



Science Created by YOU

Playful peer assessment tool DIII.3

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Executive summary

This deliverable describes SCYFeedback, a tool for playful peer assessment, and the third tool that comprises the SCY Assessment tool suite. Learners use SCYFeedback to give and receive formative feedback on ELOs as they are being created during a mission. While the tool is aimed at learners, teachers may use SCYFeedback as well to give formative feedback on ELOs.

This deliverable is organised in five sections. Section one gives a general introduction to the SCY Assessment tool suite and SCYFeedback, in particular. Section two reviews the motivation for the playful peer assessment tool. Section three presents an overview of the SCY Assessment tool suite. Section four describes the SCYFeedback tool specification. Section five concludes and describes future development of the tool.

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1 Introduction

This report is the third deliverable of WPIII: Learner Centred Assessment. It describes the tool, SCYFeedback, which supports the formative assessment of ELOs developed by students during a Mission.

This report address the task:

Task III.5 Playful peer assessment

In Task III.5 we have designed and developed the first version of a tool, SCYFeedback, directed at enticing learners to ask for and provide feedback on the emerging learning objects (ELOs) being created during a Mission. Using the tool, learners (and possibly teachers) participate in formative assessment and are given the opportunity to learn from artefacts (ELOs) created by their peers. The final version of the tool¹ will be extended with agent support to inform learners when their ELO has received feedback or when others have asked for feedback.

Section 2 motivates playful peer assessment and summarises the design inspiration for SCYFeedback.

Section 3 gives an overview of the SCY assessment tool suite and relates it to the conceptual model of the SCY assessment framework presented in DIII.1.

Section 4 presents the SCYFeedback tool specification.

Section 5 concludes and points to future work.

2 Playful Peer Assessment²

Today's youth develop new media skills including cultural competencies and social skills mainly through participation in informal communities and "schools as institutions have been slow to react to the emergence of this new participatory culture" (Jenkins et al., 2006). In their 2006 report on *Confronting the Challenges of a Participatory Culture*, Jenkins et al. (2006) identify 10 new skills—Play, Performance, Simulation, Appropriation Multitasking, Distributed Cognition, Collective Intelligence, Judgment, Transmedia Navigation, Negotiation, Networking—developed through collaboration and networking. Furthermore, they point out that these new skills build on school taught skills literacy, research skills, technical skills, and critical analysis. In the work on assessment in SCY we consider how to leverage aspects of these new skills and new participatory environments in order to engage students in playful peer assessment in a designed collaborative inquiry learning environment.

¹ The final version of the tools will be described in an Annex to the deliverable, due in M44.

² This section is taken in part from Wasson & Vold (2010a), Wasson & Vold (2010b) and Vold & Wasson (2010).

2.1 Participatory Culture of Learning and Peer Assessment

In a participatory culture of *learning* students would be “expected to be actively engaged contributors to the intellectual and artistic content of their schooling rather than just passive receivers of a curriculum” (Bosco, 2009). In participatory environments, participants create, play, interact, collaborate, solve problems, and give feedback to one another while developing skills. Harnessing these new skills and ways of interacting to learn for example, physics, biology, or mathematics is a challenge for technology enhanced learning environment designers, and for those interested in *assessment* in particular. *Peer assessment* is an important component of a participatory culture of learning (Kollar & Fischer, 2010) and an important component in the design of learning environments implementing this contemporary culture of learning. Fadel, Honey, and Pasnik (2007) argue that as we have moved towards more participatory culture, such as collaborative learning and knowledge building, new methods of assessment are required.

Peer assessment can be described generally as a process whereby students evaluate, or are evaluated by, their peers (van Zundert, Sluijsmans, & van Merriënboer, 2010). Ronen and Langley (2004) point to the benefits of peer assessment when students are provided the opportunity to learn from artefacts created by their peers, and Falchikov (2003) shows how peer assessment assists students to create higher quality artefacts. As such, this type of assessment needs to be embedded within the learning process. In SCY we provide such opportunity for peer assessment of student created learning objects through SCYFeedback, a tool developed to support playful peer feedback. The tool is playful as it is both lightweight and draws on new media skills.

2.2 Observations of Peer Feedback under a SCY Field Trial³

During a March 2010 field trial of the SCY Mission “Create a CO₂ Friendly House” we observed how peers interact and give each other feedback (Vold & Wasson, 2010). The trial was arranged at Sandvika Upper Secondary School in Oslo. It ran for 20 hours, divided over 4 successive Wednesdays, 5 hours each day.

Participants

Three science classes of approximately 30 first year high school students (16-17 years old) were introduced to the SCY project and volunteers for the 4-week field trial were solicited. A selection of 20 students from the volunteers across these classes was chosen to participate. The 3 teachers divided the students in 4 person design teams, each of which chose their own name:

- BioNorway (3 girls and 1 boy)
- New energy (3 boys and 1 girl)
- Power puff (4 girls)
- PikenesJens (2 girls and 2 boys)
- ThumbsUp (2 girls and 2 boys)

Learning environment

The learning environment comprised SCY-Lab (with its resources and tools), Google search engine, Google SketchUp (for 3D drawings), PowerPoint and Word. No

³ This section is taken in part from Vold, V. & Wasson, B. (2010). Learning from user experience in the design of a playful peer feedback tool. International Workshop on the Interplay between User Experience and Software Development (I-UxSED 2010). NordiCHI 2010. Reykjavik, Iceland. ACM.

feedback tool was available in SCY-Lab; feedback was given spontaneously and orally within and between students and groups.

Data Collection

Empirical data, collected during the field trial through observations, videos, and data recordings, included: field notes, video recordings, reports, power point presentations and the collection of ELOs.

Analysis for Assessment Design

During the field trial we were interested in the following questions: Are the students active and take initiative in their own learning process? Do they look at each other's ELOs and engage in peer interaction? Do they give feedback? Do they need any support to share and give feedback on each other's ELOs?

Thus the analysis of the empirical data focused on whether the students:

- 1) shared their ELOs
- 2) asked questions or presented an argument
- 3) gave feedback to one another
- 4) took the feedback into consideration

and the implications of these for the design of a feedback tool.

Example Episode⁴

During the field trial the following interaction between Jens (Team PikenesJens) and Magnus (Team NewEnergy) was observed. Jens looked at another team's house design on their screen and asked a question. Magnus pointed at the House Design ELO (see Figure 1) on his own computer screen, and answered.

Jens (PikenesJens): *Do you have a CO₂ reason for building a round house?*

Magnus (NewEnergy): *We have chosen to design a round house with one floor. We did this to save area and by this also energy. Because the smaller square footage of exterior walls we don't need to isolate as much. We also chose to only use one floor in the house. In this manner we don't have the problem that the heat rises to the 2nd floor and we get an even heat throughout the whole house.*

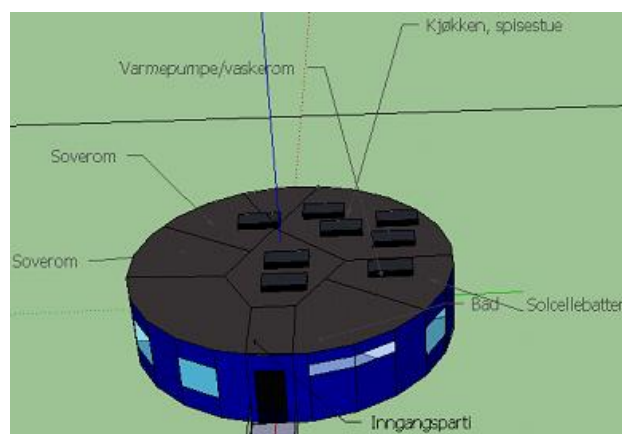


Figure 1. Team NewEnergy House Design ELO

⁴ see Vold & Wasson (2010) for others

This observed dialogue shows how a student question “Do you have a CO₂ reason for building a round house?” triggered an explanation about why Team New Energy made a circular house. The relevance of this for the design of SCY assessment is that:

- 1) This dialogue should be supported by a feedback tool
- 2) The content of the dialogue illustrates that a) Jens can ask a question (skill: formulate questions) and b) Magnus can explain and argue for their choice of design (skill: argumentation/reasoning). This dialogue is useful information for the teacher when carrying out a summative evaluation of Jens and Magnus⁵.

Observations

Observations of students during the field trial showed that:

- students were looking at each others products⁶ (ELOs) and took initiative by asking each other questions
- students naturally engaged in peer feedback dialogues (orally)
- students gleaned useful information from other students ELOs that they used to further develop their own ELOs
- students need support to communicate with each other and give each other feedback
- students showed skills in their discussions

2.3 SCYFeedback Design

The design of SCYFeedback is inspired by both literature (review in SCY DIII.1 and Section 2.1 above) and the observations (made during a the SCY Mission 1 field trial) and can be summarised as follows:

- an increasing view of learning as a participative activity (Kollar & Fischer, 2009)
- SCY’s focus on emerging learning objects which matches with research on how peer assessment introduces the students to the perspective that the focus of instruction is not only on the end product(s) but also on the process, and it highlights the value of collaboration (e.g., social interactions, trust in others; Noonan & Duncan, 2005)
- the recognition that peer assessment can motivate students to engage in the learning process (Sluijsmans, 2002).
- the recognition that many people (students included) take part in participatory worlds that offer interaction among the participants around a common interest
- research that indicates that formal instructional intervention asking students to reflect on feedback from peers does not significantly increase learning gains
- students are more willing to accept feedback given in “student-speak” (Frost and Turner, 2005)
- observations of student interaction around ELOs during a fields trial of SCY Mission 1 by conducted by partner UiO
- an interest in trying “something new, lightweight and motivating” designed to take advantage of new media skills within the field of peer assessment

⁵ This will be discussed in the final section of this report.

⁶ on each other’s screens

3 The SCY Assessment Tool Suite⁷

The SCY Assessment Tool Suite comprises three tools, SCYePortfolio, SCYAssessment and SCYFeedback. This deliverable addresses SCYFeedback, while DIII.2 addresses SCYePortfolio and SCYAssessment. The three tools are part of the SCY assessment framework, which comprises (from DIII.1):

1. SCY-Lab
2. The RoOLO repository contains all ELOs (including all versions of an ELO) that have been developed by all students during all missions.
3. The SCYFeedback tool with which a student can receive peer feedback on an individual ELO.
4. The SCYePortfolio tool that comprises several views, a working portfolio and various showcase portfolios.
5. The SCYAuthor tool for authoring the SCYePortfolio and SCYAssessment tools setup
6. SCYAssessment Tool with two views, one for teachers and one for peers.
7. *SCY-Lab* and *RoOLO* are included in the figure in order to give an understanding of the relationship of the SCY assessment components to one another and to the SCY-Lab. The SCYAuthor tool is included to complete the picture and to show how the teacher can author aspects of the SCYePortfolio and SCYAssessment setup.

In DIII.1 SCY Assessment Requirement report, a conceptual model of the SCY Assessment Framework that shows the relationship between the framework elements was presented, see figure 2.

Work on the assessment tool suite has clarified the following issues with respect to SCYFeedback:

- Formative peer assessment is actually *peer feedback* as the students give feedback on their peer's ELOs while they are being created.
- The feedback question will be asked in SCY-Lab, directly in a left drawer on the ELO on which the student is currently working.
- For the first version, one can only ask 1 question per ELO⁸.
- The student gives and receives feedback in the SCYFeedback tool.
- There is no reason that the teacher cannot participate in giving formative feedback using SCYFeedback while the Mission is going on.

⁷ The first half of this section is duplicated from DIII.2 in order that each document is complete.

⁸ This is due to the way in which versioning is done in the RoOLO and we will be looking further into this issue together with the technical team.

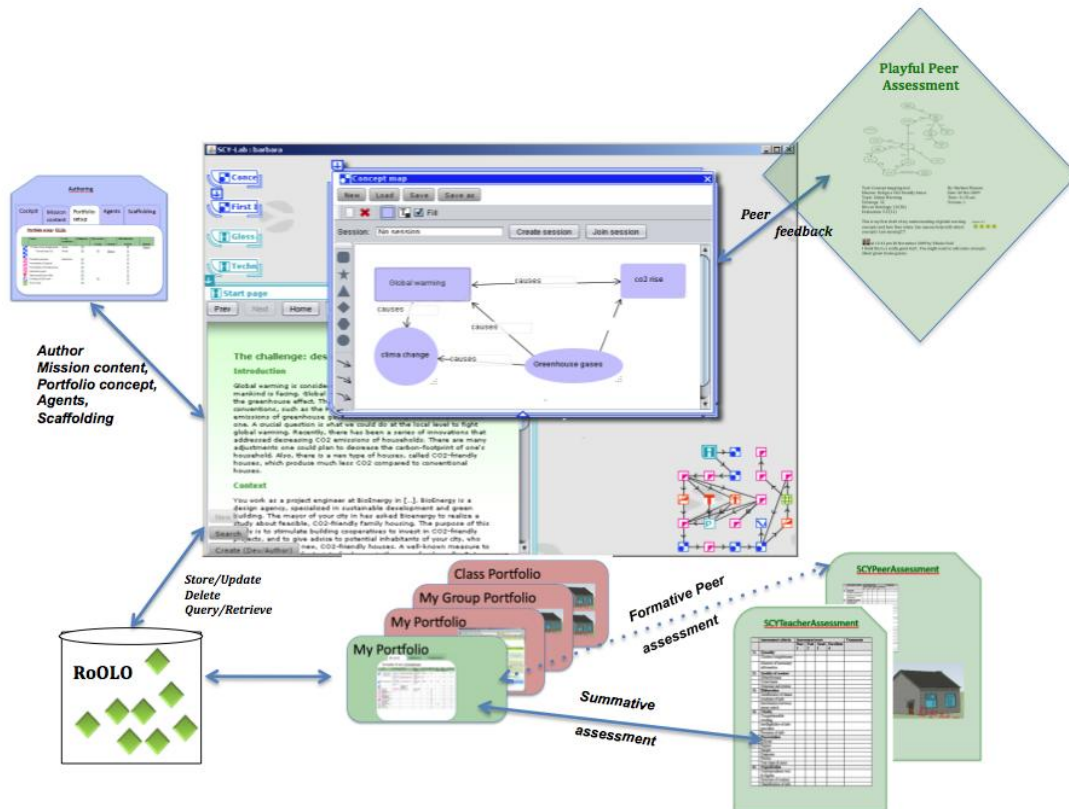


Figure 2. The Conceptual Model of SCY Assessment Framework (from DIII.1)

3.1 Workflow between SCY-Lab and SCYFeedback

There is a tight connection between SCY-Lab and SCYFeedback, as shown in figure 3 and explained here. The figure shows both a student SCY-Lab and SCY-portal⁹ view. The workflow is as follows:

1. Upon login to the SCYPortal the student is informed if either 1) one of their ELOs has received feedback, or 2) new ELOs have been posted to the ELO Gallery for feedback. The student opens SCYFeedback, which communicates with the RoOLO, and can either 1) see the feedback on their ELO or 2) can provide feedback on an ELO in the ELO Gallery.
2. While working in SCY-Lab the student clicks on the **ASK for Feedback** button on the ELO on which they are working. A feedback drawer is opened on the ELO, the student types in a comment or question to which they would like feedback. The ELO is saved to the RoOLO, ready to be opened in the ELO Gallery when SCYFeedback is opened.
3. An agent picks up when a student asks for feedback and gives a message to the other students either by 1) a SCY-Lab prompt such as highlight around the SCYFeedback icon, or 2) as a message in the SCY-portal which is seen when the students log on.

⁹ SCYFeedback is a web-based tool that is included in the SCY-portal.

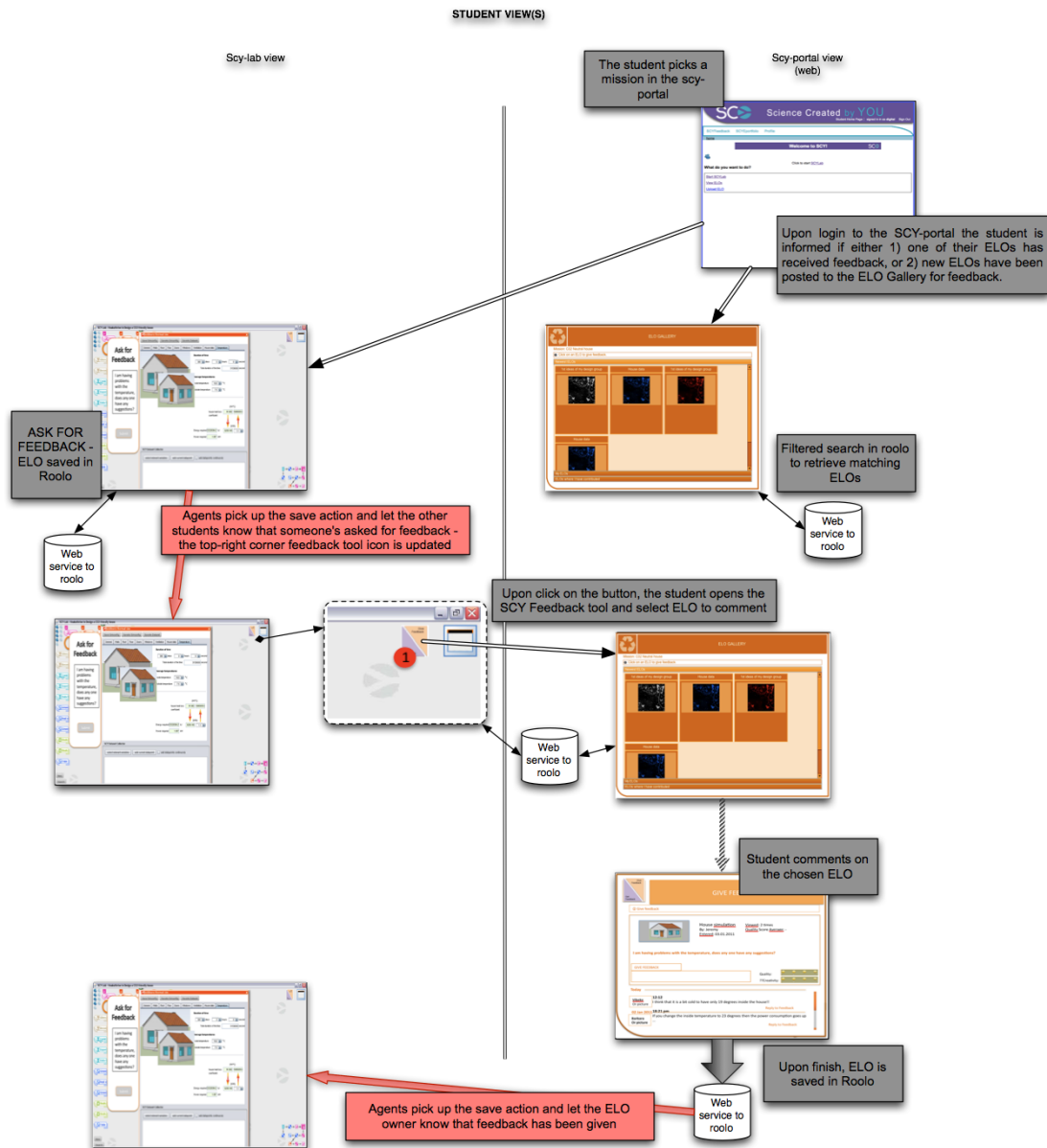


Figure 3. Workflow between SCY-Lab and SCYFeedback

4. A student working in SCY-Lab sees that there are ELOs on which to provide feedback (highlighted around SCYFeedback icon) and accesses the SCYFeedback tool by clicking on the SCYFeedback icon in SCY-Lab. SCYFeedback communicates with the RoOLO so that the tool opens to an updated ELO Gallery from which the student can choose an ELO on which to provide feedback.

5. A student chooses an ELO from the ELO Gallery on which to provide feedback, a feedback window opens. Once the feedback is entered the ELO is saved to the RoOLO.

6. An agent picks up when an ELO receives feedback and gives a message to owner either by 1) a SCY-Lab prompt such as highlight around the SCYFeedback icon, or 2) as a message in the SCYPortal which is seen the next time the student logs on.

3.2 The design and development process

The design of the SCYFeedback tool has been an iterative process¹⁰. The result of the first design meeting the following conclusions were made:

- Simplicity of functionality is to be preferred
- Seamless integration with SCY-Lab should be the goal
- SCY-fi – integration of the SCY layout is a requirement from the SCY project

Intense design meetings produced low fidelity prototypes that formed the basis for a first prototype. This was followed by rapid prototyping that included walkthroughs and discussions and a field trial (at UCY in June 2010) that again lead to new versions of the prototypes; the final result of which is version 1 of the tools.

3.3 SCYFeedback technical overview

From a technical point of view, giving and receiving feedback can be seen as composed of three main elements:

- An archive or repository (a content management system or a database) of items collected (the hidden part).
- A series of views or presentations on selected elements of the archive (the visible part).
- A series of services provided to users for asking for and receiving feedback, and being informed that feedback has been given or that feedback has been asked for.

In SCY the archive or repository is the RoOLO, the views are the feedback drawer on a tool (SCY-Lab), the ELO Gallery and the Feedback pane (SCYFeedback). The services are provided by SCY-Lab, which supports the student asking for feedback, by SCYFeedback where the student gives and receives feedback, and by agents who notify when feedback is asked for and given.

SCYFeedback is developed as an Adobe Flash client served through a web back end. The client is integrated into the SCY-back end framework via web technology that handles communication to RoOLO and all the SCY main architecture modules such as action logging and tuple spaces. This way, the flash application can communicate with other SCYLab tools via the web back end that serves as a proxy between the tool and the other SCY main modules.

System communication is handled in an ajax-like way, where the flash client polls for information from the server through a set of provided http URLs from the ToolURLProvider. The ToolURLProvider is a web service that serves as a proxy between SCY services and the web based client. It connects to all SCYServices, and

¹⁰ The two partners UIB and UIO have been central in this work.

offers these to the client through a set of provided URLs. Some of these URLs provide the client with application data such as ELO contents, etc, while others are specifically designed to give short messages with necessary real time data such as notifications from other components.

4 SCYFeedback tool specification

4.1 Purpose of SCYFeedback

SCYFeedback is a playful peer assessment tool with which students can easily ask for and provide feedback on ELOs as they are being developed in a Mission. Asking for feedback on an ELO involves asking a question or giving a comment on your own, or your group's ELO, and providing feedback requires selecting an ELO from an ELO Gallery on which to give feedback. By engaging in giving and receiving feedback the student becomes an active learner who takes charge of their own learning and engages in meta-cognitive processes that enhances students' learning through knowledge diffusion and exchange of ideas.

Using the SCYFeedback tool students can:

- Ask for feedback on their own ELO
- Receive feedback on their own ELO
- Browse an ELO gallery of ELOs submitted for feedback
- Provide feedback on any ELO in the ELO gallery

While working on an ELO in SCY-Lab, a student can ask a question related to the ELO directly in the tool with which they are creating the ELO and submit it for feedback. Once the ELO has received feedback, the student receives notice and they can view the formative feedback. Similarly, students receive notice when another student has asked for feedback on an ELO. The student can then open SCYFeedback, find the ELO in the ELO Gallery, and provide feedback.

4.2 ELOs consumed and produced

The SCYFeedback tool consumes a feedback ELO, which is associated with any type of ELO that has been produced during a Mission.

ELO type	feedback ELO
technical format	text/xml
logical representation	set of annotated ELOs
functional role	storage for a collection of feedback

4.3 Activities supported in the SCYFeedback tool

With reference to deliverable *DI.1 SCY-Lab Component Specification*, the SCYFeedback tool is available under all activities.

4.4 Impression of the SCYFeedback tool

Illustrations of the SCYFeedback tool are shown in figures 4-8. Figure 4 shows the feedback drawer that opens when the student clicks on the feedback drawer hook (the third from the top in figure 4) on an ELO tool. In this drawer the student can ask a question about the ELO that they are creating.

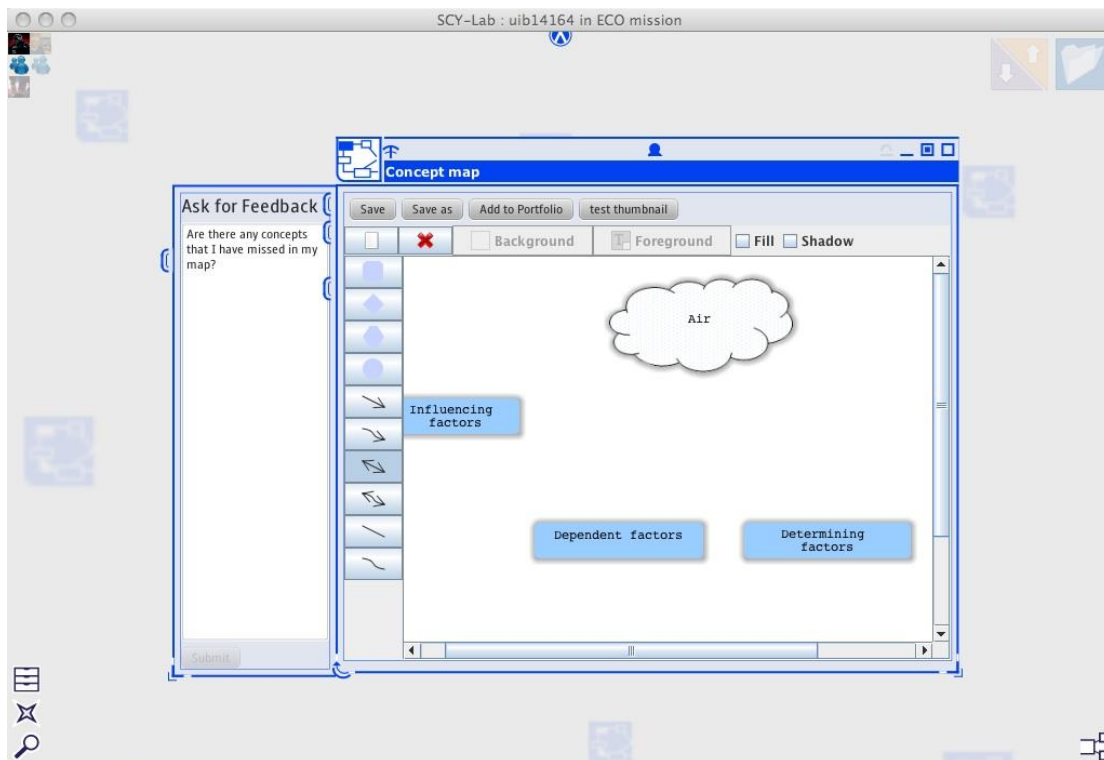


Figure 4. Asking for feedback on an ELO in SCY-Lab

Students activate the SCYFeedback tool, either from SCY-Lab (via the tool icons) or from a link in the SCY Web-portal, to either give or get feedback. The SCYFeedback tool icons, Give Feedback! and Get Feedback!, can be seen in the top right corner of SCY-Lab, see figure 4.

Figure 5 shows the first screen the student encounters when opening SCYFeedback from the Give Feedback! icon in SCY-Lab or from a link in the SCY Web-portal. The student is presented with an ELO Gallery of the most recently posted ELOs (i.e., those that are awaiting feedback). The student selects an ELO for which to give feedback by clicking on the ELO thumbnail. It is also possible to filter the ELO gallery to show only ELOs that fall within an ELO category (e.g., House data) by clicking on the ELO category name (over the ELO thumbnail).



Figure 5. First screen of the SCYFeedback tool

This first screen also gives easy navigation to an ELO Gallery of the student's own ELOs by clicking on the *MY ELOs* accordion panel, or to an ELO Gallery of the ELOs to which the student has contributed feedback by clicking on the *ELOs where I have contributed* accordion panel.

Figure 6 shows an ELO Gallery of MY ELOs, which is accessed directly (i.e., the tool is opened to this screen) either from SCY-Lab when clicking on the Get Feedback ICON or from a link in the SCY Web-portal (updating with information when one of their ELOs has received feedback). The ELOs are arranged with the latest ELO that has received feedback first. The student clicks on the ELO thumbnail to be taken to the ELO Feedback screen (see figure 8).

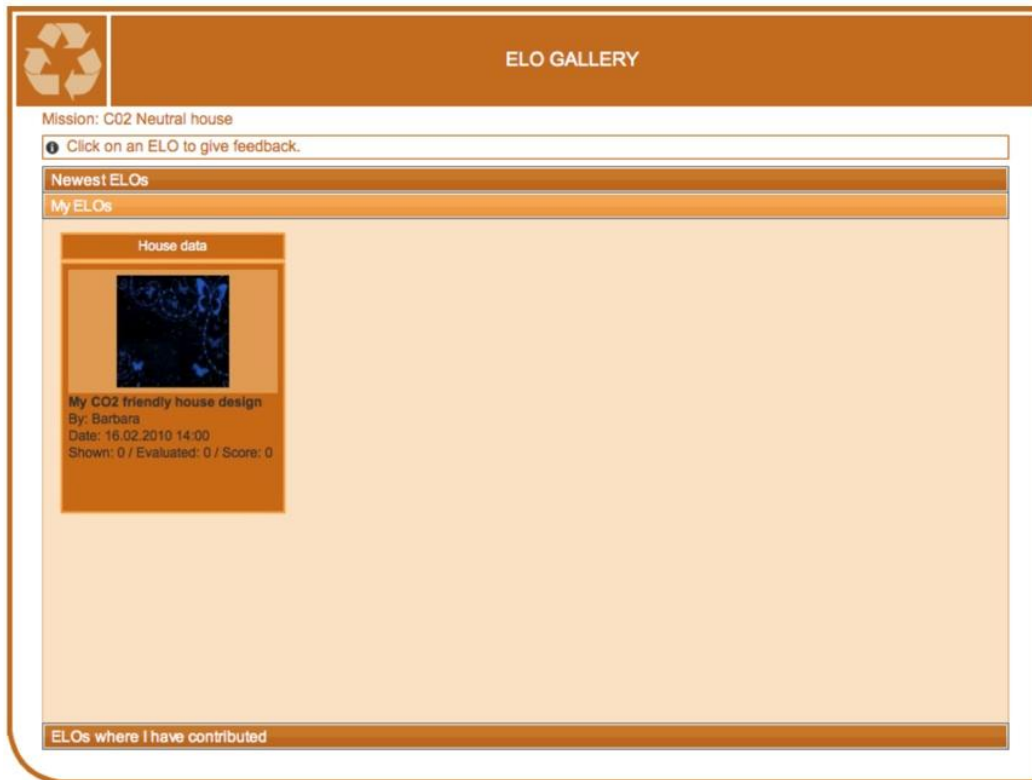


Figure 6. MY ELOs screen of the SCYFeedback tool

Figure 7 shows an ELO Gallery of ELOs to which the student has contributed feedback. Selecting an ELO, by clicking on the ELO thumbnail, takes the student to the ELO Feedback screen (see figure 8).



Figure 7. ELO Gallery of ELOs to which I have contributed

Figure 8 shows the ELO Feedback screen, where students can give or receive feedback on an ELO. Information about the ELO is visible in the top left of the screen, the comment/question on which to give feedback, a comment box and rating scale in the top right. A larger version of the ELO can be accessed by clicking on the ELO thumbnail. Once feedback is given, the GIVE FEEDBACK button is activated and the feedback can be saved.



Figure 8. Description and reflection screen for adding an ELO to the ePortfolio

Under the ELO and feedback area, the feedback threads can be seen. The feedback is identified by date, time, and author. It is also possible to reply to the feedback by clicking the Reply to this feedback link.

4.5 Level of integration

The SCYFeedback tool is a web tool that is integrated into the SCY-Lab workflow when a student either 1) clicks on the [Ask for Feedback](#) button on a tool, 2) opens the SCYFeedback tool by clicking on the Give Feedback ICON or Get Feedback ICON in SCY-Lab, or 3) opens the SCYFeedback tool by clicking on a link in the SCY Web-portal.

The SCYFeedback tool is integrated into the SCYFramework as SCY-fi level 3. For level 1, the tool produces and manipulates Feedback ELOs that are added to, and retrieved from, the RoOLO. For level 2 the tools are connected to the notification services in order to be notified when a student asks for feedback on an ELO, gives feedback on an ELO, or gets feedback on an ELO. For level 3, the tool communicates with other tools by calling URLs on the server side that again dispatch these messages

to the necessary services that connect directly to services that can communicate with tools in the SCY-Lab. The tool is not SCY-fi level 4, since it runs outside SCYLab.

4.6 Support and Scaffolding

SCYFeedback supports learning by providing a means of asking for, giving and receiving formative feedback on ELOs as they are being produced during a Mission.

4.7 Action Logging

The SCYFeedback tool stores action log information of all relevant user activities. The action log format has been created in collaboration with WPV to meet the requirements of the pedagogical agents and other analysis components.

Action	Properties
tool_start	none
elo_clicked_for_feedback	elouri
give_feedback_button_clicked	elouri
reply_to_comment_button_clicked	elouri
cancel_give_feedback_button_clicked	None
newest_elos_tab	None
myelos_tab	None
elos_contributed_tab	none

5 Conclusions and further development

This deliverable has described the first version of the SCYFeedback assessment tool. The final version of this assessment tool will be presented in an annex to DIII.3 in M44.

5.1 Design and Development Challenges

SCY partner personnel including instructional designers, researchers, programmers, and teachers have been used in the design and/or development of the tools.

The design and development proved to be challenging for several reasons. First, in SCY, assessment is both an approach and the tools, and the assessment tool development is intricately intertwined with the design of how to do the assessment in an ELO centered approach. Second, development is more than a technical development as it is dependent upon feedback both on the approach and the tool, and how they are integrated. *How to do the assessment* is more difficult than the development of the tool. While it has been determined how the formative assessment will be done, we really need field testing of the approach and the tool during the next field trials in order to see how the students use the tool.

A third challenge was the integration of the tools into SCY-Lab and the SCY workflow, which has now been accomplished.

5.2 Testing in Missions

The assessment tools have not yet been tested during a Mission, with real users, but this is scheduled to take place in the upcoming trials planned for spring 2011 (march and May/June). Feedback from these trials will feed into the development of the tools that will be updated accordingly.

In addition to usability issues with regard to tool design, ease of use, etc., during these trials we will focus on pedagogical issues such as whether the tool is used spontaneously, whether the tool fits within their work flow, if the rating scale for ELOs is fine-grained enough and whether or not the teacher joins in giving formative feedback.

5.3 Future versions

The tool delivered with this document is SCYFeedback version 1. In order to deliver solid tools it is imperative that the tools be tested and evaluated during the Mission trials, and then appropriate adjustments are made. After the necessary adjustments are made, the research questions related to assessment (as specified in SCY DIX.1) can be addressed during the subsequent trials scheduled in the fall of 2011.

Furthermore, when the integrated assessment tools are tested, then the agents that will function on the assessment tools can be fine-tuned and implemented.

6 References

- Bosco, J. (2009). Participatory Culture and Schools: Can We Get There from Here?. *Threshold*, 2009, 12-15.
- Fadel, C., Honey, M., & Pasnik, S. (May 18, 2007). Assessment in the Age of Innovation. *Education Week*. Retrieved from <http://www.edweek.org/login.html>
- Falchikov, N. (2003). Involving students in assessment. *Psychology Learning and Teaching*, 3, 102-108.
- Jenkins, H., Clinton, K., Purushotma, R., Robison, A.J. & Weigel, M. (2006). *Confronting the Challenges of Participatory Culture: Media Education of the 21st Century*. Chicago: The MacArthur Foundation.
- Kollar, I. & Fischer, F. (2010). Commentary: peer assessment as collaborative learning: a cognitive perspective. *Learning and Instruction*, 20(4), 344-348.
- Ronen, M., & Langley, D. (2004). Scaffolding complex tasks by open online submission: Emerging patterns and profiles. *Journal of Asynchronous Learning Networks*, 8, 39-61.
- Van Zundert, M., Sluijsmans, D. M. A., & Van Meeriënboer, J. J. G. (2010). Effective peer assessment processes: research findings and future directions. *Learning and Instruction*, 20(4), 270-279.
- Vold, V. & Wasson, B. (2010), Learning from user experience in the design of a playful peer feedback tool, 6th Nordic Conference on Human-Computer Interaction NordiCHI 2010: Extending Boundaries, October 16-20, Reykjavik, Island, 2010.
- Wasson, B. & Vold, V. (2010a). Leveraging New Media Skills for Peer Feedback in Collaborative Inquiry Learning. Proceedings of the First Nordic Symposium on Technology Enhanced Learning (NordTEL). August, Linnaeus University. Sweden.
- Wasson, B. & Vold, V. (2010b). Empowering users with a lightweight Peer Feedback Tool, In workshop on Technology-Enhanced Formative Assessment (TEFA) at Fifth European Conference on Technology Enhanced Learning Sustaining TEL (EC-TEL), 28 September, Barcelona , Spain.