

EINFOSE

<http://einfose.ffos.hr/>

INTELLECTUAL OUTPUT 01 - LEARNING AND COMMUNICATION PLATFORM (LCP) FOR EINFOSE (THE EINFOSE PLATFORM)

Author: Boris Bosančić

Table of Contents

1. INTRODUCTION.....	2
1.1. A short description of LCP	2
1.3. Types of interactions within LCP.....	3
1.4 OERs in LCP	4
2. CONTENT OF THE EINFOSE PLATFORM	5
2.1. Homepage of LCP (the EINFOSE platform)	5
2.2. Users of the EINFOSE Platform	6
2.3. Language customization of the EINFOSE platform.....	6
2.4. Categories and courses of the EINFOSE platform	7
2.4.1. Summer Schools subcategories	7
2.4.2. Test courses	7
2.4.3. Tutorials.....	8
3. ADDITIONAL PLUGINS OF LCP	9
3.1. Activity modules	9
3.2. Blocks	11
3.3. Availability restrictions.....	13
3.4. Themes.....	14
4. CONCLUSION.....	15

1. INTRODUCTION

1.1. A short description of LCP

We have created a platform for collaborative, distributed learning and teaching (EINFOSE platform) available at <http://einfose.ffos.hr/platform/> by redesigning an appropriate LMS (Learning Management Systems): **Moodle** (*Modular Object-Oriented Dynamic Learning Environment*). The platform provides various tools for blended teaching (including all standard activity modules in Moodle) and promotes teamwork between teachers, experts and students. The platform has been successfully used in two EINFOSE Summer Schools (ESSIS 2017 and ESSIS 2018). It allows for thematic instruction and authentic assessment beyond the barriers of classroom in order to benefit students and teachers in regard to their needs for specific contents (video, audio) and methods (by regular-plugins such as Workshop, Wiki, Glossary etc.).

The EINFOSE platform has 14 additional Moodle plugins (add-plugins) installed in order to achieve the specific objectives of the EINFOSE project; these allow the user to practice resource sharing, online conferencing, blogs, forums etc.:

- BigBlueButtonBN, Face-to-Face, Moodlerooms Forum, OU Blog, Podcast, Questionnaire, RecordingsBN, Scheduler (Activity modules¹)
- Facebook comments, Sharing Cart and Twitter Feed (Blocks²)
- Availability restrictions³ (Restriction by activity completion, Restriction by course completion and Restrict access)
- Adaptable and Roshni Lite Moodle themes.⁴

Furthermore, the EINFOSE platform can be used on both desktops and handheld devices (using add-plugin **Moodle Mobile App** – the official mobile app for Moodle).

The design of the EINFOSE platform is based on the idea of an integration oriented design approach emphasising systematic reuse for developing complex products based upon platform intended to reduce development risks, costs and time of its users.

1.2. Tasks in LCP

Effective use of educational technology is vital to solving many of current educational challenges. While effective learning should be the driving force behind

¹ Activity modules are plugins which reside in the main Moodle directory and may integrate into the Moodle system at the whole.

² Blocks plugins allow the use of many separate advanced functions and may be added to the left or right or centers column of any page in Moodle.

³ Availability restriction plugins let users restrict resources, activities and sections based on roles.

⁴ A Moodle theme plugin extends or enhances the appearance of a Moodle site.

technology integration, it is important to keep up with technology advances in order to recognize potential solutions. Tools are abundant, but we seek to recognize how to leverage their capabilities in order to improve the learning experience.

Following the plan described in the accepted proposal for Erasmus+ funding, the EINFOSE platform was directed towards the creation of a space for indispensable learning technologies such as:

- mobile learning for learning purposes (by add-plugin **Moodle Mobile App**)
- learning via podcasts (by add-plugin **Podcast**)
- using microblogging (by add-plugin **Twitter Feed**), and social networking (by add-plugin **Facebook Comments**)
- sharing a learning process via blogs (by add-plugin **OU blog**)
- evaluation of all students' activities via the additional plugins of availability restrictions (**Activity Completion, Course Completion and Restrict Access**)
- evaluation of all students' activities via assignments (by regular-plugin *Assignments*) and quiz (by regular-plugin *Quiz*), as well as via comments on posts on social forums (by add-plugin **Advanced Forum**), with the possibility of offering to them comments and suggestions from teachers.

1.3. Types of interactions within LCP

LCP (The EINFOSE platform) allows for the use of innovative applied methodology with a goal to ensure different types of interaction (for example via add-plugins **BigBlueButtonBN** and **Scheduler**):

- Learner >< Learner: we use the points system creatively to encourage learners to interact with each other and to create a unique hashtag on social media for a same learning experience (this is achieved by regular-plugin *Chat*),
- Learner >< Expert: allows learners to follow/interact with domain experts via social media (by add-plugin **Face-to-Face**),
- Learner >< Content: make e-content engaging with mobile devices and offering students produced videos (by add-plugins **Moodle Mobile App, Advanced Forum**),
- Learner >< Context: encourage learners to engage with their environment by taking pictures of "evidence" and post them to the Platform for other learners (by add-plugin **Advanced Forum**), and
- Teacher >< Teacher/Expert: encourages teachers to share their knowledge and experience and to learn from experts in a certain knowledge domain (by add-plugin **Face-to-Face**).

1.4 OERs in LCP

LCP (the EINFOSE Platform) is designed in such a way that it can host OERs with all their content. An anonymous learner feedback system (by add-plugin [Questionnaire](#) and regular-plugin *Feedback*) was installed throughout the lifecycle of the EINFOSE Platform to gain qualitative information. The modifications were made following all evaluation activities and the second version of the EINFOSE Platform has been available since July 2018. The Platform is capable of allowing the communication of the alumni after an event.

2. CONTENT OF THE EINFOSE PLATFORM

2.1. Homepage of LCP (the EINFOSE platform)

The homepage of LCP (the EINFOSE Platform) contains the basic information about the content of the platform (categories & courses) as well as the login form ¹ and drop down menu of language customization ².



Figure 1. *The EINFOSE platform homepage.*

Below the homepage image there are links to the categories and courses within the platform (regarding both Summer Schools of the EINFOSE project) as well as two special links: one to the EINFOSE project homepage (<http://einfose.ffos.hr/>), and another to the web site of the International Symposium on the Future of Education in Information Science (<http://feis2018.di.unipi.it/>), which was held in Pisa, Italy, in September 2018, where the Policy Recommendations for Entry Requirements and Learning Outcomes in IS were discussed.

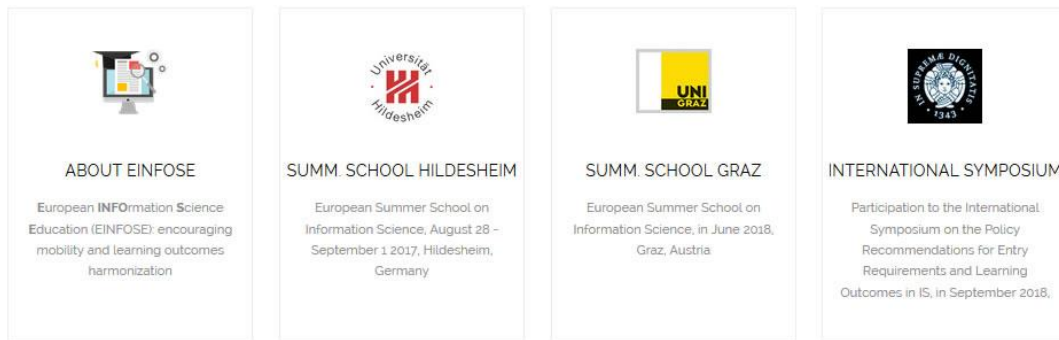


Figure 2. *The main links at the EINFOSE platform homepage.*

2.2. Users of the EINFOSE Platform

There are two main groups of users of the LCP:

- teachers and
- students.

Within the EINFOSE platform there are currently 33 teachers and 39 students. For both groups of users an account was manually created and login information sent through an automatic form.

At the same time, there are three roles within the platform:

- manager,
- teacher and
- student (some teachers are also the managers of some courses).

2.3. Language customization of the EINFOSE platform

The language customization of the EINFOSE platform involves the ability to use nine languages:

- English (en),
- Catalan (Català, ca),
- German (Deutsch, de),
- Spanish (Español – International, es),
- Croatian (Hrvatski, hr),
- Italian (Italiano, it),
- Slovene (Slovenščina, sl),
- Swedish (Svenska, sv), and
- Turkish (Türkçe, tr).

The default language is English (en).

2.4. Categories and courses of the EINFOSE platform

There are four main categories within the platform, plus a Miscellaneous category:

- SUMMER SCHOOL GRAZ 2018,
- SUMMER SCHOOL HILDESHEIM 2017,
- TEST COURSES and
- TUTORIALS.

2.4.1. Summer Schools subcategories

For both the SUMMER SCHOOL GRAZ 2018 (ESSIS 2018) and SUMMER SCHOOL HILDESHEIM 2017 (ESSIS 2017) the following four courses and an Introduction at the beginning were created:

- INTRODUCTION TO THE SUMMER SCHOOL
- ADVANCES IN INFORMATION SCIENCE
- RESEARCH METHODOLOGY IN INFORMATION SCIENCE
- PRINCIPLES OF INFORMATION SEEKING AND RETRIEVAL
- EVALUATION OF INFORMATION SERVICES.

Each Summer School course has the same structure:

- INTRODUCTION (the content of this topic are usually the Announcements forum and a document with the Course Syllabus)
- PRESENTATIONS (slides of the course which were presented to the students at the Summer Schools)
- FURTHER READINGS (links & documents for further reading by the students).

The exception is the INTRODUCTION TO SUMMER SCHOOL course which consists only of the INTRODUCTION with the following content:

- Welcome message,
- Introductory questionnaire (students have to fill it in before the summer school), and
- Student evaluation form (students have to fill it in after the summer school).

2.4.2. Test courses

The TEST COURSES category contains two test courses: TEST COURSE 2016 (TEST-2016) and TEST COURSE 2017 (TEST-2017).

TEST COURSE 2016 (TEST-2016) is intended to be the stage for presentation of additional (advanced) Moodle plugins, and

TEST COURSE 2017 (TEST-2017) is intended to be a teachers' playground for their practice:

- GENERAL TUTORIALS (G-TUT-2017) and

- VIDEO TUTORIALS (V-TUT-2017).

2.4.3. Tutorials

In this category there are also two courses:

The GENERAL TUTORIALS course contains documentation prepared by the EINFOSE team (for example, this document as well as GUIDELINES FOR ACCESSIBLE LEARNING RESOURCES by the Adaptabit Research Group from the University of Barcelona) as well as documentation from external resources (for example, Moodle documentation, Teacher quick guide, Activities & Bocks tutorials, etc.).

3. ADDITIONAL PLUGINS OF LCP

The EINFOSE platform features 14 additional plugins classified as activity modules, blocks, availability restrictions and themes. They are installed in order to achieve the objectives of the EINFOSE project.

3.1. Activity modules

In the table below, a list of additional plugins of the activity modules is displayed.

Table 1. *The additional plugins of activity modules.*

No.	The plugin	Description*	Purpose (in EINFOSE project)
1.	BigBlueButtonBN	an open source web conferencing system for distance education	<u>online conferencing</u>
2.	RecordingsBN	a resource (and place) which provide access to the BigBlueButton recordings related to this course	<u>online conferencing</u>
3.	OA blog	the creation of alternative blogs within a module (which are separate from the core Moodle blog system)	<u>blogs</u>
4.	Advanced forums	a module enables participants to have asynchronous discussions, i.e., discussions that take place over an extended period of time.	<u>comments on posts on social forums</u>
5.	Scheduler	a module helps in scheduling appointments with users of the platform.	<u>to assure different types of interaction</u>
6.	Face-to-Face	a module enables a teacher to set up a voluntary booking system for one or many in-person/classroom based sessions	<u>Learner><Expert interaction</u>
7.	Questionnaire	a module allows one to construct surveys using a variety of question types, for gathering data from users.	<u>anonymous learner feedback system</u>
8.	Podcast (Pcast)	module makes it simple to create podcasts	<u>for learning purposes using podcasts</u>

* mainly quoted from the Moodle documentation web pages at https://docs.moodle.org/35/en/Main_page



Figure 3. *BigBlueButtonBN online virtual classroom interface.*

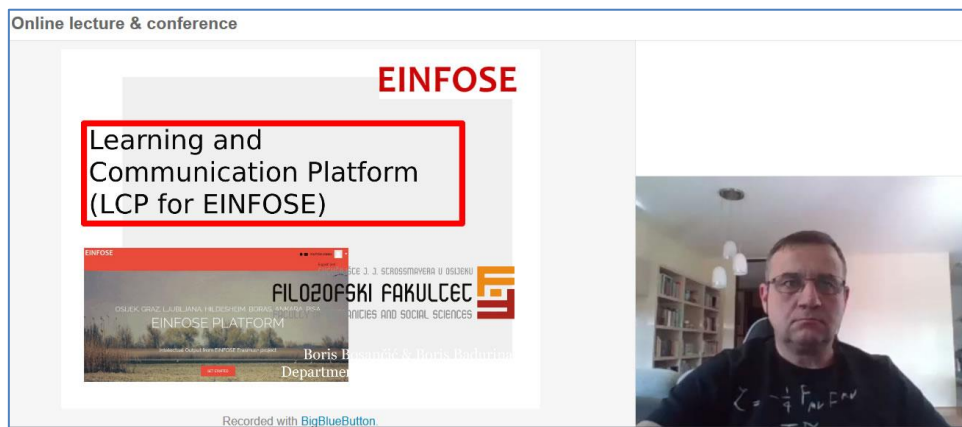


Figure 4. *Presentation in RecordingsBN interface.*

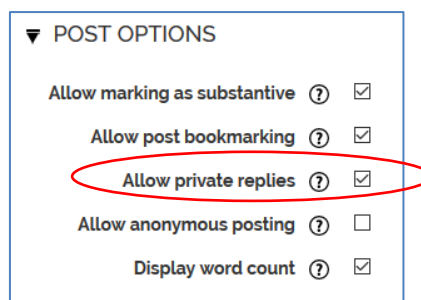


Figure 5. *Advanced Forum options.*

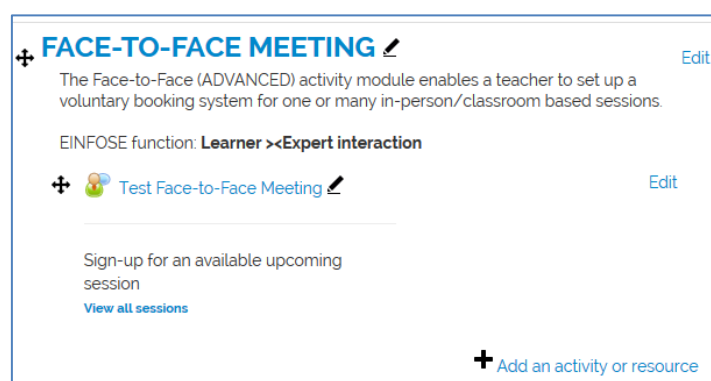


Figure 6. *Face-to-face meeting.*

Figure 7. Excerpt from Summer School 2017 Introductory Questionnaire.

Questionnaire is prepared in order to allow us to become more familiar with students background, interests, motivation and expectations.

Figures 3-7 display various segments of different activity modules

3.2. Blocks

In the table below (Table 2) a list of additional blocks is displayed.

Table 2. *The additional plugins of blocks.*

No.	The plugin	Description*	Purpose (in EINFOSE project)
1.	Sharing Cart	a block allows teachers to easily share/copy activities between different courses.	<u>resource sharing</u>
2.	Facebook Comments	a Facebook like comment box	<u>social networking</u>
3.	Twitter feed	a block which a Twitter feed with easily stylable markup	<u>microblogging</u>

* mainly quoted from the Moodle documentation web pages at https://docs.moodle.org/35/en/Main_page

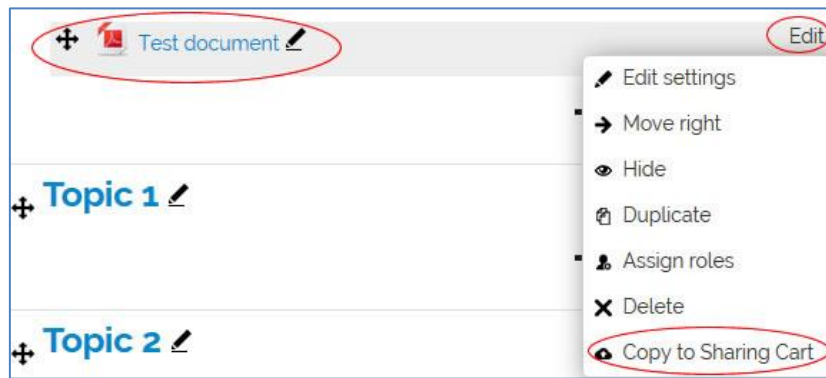


Figure 8 - Copying from course to Sharing Cart.

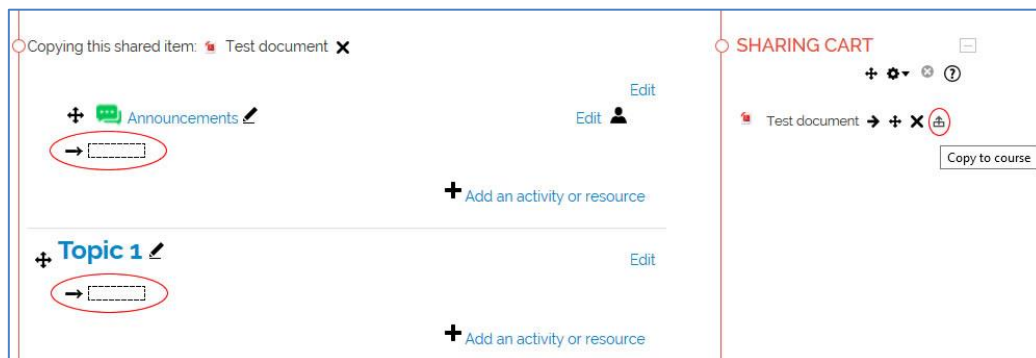


Figure 9. Copying from Sharing Cart to course

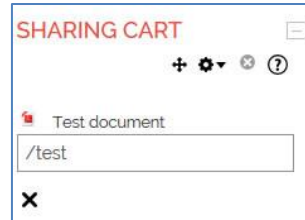


Figure 10. Making folders inside Sharing Cart

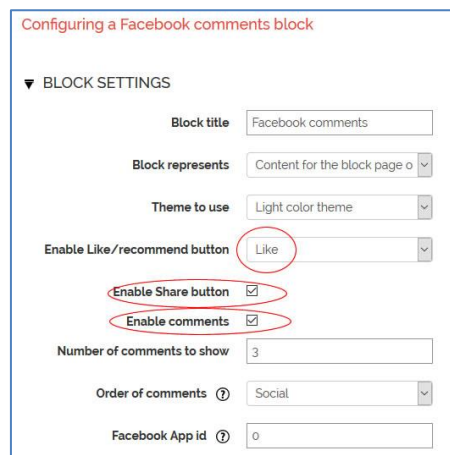


Figure 11. Configuring a Facebook comments block

Figures 8-11 display various segments of different Moodle blocks.

3.3. Availability restrictions

In the table below (Table 3) a list of additional plugins of availability restrictions is displayed.

Table 3 – *The additional plugins of availability restrictions.*

No.	The plugin	Description*	Purpose (in EINFOSE project)
1.	Restriction by activity completion	show the progress of students in a course; allow to see checklist of what they have done so far.	evaluation of all students' activities
2.	Restriction by course completion	show the progress a student is making towards finishing the course according to specific criteria	evaluation of all students' activities
3.	Restrict access	enables teachers to restrict the availability of any activity or even a course section according to certain conditions such as dates, grade obtained, group or activity completion.	evaluation of all students' activities

* mainly quoted from the Moodle documentation web pages at https://docs.moodle.org/35/en/Main_page

The screenshot shows the Moodle interface for a block titled 'Topic 10'. Below the block title, there is a sub-section titled 'ACTIVITY COMPLETION'. This section contains several settings: 'Completion tracking' with a dropdown menu set to 'Show activity as complete w...', 'Require view' with a checked checkbox and the text 'Student must view this activity to complete it', and 'Expect completed on' with a date picker set to '7 April 2017'. There is also an 'Enable' checkbox which is currently unchecked.

Figure 12. *Restriction by activity completion.*

▼ ACTIVITY COMPLETION

Completion tracking ? Do not indicate activity comp: ▼

Require view ☐ Student must view this activity to complete it

Require grade ? ☐ Student must receive a grade to complete this activity

Require posts ☐ Student must post discussions or replies: 1

Require discussions ☐ Student must create discussions: 1

Require replies ☐ Student must post replies: 1

Expect completed on ? 7 April 2017 ☐ Enable

Figure 73. Activity completion Advanced Forum options.

Figures 12-13 display various segments of different availability restrictions.

3.4. Themes

There are two additional themes installed in the LCP (the EINFOSE platform):

- Adaptable theme
- Roshni Lite theme.

The *Roshni Lite* is selected as default theme on the EINFOSE platform (Figure 14). The theme has been modified according to the *Accessibility evaluation of the EINFOSE Platform* by the *Adaptabit Research Group, University of Barcelona*.

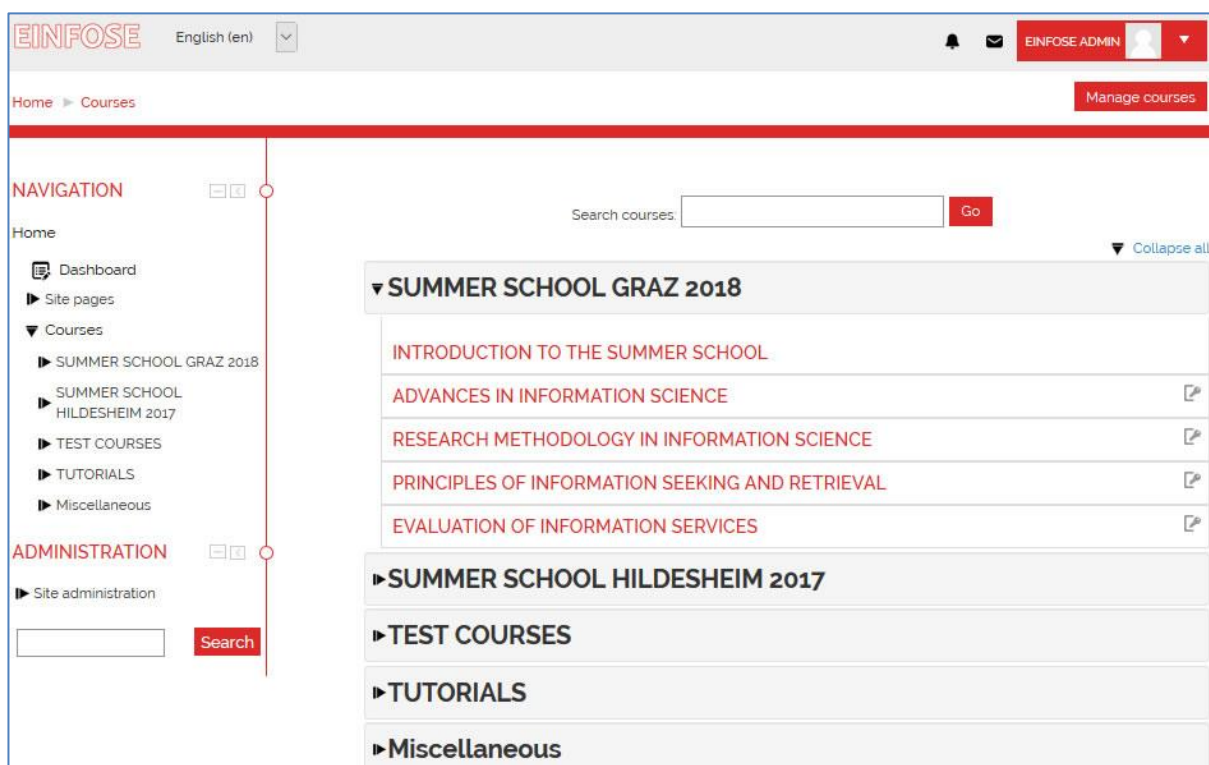


Figure 84. The home page of LCP after login (Roshni Lite theme).

4. CONCLUSION

EINFOSE Platform is one of the five Intellectual Outcomes (IOs) of the EINFOSE project. It is the basic framework and working platform which allowed preparations for two Summer Schools, communication between teachers/trainers/researchers, students, technicians and managers involved in EINFOSE project. In the line with the main idea described in the EINFOSE submission proposal, the EINFOSE platform turned out to be a very good foundation for collaborative, distributed learning and teaching. The EINFOSE Platform was structured by redesigning an appropriate LMS (Learning Management Systems): Moodle (*Modular Object-Oriented Dynamic Learning Environment*). The platform is capable of providing various tools for blended teaching (including all standard activity modules in Moodle). It also demonstrated that EINFOSE Platform is appropriate for promoting teamwork between teachers, experts and students. The platform was successfully used in two EINFOSE Summer Schools (ESSIS 2017 and ESSIS 2018). It allows for thematic instruction and authentic assessment beyond the barriers of a classroom in order to benefit students and teachers in regard to their needs for a specific content (video, audio) and methods (by regular-plugins such as Workshop, Wiki, Glossary etc.). Finally, EINFOSE Platform allowed the whole team to work on Open Educational Resources (OERs) which are designed to be easily accessible, useful for students in their attempts to deepen their

knowledge in a chosen OER, and freely available to teachers who can use them in their classrooms and/or online teaching/learning activities.

Acknowledgements:

Special thanks to all colleagues from partners' institutions, Pisa team in particular, who provided useful comments and suggestions.