Grant Agreement Number 612367

Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments

D6.5 Information Platform

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1. Executive Summary

As the technology has been introduced in the classrooms, various systems have been used by the educators to help them organize, communicate or share materials. One of these systems are *Online Learning Platforms* or *Information Platforms*, which are user-generated environments for communicating and sharing information. In many schools, these technologies are integrated into existing online systems that allow teachers, students, and parents to access learning resources, communicate and collaborate with each other, and enable schools to monitor, assess and report on learner progress (Jewitt et al., 2010, p.4).

Information platforms are safe and secure environments that are reliable, available online and accessible to a wide group of users. Information platforms are commonly used for various purposes to accommodate the needs of users. These purposes include content management, curriculum planning, learner engagement, communication, and collaboration. Some information platforms, such as Moodle, provide almost all of these functions in their environments, whereas others may be used extensively for one main purpose, such as Dropbox, which is only used to share materials. In many cases, users prefer to use more than one kind of platform considering different functionalities and affordances of the platforms.

The purpose of Deliverable 6.5, Information Platform, is to report how a variety of information platforms or environments are being used related to the goals, strategies, and methods used in the project. To this end, D6.5 demonstrates how some examples of information platforms have been adopted by project partners. The partners reported which information platforms they had decided to use while working with their local teams in the first 18 months of the project. Information platforms had been selected because of their functionality. For instance, some of the information platforms, e.g., Dropbox, Copy, Optima had been selected because they provide environment to share materials. Some others, such as Edmodo, was selected to communicate information to others. Some platforms like Skype, and Openmeetings were just selected to for the purpose of communicating with each other. The last but not least, learning management system such as Moodle were adopted to organize the learning environment, share materials, and communicate with each other.

Specifically, the teams reported the information platforms they have been using as follows: Dutch team has been only using Dropbox; Portuguese team has been using Moodle, Dropbox, and Facebook; Turkish and Italian teams decided to use Edmodo, Facebook, Dropbox, and Whatsapp; Israeli team has been using Facebook; German team has been using Dropbox and Copy; Greek team has been using Dropbox, Edmodo, Openmeetings, and Skype; Romanian team has been using Redmine.

The most popular platform was Dropbox because of the functionality of sharing documents and materials freely. Some of the partners also preferred other information platforms for communication such as Skype, Openmeetings, and for organization, such as Moodle, Edmodo, and finally for sharing materials such as Copy, Optima, and Redmine.

2. Information Platforms in Education

Information Platforms or *Online Learning Platforms* are user-generated environments used for communicating information and sharing materials. They allow teachers, students, and parents to access resources, communicate and collaborate with each other, and administrators to monitor, assess, and report on students' progress (Jewitt et al., 2010, p.4).

Considering the needs of new generation, or digital natives (Prensky, 2001), recently, information platforms have started to be used in education in various content and different levels (Bosch, 2009; Churcher et al., 2014; Dunn, 2013). To this end, selecting the most appropriate Information Platform becomes an important task for the educators. Burns (2014) groups the Information Platforms into four groups with respect to their functionality. The first option is Learning Management Systems (LMS), such as Moodle, which function as an online classroom where instructors can hold discussions, upload readings, show videos and play audio, carry out learning activities, make announcements, and assess and grade student work. The second option is Online Meeting/Conferencing Applications, such as Openmeetings, which are mainly used for communication and lecturing. Finally, the last option is Two-Way Audio, such as Skype, which are mostly used for one-to-one interaction, coaching and tutoring. In the project, partners decided to use Information Platforms from all these options.

Besides being a popular social networking site (Dunn, 2013), Facebook has also been used as an information platform providing the functions of checking logistics (e.g. class venue, time) or sharing materials such as assignments, project documents, lecture notes, (Bosch, 2009). In a study by Rap and Blonder (2013), the authors examined under which conditions and how Facebook groups can be used for learning chemistry in high school classes. They reported that the interactions occurred throughout Facebook were mainly on learning management (e.g., uploading content, managing information etc.) and in the social context (e.g., encouragement).

2.1. Use of Information Platform in the Project

Partners of Irresistible, decided to use *Information Platform* for various interactions, especially for the interactions among the community of learners. The countries that have already started to work with their community of learners have set up pages or groups for the intended information platforms. Table 1, given below, summarizes the information platforms and tools have been used and will be used by the partners.

Table 1. The list of Information Platforms have used by the partners.

	RUG	WIS	IPN-DM	BU	IEUL	UOC-EU	JYU-UH	VUT	JU	UNIPA-UNIBO
Dropbox	✓		✓	✓	✓	✓	✓			✓
EdModo				✓		✓				✓
Moodle					✓					
Copy			✓							
Openmeetings						✓				
Redmine								✓		
Skype						✓				

As seen in Table 1, the most common information platform is the Dropbox which allows mutual sharing of the documents. In addition, partners preferred other information platforms for communication, such as Skype, Openmeetings, and for organization and sharing, such as Moodle, Copy, and Redmine.

2.1.1. Dropbox

Dropbox is the other information platform used by some of the partners. Most of the teams have been using Dropbox to share documents, materials and resources by the members of CoL Teams of Netherlands, Germany, Turkey, Israel, Italy, and Poland are some of the partners who have been using Dropbox for sharing. Some specific information regarding the partners countries are as follows:

a. The Netherlands
The team in the Netherlands only uses Dropbox for sharing information (presentation, photo's, papers, other reading materials, etc.) and to upload the materials that the team has created. There are 14 participants who are involved in their common Dropbox folder. Figure 1 shows the screen shot of the Dropbox used by the team of the Netherlands
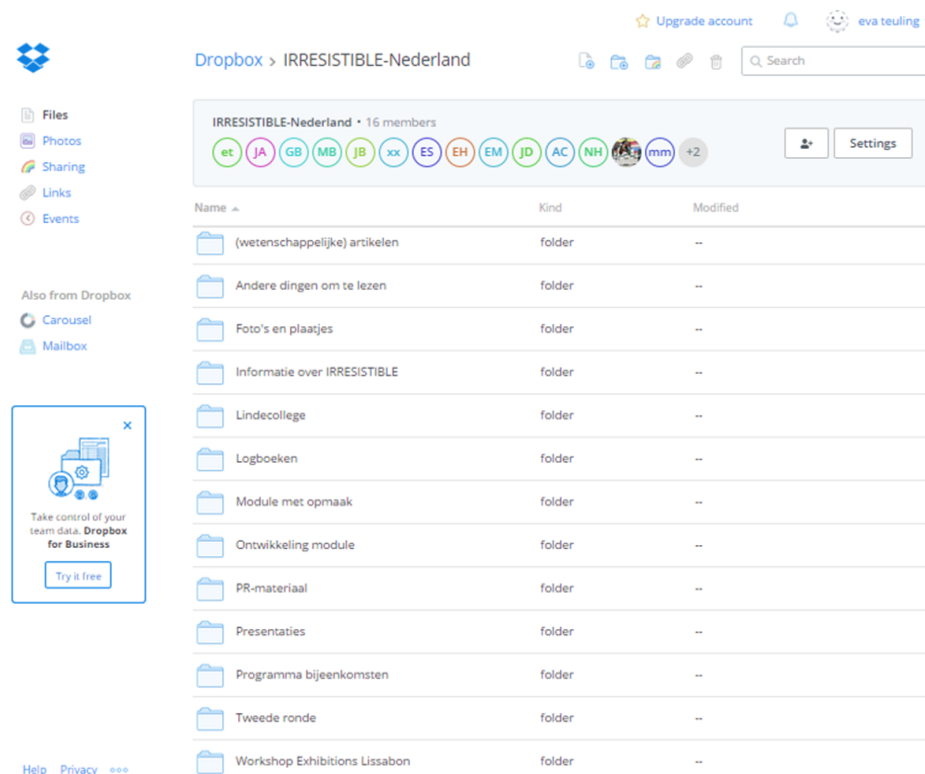

Figure 1. A sample page from the Dropbox page of RUG team.

b. Turkey
Turkish team also uses Dropbox to share materials and pictures amongst twelve members of the Community of Learners. Figure 2 shows a screen shot from the Dropbox folder of Turkish team.
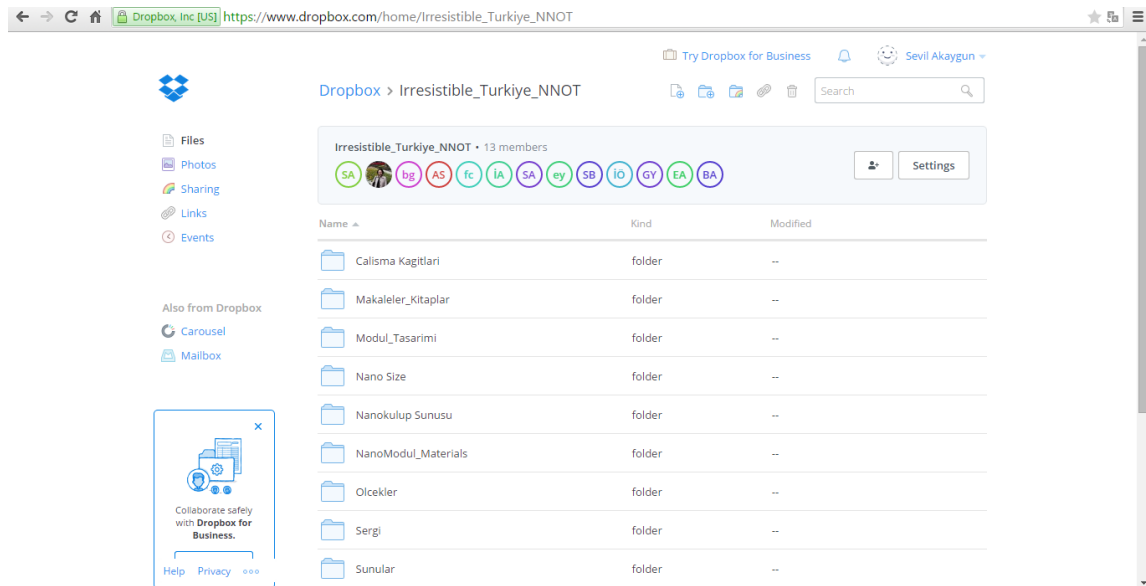
Figure 2. A sample page from the Dropbox page of Turkish team.

c. Portugal

Portuguese team has been using Dropbox since the beginning of the project, and it involves the 7 members of the CoL. It has the main purpose of sharing materials. Figure 3 shows a screen shot of the Dropbox folder used by the Portuguese team.
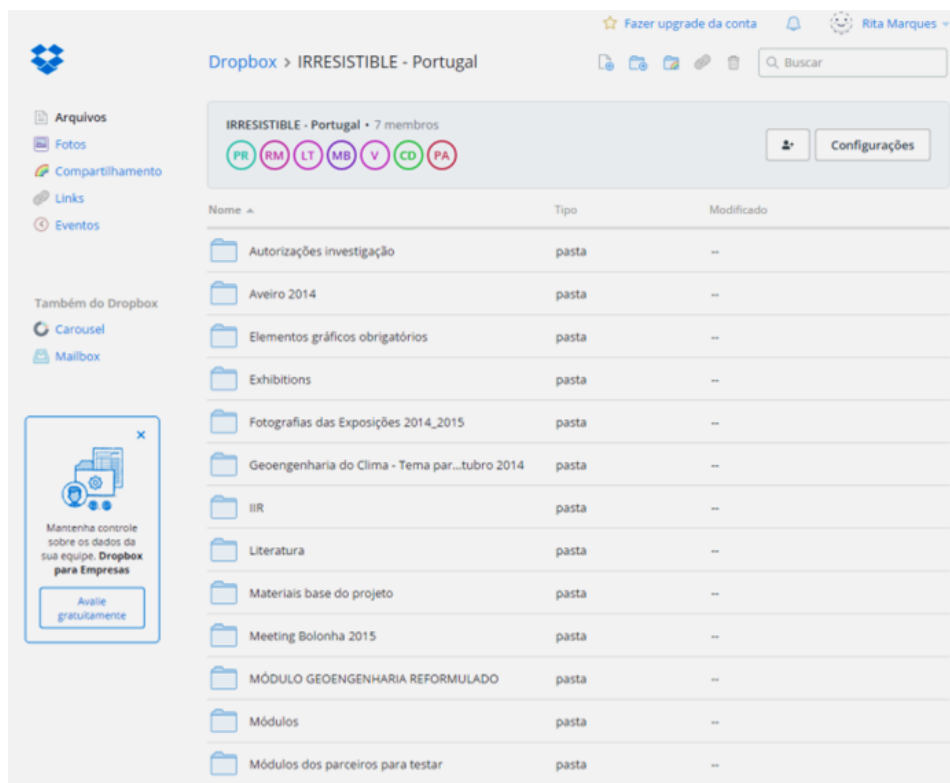

Figure 3. A sample page from the Dropbox page of Portuguese team.

d. Greece

Greece is another country who uses Dropbox to share materials with a group of 14 CoL members. Figure 4 shows a sample page from the Dropbox page of Greek team.
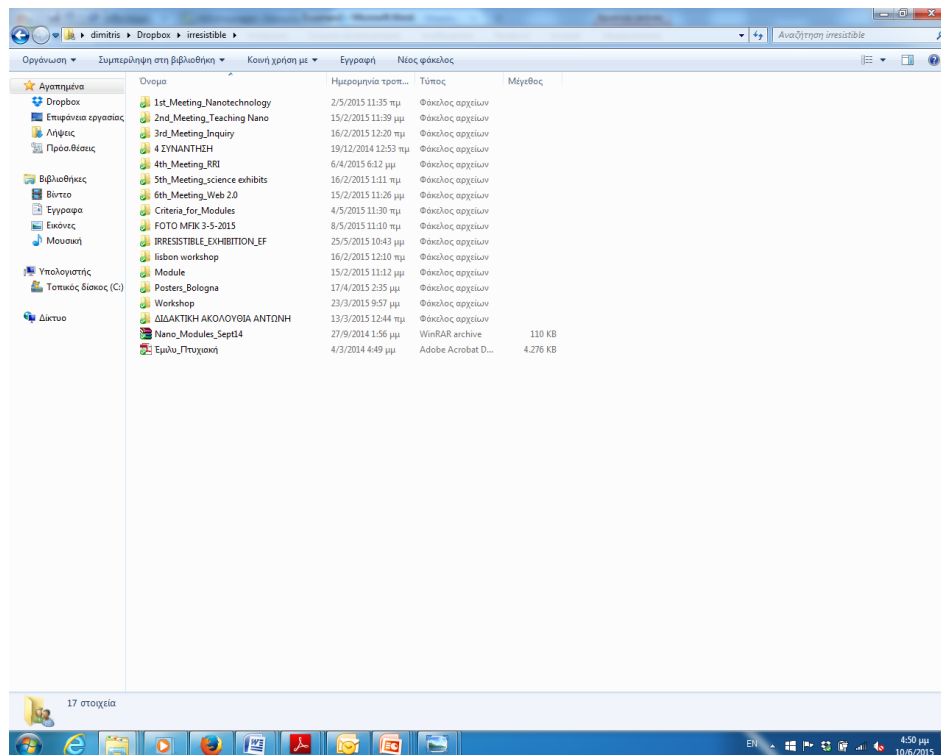
Figure 4. A sample page from the Dropbox page of Greek team.

e. Germany

Similar to other countries, Germany has been using Dropbox also to share materials with 10 CoL members and 5 additional teachers.

f. Italy

Italian team has been using Dropbox since the beginning of the project, and it involves the 19 members of the CoL. It has the main purpose of sharing materials. Figure 5 shows a screen shot of the Dropbox folder used by the Italian team.
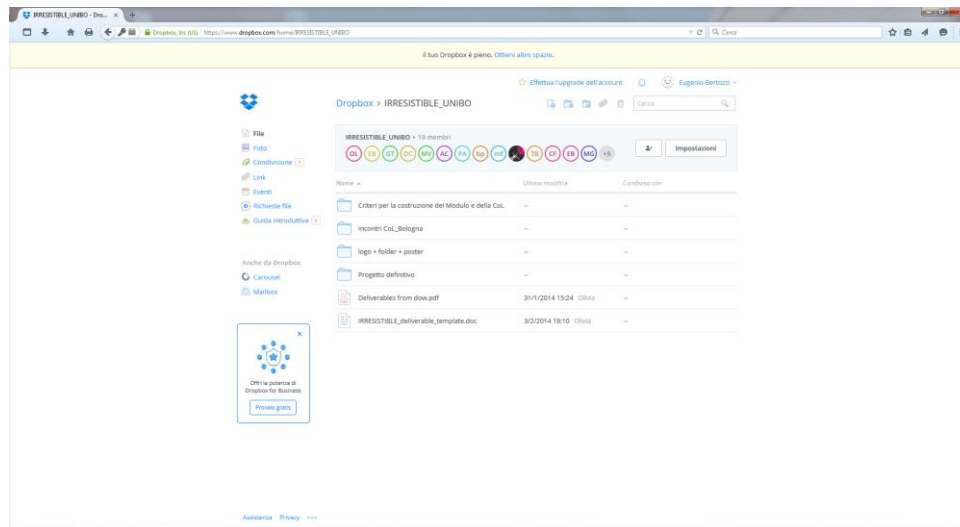
Figure 5. A sample page from the Dropbox page of Italian team.

2.1.2. Edmodo

a. Turkey

Edmodo was selected by Turkish CoL to be used as an information platform to communicate and share information. Most of the teachers used Edmodo in their schools while working on the module with their students. Figure 6 shows a screen shot of an example Edmodo page used in one of the middle schools.

Figure 6. Screenshot of Edmodo platform used in the project lead by a middle school teacher.

b. Greece

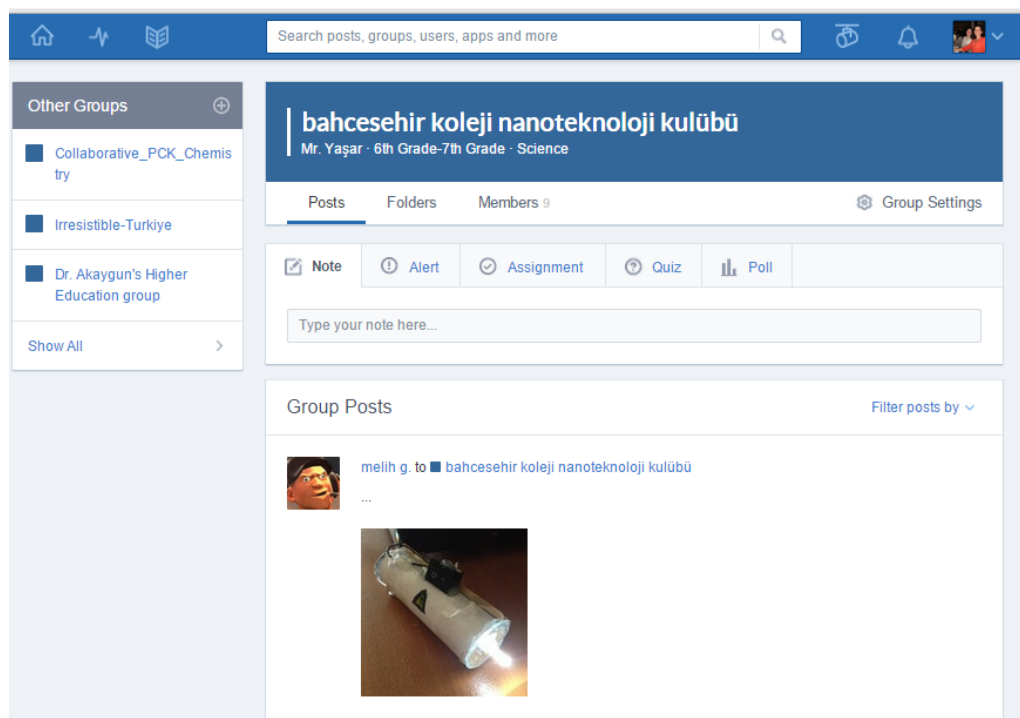Greeek team has been using Edmodo to facilitate student-student and student-teacher communication and material sharing. They reach about 100 people (teachers, school students). Figure 7 illustrates a sample page of the Greek Edmodo page.
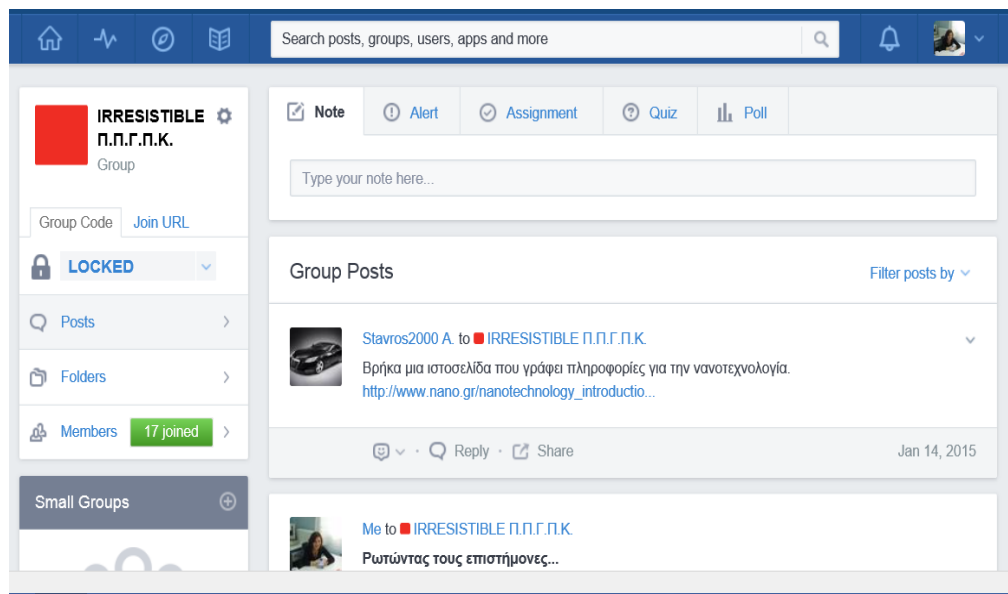

Figure 7. Screenshot of Edmodo platform used by the Greek team in the project.

c. Italy

Edmodo was selected by Italian CoL to be used as an information platform to communicate and share information. Some teachers used Edmodo in their schools while working on the module with their students.

2.1.3. Moodle

a. Portugal

Portuguese team has been using Moodle since the beginning of the project. It has the main purposes of sharing materials (texts on IBSE, 5E model, RRI, interactive exhibitions, ICT tools, and the scientific topics) and also allowing CoL members to communicate with each other and sharing their doubts regarding the module implementation. The platform involves 64 participants. Their purpose of using Moodle was to communicate with members of CoL. The users add the course *Irresistiveis*, and follow the content of the group in Module. They can participate in forum discussions, interact with each other, and have access to resources and materials related to the content. Figure 8 shows a sample page from the Moodle page of Portuguese team.

Figure 8. A sample page from the Moodle page of Portuguese team.

2.1.3.4. Redmine

a. Romania

Redmine (http://www.redmine.org/) represents a flexible project management web application designed as a cross-platform and cross-database. It is an open source, with powerful features for project management activities, such as: flexible role based access control, flexible issue tracking system, Gantt chart and calendar, news, documents & files management, project forum/wiki facilities, time tracking, issues creation (via e-mail) etc.

This open-source platform (https://www.ssai.valahia.ro/redmine/projects/irresistible) has been installed with the view to support the work made by the First Romanian Community of Learners, especially in the phase of designing the Training Module Activities. 20 participants have been registered - the members of First Romanian CoL, and people with responsibilities who act in the project. Several resources have been uploaded, and finally, after iterations of refining and polishing, the final version of the Module Activities (in Romanian) was produced. Due to the big amount of information and limited space, just the final versions of those 10 Module activities have been kept. But having in mind that just one Activity consists of approximately 30 pages, the members of Community of Learners appreciated that is a good option to let inside the platform the Final version, in order to avoid confusions or misunderstandings. A Forum is also dedicated to communication, being used when the CoL members propose ideas, solutions or ask questions. Figure 9 illustrates an interface sequence, taken at the moment of Module Activities development, where it can be seen the mentioned "In progress" attached to each activity. In addition, an example of Forum feedback offered to the second Activity oriented on "Lotus Effect" is presented in Figure 10.

www.ssai.valahia.ro/redmine/projects/irresistible/issues

✔ Apply Clear Save

✔ # ▾	Tracker	Status	Priority	Subject	Assignee	Updated
☐ 65	Dissemination	Resolved	Normal	Workshop: Responsible Research and Innovation in the Area of Nanotechnology (3)	Ana-Maria Suduc	07/05/2014 09:30 AM
☐ 17	Preparation	In Progress	High	Module on Nanomaterials: Activity 8: Applications of nanomaterials in Museum research	Agnes Erich	05/08/2014 12:55 PM
☐ 16	Preparation	In Progress	High	Module on Nanomaterials: Activity 7: Applications of nanomaterials in Industrial applications	Radu Lucian Olteanu	05/08/2014 12:51 PM
☐ 15	Preparation	In Progress	High	Module on Nanomaterials: Activity 6: Applications of nanomaterials in Energy application (Photovoltaics)	Gabriela Mantescu	05/08/2014 12:49 PM
☐ 14	Preparation	In Progress	High	Module on Nanomaterials: Activity 5: Applications of nanomaterials in Medicine	Rodica Ion	05/08/2014 12:47 PM
☐ 13	Preparation	In Progress	High	Module on Nanomaterials: Activity 4: Magnetic liquid technology - Ferrofluids	Luminita Mihaela Draghicescu	05/08/2014 12:45 PM
☐ 12	Preparation	In Progress	High	Module on Nanomaterials: Activity 3: Nanoparticle synthesis - Coloidal gold nanoparticles	Luminita Mihaela Draghicescu	05/08/2014 12:42 PM
☐ 11	Preparation	In Progress	High	Module on Nanomaterials: Activity 2: Lotus effect	Luminita Mihaela Draghicescu	05/08/2014 12:39 PM
☐ 10	Preparation	In Progress	High	Module on Nanomaterials: Activity 1: Natural nanomaterials	Luminita Mihaela Draghicescu	05/08/2014 12:33 PM

Figure 9. Example of an interface sequence for informing on the status of Module Activities development.

www.ssai.valahia.ro/redmine/boards/1/topics/2

Home My page Projects Help   Logged in as ggorghiu   My account Sign out

IRRESISTIBLE   Search: [   ] IRRESISTIBLE ▾

Overview   Activity   Issues   New issue   Gantt   Calendar   News   Documents   **Forums**   Files   Settings

Forums » Forum CoL »

Discutii legate de Activitatea 2: Lotus effect   ★ Unwatch 💬 Quote ✏ Edit 🗑 Delete

Added by Gabriel Gorghiu about 1 year ago

Aici veti posta discutii despre Activitatea 2

💬 Replies (2)

RE: Discutii legate de Activitatea 2: Lotus effect - Added by Adela Vatavu 11 months ago

Competente generale: La finalul parcurgerii modulului, elevii vor fi capabili sa:
1. Identifice particularitatile structurale ale frunzelor de lotus
1.1. observe la microscop sectiunile prin frunza de lotus
1.2 recunoasca structurile implicate in efectul de autocuratire
2. Explice mecanismul fizic de autocuratare
2.1. enumere tipurile de forte ce determina formarea tipurilor de picaturi
2.2. compare actiunea unor forte similar pe suprafete de diferite texturi
3. Realizeze corelatia dintre structura (dpdv morphologic) si functia frunzei de lotus (efectul de curatare)
3.1. observe imaginile cu structura nano dublu stratului hidrofob al frunzei de lotus
3.2. experimenteze efectele modificarii unghiului de contact apa-suprafata solida ce determina curatarea
4. Inteleaga importanta la scara industriala a cunoasterii efectului lotus
4.1. exemplifice situatii concrete de viata in care efectul lotus isi gaseste utilitatea
4.2. manifeste o atitudine responsabila fata de protectia mediului prin utilizarea unor astfel de materiale

Figure 10. Example of a Forum feed-back dedicated to the development of a Training Material in Lotus Effect, in the Redmine platform

2.1.3.5. Copy

a. Germany

Copy is a cloud storage platform, functioning similar to Dropbox but providing bigger free storage space (15 GB, instead of 2 GB). The German team has been using Copy for sharing content with their CoL teachers. Figure 11 shows a screen shot of Copy used by German team.
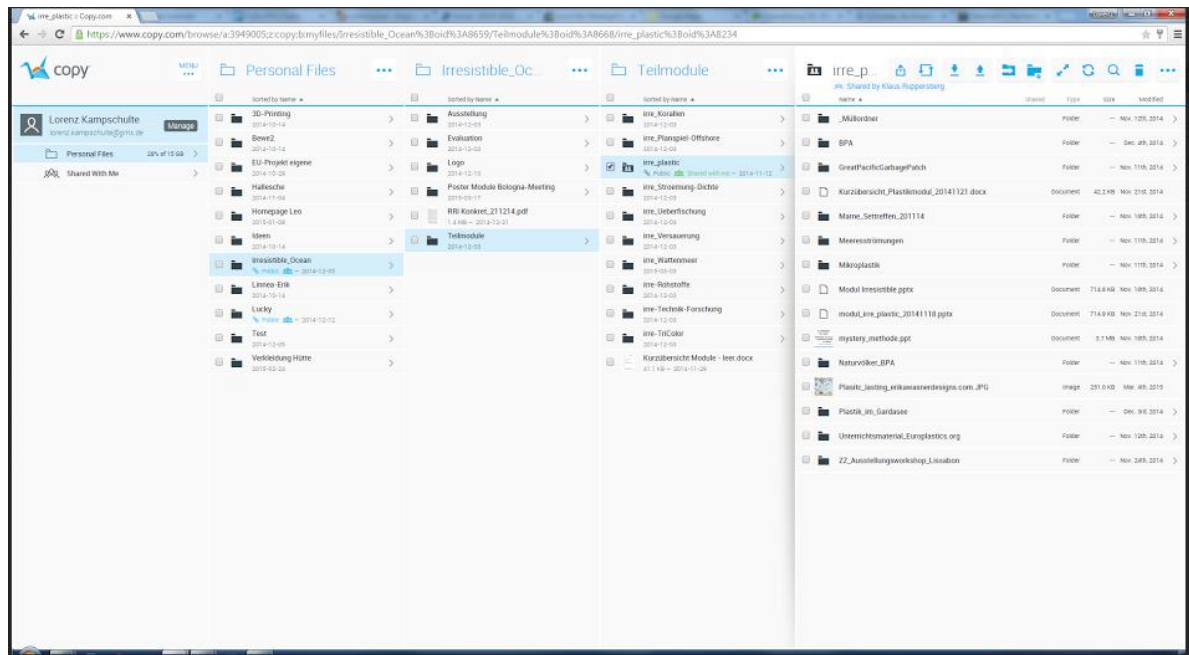
Figure 11. A screen shot from the Copy used by German team.

2.1.3.6. Openmeetings

a. Greece

Openmeetings is a type of platform used for video conferences. The Greek team has been using this platform during their CoL meetings. Figure 12 shows a screen shot from a video conference via Openmeetings.
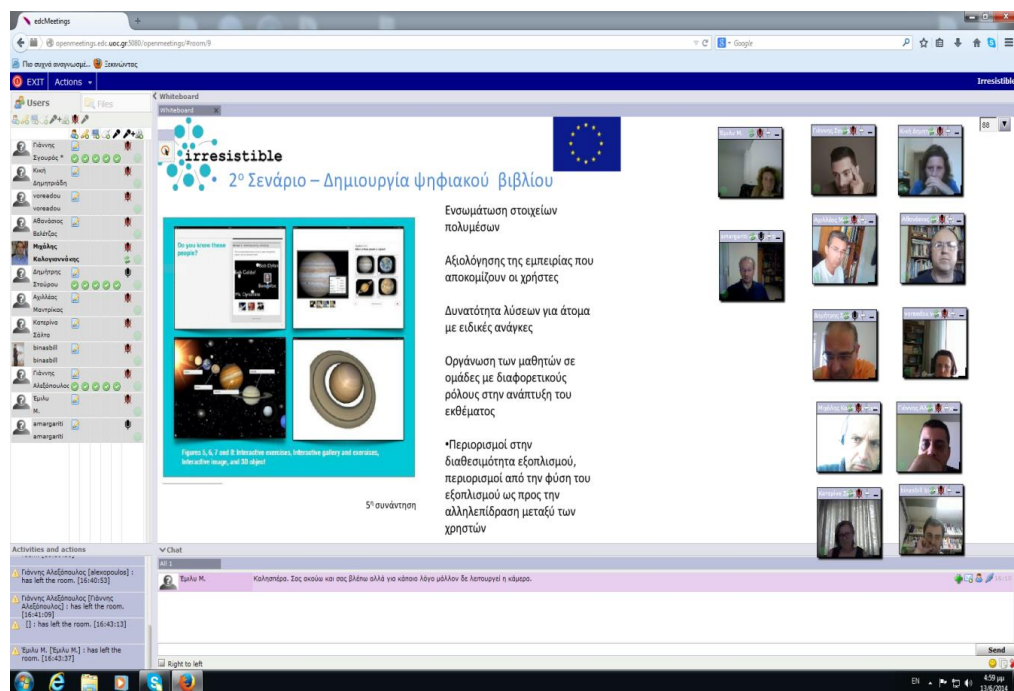

Figure 12. A screen shot from Openmeetings used by Greek team.

2.1.3.7. Skype

a. Greece
Skype platform has been used by Greek team to establish communications of student – science center and students – research center and student – student exhibit telecommunications. Figure 13 shows a screen shot from Skype used by Greek team. With these Skype calls, they aim to reach about 350 people (teachers, science museums experts, science researchers, science education researchers, school students, and parents).

Figure 13**.** Skype activity showing *student exhibit presentation from science center to science center*

3. CONCLUSIONS

Information Platforms or Online Learning Platforms are the main systems that are embedded in the classrooms as teaching and learning tools. They have been used for educational purposes such as course management, organization, sharing of resources, communication, and collaboration (Bosch, 2009; Churcher et al., 2014; Dunn, 2013).

Besides using typical Learning Management Systems such as Moodle, information sharing platforms such as Dropbox, and Copy have been adopted by some partners; also some communication platforms such as Openmeetings have also been used by some other partners. To this end, partner countries decided to select various, in most cases, more than one information platforms that are most suitable for their goals. A total of 11 information platforms have been selected by the partners. Amongst the partners, the most popular platform was Dropbox, as it has been used by 4 partners, because of the functionality of sharing documents and materials freely.

All the tools and environments have been frequently in use and will be used for the next 1.5 years. Therefore, the all the entries and posts and sharing on the groups, and platforms will form valuable resource for the other participants and target audience.

Annex

Dropbox:

https://www.dropbox.com

Edmodo:

https://www.edmodo.com/

Moodle:

http://meduc.fc.ul.pt/course/enrol.php?id=651

Redmine:

https://www.ssai.valahia.ro/redmine/projects/irresistible

Copy:

https://www.copy.com/page/

Openmeetings:

http://openmeetings.apache.org/

Skype:

https://www.skype.com

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