLE scenarios were presented and provided to teachers as well as students in the same way.
• Evaluation to compare the value of the presented PLE scenarios.
• Evaluation to compare students and teachers point of views against the presented PLE scenarios including SRL aspects.
Scenario 1

- Widget-based Personalised Learning Environment (PLE)
- Combine services and tools to access to different learning resources on the web (e.g. through ROLE Widget Store)
- Learners are enabled to control, manage and compose their own learning environment
Scenario 1

iGoogle Widget Space
filled with ROLE widgets

ROLE Widget Store
http://www.role-widgetstore.eu/

Scenario 2

Presentation of three widget-based PLE concepts:
Scenario 2

- Same widgets like in scenario 1 but its use is not limited to a widget space. A flexible integration of widgets is possible, e.g. in browser-sidebar or desktop-sidebar.

Example:

Widget integrated in Browser-Sidebar

"I like to have the vocabulary trainer directly in my browser-sidebar"

Scenario 2

- Same widgets like in scenario 1 but its use is not limited to a widget space. A flexible integration of widgets is possible, e.g. in browser-sidebar or desktop-sidebar.

Example:

Widget as Desktop application
Presentation of three widget-based PLE concepts:

Scenario 3

Educational Approach

Self-Regulated Learning Process Modell (SRL-PM)
- Modelling and supporting self-regulated learning

Motivation

Meta-cognition and awareness
- learner profile information is defined and revised
- learner works on selected learning resources
- ideal learner can control the own learning process

Guidance and freedom
- learner finds and selects learning resources
- typical learners needs support and guidance

Collaboration
- learner reflects and reacts on strategies, achievements, and usefulness

Personalisation
- plan
- reflect
- learn
Mashup Recommender (MR) Widget

SRL Template

Suggested Widgets

Empirie

Evaluation Results of the three Scenarios
Evaluation: Questionnaire

- short questionnaire in the end of testing and discussing the three scenarios
- two questions for each scenario in form of a six-point-Likert-scale:

The widget-based learning environment in scenario X (1,2,3) will:

- worsen
- burden the personal learning process
- improve
- ease the personal learning process

Empirical Results: Teacher Workshop

- 8 participants at the Aha-Conference 2012 in Vienna
- Origin: from Austria and Germany
- Gender: 4 male and 4 female
- Age: 27-55 years (Mean=40.43)
Empirical Results: Students Workshop

- Master students participating the course „Didactical Design“ 2012 at the University of Vienna
- Gender: 11 male and 11 female
- Age: 23-48 years (Mean=28.50)
- 19 students anwered the questionnaire

Results: Students’ Comments on Scenario 1

- “For foreign language learning there are some really good widgets which can be used with less effort, e.g. the vocabulary trainer.”
- “Most iGoogle gadgets are not made for learning. iGoogle is more for just working with PC or for entertainment but not for learning per se.”
- “You need luck to find a suitable widget. You need a lot of time to test widgets.”
- “If you have several widgets the space is overloaded very soon.”
- “Scenario 1 is browser-based meaning that you always depend on access to the Internet which is bad.”
Results: Students’ Comments on Scenario 2

- “The usability is very smart because you can position the widget very discreet. The learning space is not overloaded with a lot of widgets like in scenario 1. You can select your favorite widget and position wherever it is most comfortable for you to use while learning.”

- “If you have installed the widget on one device you have it not automatically on another device as well.”

- “It is a big advantage to have both possibilities browser-based as well as desktop-based widgets. The dictionary or vocabulary trainer could also be used offline.”

Results: Comments on Scenario 3

Students’ Comments:
- Getting started with a learning task in a meaningful way.
- Keeping track of the own learning progress by following the provided learning strategy.
- Improved time management and reflection.
- “If a learner is motivated it will work and improve efficiency as well as outcome of learning. But if someone is very motivated, the recommender widget is not needed.”

Teachers’ Comments:
- Teachers will be challenged with new tasks, competences and increased efforts to create a useful PLE and MR templates
- The creation of templates was supposed to be very time-consuming
- The creation of PLEs could be motivating for students
Conclusion

- **Scenario 1**: The use of widgets within a widget space such as iGoogle was evaluated positive in its easy technical handling but negative in the challenge to efficiently support daily learning activities. Thus there is neither acceptance nor a clear rejection of scenario 1.

- **Scenario 2**: Better accepted was the use of single widgets wherever and whenever learners wants them to use (e.g. in a desktop-sidebar or browser-sidebar, online and offline) sketched in scenario 2.

- **Scenario 3**: Best accepted was the idea to support self-regulated learning (SRL) by using a four-phases activity model while learners are challenged to select widgets from a wide variety. The idea to connect different stages of SRL (Planning, Searching, Learning, Reflecting) with corresponding widgets was seen most useful and most needed.

Thank you for your Attention

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Credits: Parts of the texts and graphics have been taken from collaborative work of the ROLE consortium