



RESPONSIVE OPEN LEARNING ENVIRONEMENTS.




**Supporting Self-Regulated Learning in Personalised Learning Environments**

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<http://www.role-project.eu/>

Outline 

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## Context of Research - key terms



### 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 life long 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>

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## Research Question and Methodology

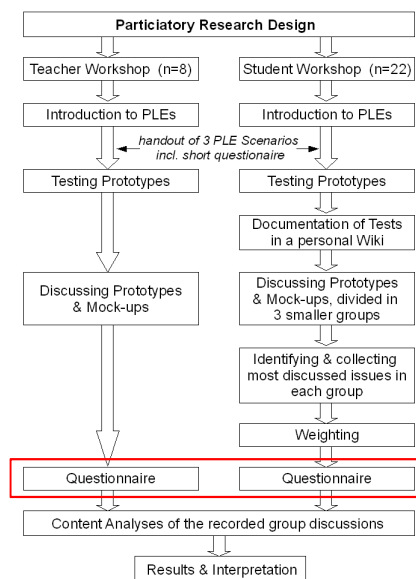


### Research Question:

- 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.



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Presentation of three widget-based PLE concepts:



# Scenario 1

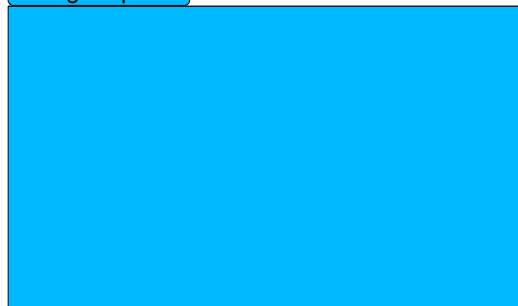
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## Scenario 1

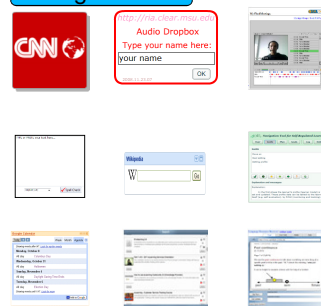


- Widget-based Personalised Learning Environment (PLE)
- Combine services and tools → access to different learning resources on the web (e.g. through ROLE Widget Store)
- Learners are enabled to control, manage and compose their own learning environment

Widget Space



Widget Store



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## Scenario 1





### ROLE Widget Store

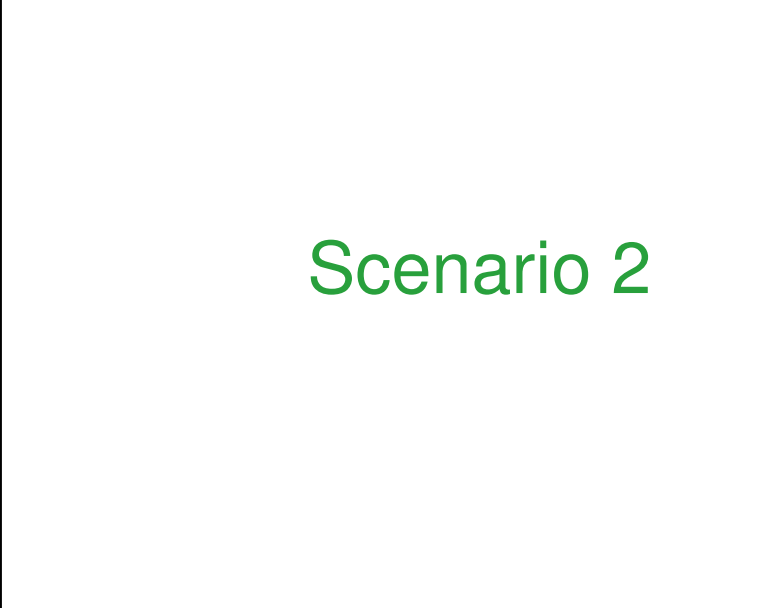
<http://www.role-widgetstore.eu/>


### iGoogle Widget Space filled with ROLE widgets



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## Presentation of three widget-based PLE concepts:





# Scenario 2

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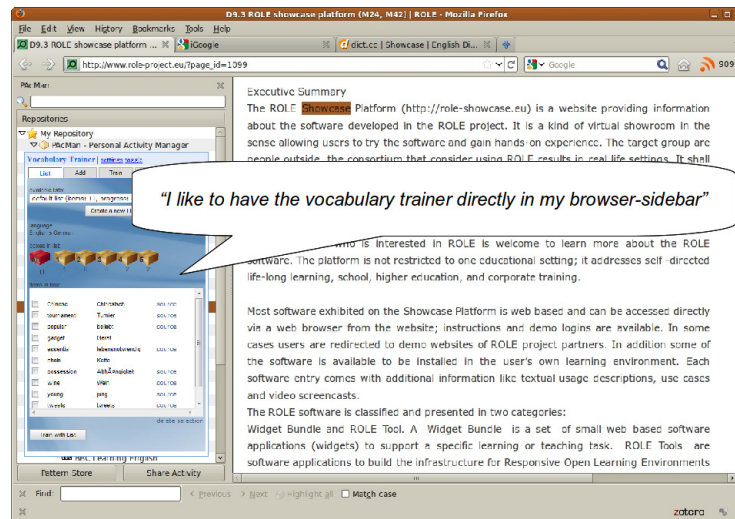
## Scenario 2



- 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

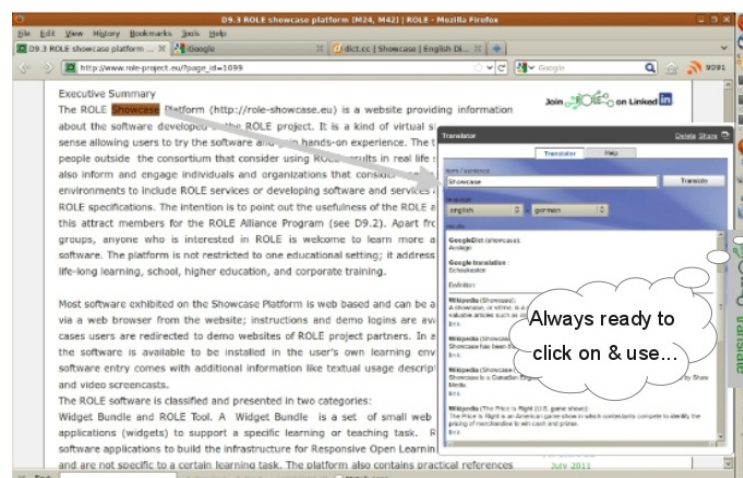


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## Scenario 2



- 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

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Presentation of three widget-based PLE concepts:



## Scenario 3

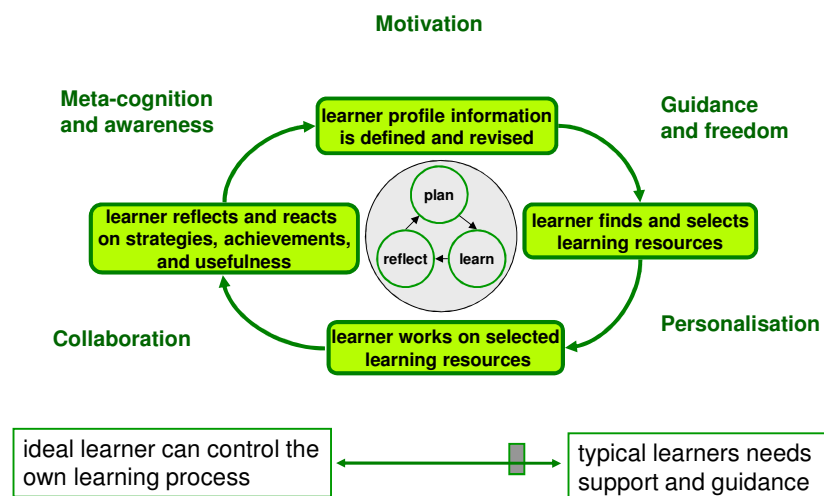
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### Educational Approach



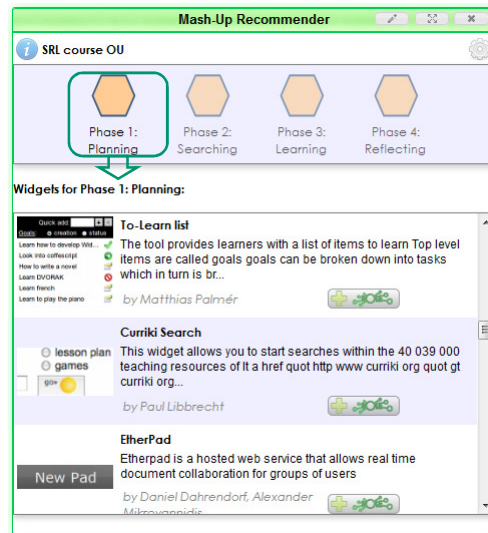
#### Self-Regulated Learning Process Modell (SRL-PM)

- Modelling and supporting self-regulated learning



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## Mashup Recommender (MR) Widget



⇔ SRL Template

⇔ Suggested Widgets

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## Empirie



# Evaluation Results of the three Scenarios

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### 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:*

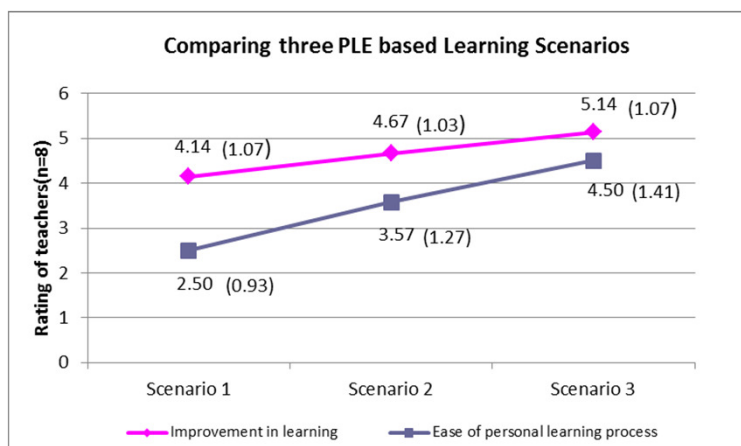
worsening the learning outcome	<input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/>	improve the learning outcome
burden the personal learning process	<input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/> ---- <input type="checkbox"/>	ease the personal learning process

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### 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)



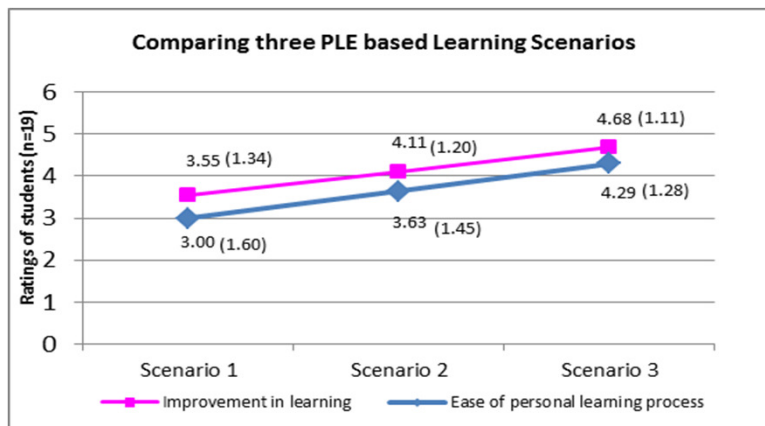
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## Empirical Results: Students Workshop



- 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 answered the questionnaire



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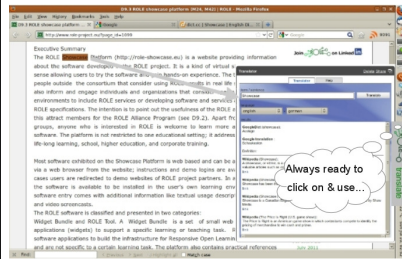
## Results: Students' Comments on Scenario 1



- “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.”

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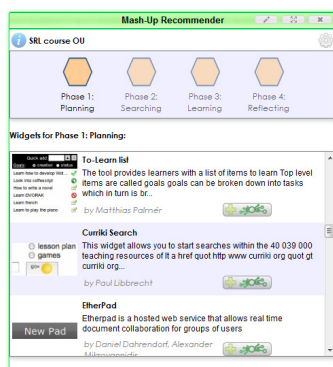
## Results: Students' Comments on Scenario 2



- “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.”

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## 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

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## 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 want 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.

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## 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



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