



D.5.5 – National workshops

Deliverable number	<i>D.5.5</i>
Dissemination level	<i>Public</i>
Delivery date	<i>31/09/2012</i>
Status	<i>Final</i>
Author(s)	<i>Evita Tasiopoulou, Gina Mihai</i>



Deliverable fact sheet

Deliverable version	1.0
Deliverable type	Report
Current release status	Public
Final release status	Public
Work package	WP 5
Responsible partner	European Schoolnet
Primary contributor	Evita Tasiopoulou, Gina Mihai
Deliverable reviewers	Agueda Gras

Change Log

Version #	Date	Sections	Change	Author/ Editor
1.0	02/2012	Structure	All sections	Evita Tasiopoulou
2.0	02/2012	First version of National workshops	All sections	Gina Mihai
3.0	09/2012	Introduction, workshops, conclusions	All sections	Evita Tasiopoulou

Table of Contents

1. Introduction	4
2. National workshops.....	4
2.1. Introduction and adaptations	4
2.2. Workshops' summary	4
2.3. National workshops in detail	6
2.3.1. UniSchoolabS at University of Patras	6
2.3.2. UniSchoolabS at University of Bologna	6
2.3.3. UniSchoolabS workshop with Greek students	9
Conclusions	9
Annex I – University of Patras - Programme.....	11

1. Introduction

The main purpose of the UniSchoolLabS project was to improve quality in science education in Europe, by promoting collaboration between universities and schools in the provision of remote access to science laboratories for primary and secondary schools through internet-based services.

According to the Description of Work (DoW) the partnership had to carry out **four (4) national** and **one (1) international** workshops, reaching out to an audience of **200 teachers**, schools directors, universities and policy makers. The partnership has agreed from the first kick-off on the need to reach out to a wider audience of teachers than the one that was originally expected. For this reason, partners have used their networks in order to maximise possibilities and have UniSchoolLabS participating and being presented on a variety of occasions.

As a result, the partnership has carried out a total of **eight (7) workshops**, 3 national and 4 international, reaching to a total of more than **430 teachers**, directors and policy makers.

This deliverable is a report of the **national workshops** developed and carried out during the UniSchoolLabS project.

The objective of the national workshops was to introduce the project to local educators and provide them with hands-on sessions on the Toolkit and how it can be used to enhance science classes. The document focuses on the four national workshops, containing an overview and a detailed description for each one of them, feedback from the participants and an appendix section with all related documents and information.

2. National workshops

2.1. Introduction and adaptations

The three national workshops were held between February 2011 and September 2012 in Greece and Italy, countries where the validation phase has also been implemented. Each workshop **involved about 30 participants** (teachers, school directors, professors, representatives of local municipalities and national policy makers). Each partner has been in charge of promoting his respective workshop and producing, if needed, appropriate material.

2.2. Workshops' summary

In Table 1, we show all workshops and presentations organized, highlighting whether they were national or international. In order to respect the purpose of this deliverable, in D5.5 we will concentrate on the description on the national workshops while international workshops will be presented in detail in D5.6.

Workshop type according to DoW	National / international	Partner in charge	Type of participants	Workshop title/Dates	Number of participants	URL
Workshop in Greece	National	Ellinogermaniki Agogi	Science teachers, researchers	"Meeting educational information on the use and organization of digital educational material - The usefulness of digital libraries", University of Patra, 23 rd February 2012	30	n/a
Workshop in Greece	International	Ellinogermaniki Agogi	Science teachers	Eden Conference Athens / 28-29 October 2011	25	http://www.eden-online.org/eden-events/athens.html
Two (2) workshops in Greece + One (1) students workshop	International	Ellinogermaniki Agogi (with the collaboration of all partners)	Science teachers, policy makers, students	"A world of eLearning tools and inquiry resources", Panormos, Crete / 1-6 July 2012	50 in workshops + 100 in plenary + 43 students	http://www.ea.gr/ep/cosmos-summer-school/ http://www.ea.gr/ep/pathway-summer-school/
Workshop in Italy	National	Sciente (with the collaboration of ITD-CNR)	Teachers, universities (laboratory owners), policy-makers (regional school authorities, science teacher associations), foundations	UniSchoolLabS workshop in Bologna / 30 th March 2012	25	http://www.scienter.org/index.php/news/news/it_s_lab_time_connettere_le_scuole_ai_laborat/
Workshop in Ireland	International	Menon	Researchers, experts in technology enhanced learning and distance learning	Eden Conference Dublin / 22 nd June 2011	30	http://www.eden-online.org/system/files/Annual_2011_Dublin_BOA_0.pdf
Workshop in the Czech Republic	International	European Schoolnet (with the collaboration of ITD-CNR)	Science and maths teachers	Spice Conference, Prague, Czech Republic, 27-28 August 2011	20 in workshop + 150 people in the plenary	http://spice.eun.org/web/spice/spice-summer-academy and programme: http://spice.eun.org/c/document_library/get_file?p_l_id=16292&folderId=74359&name=DLFE-5711.pdf

Workshop type according to DoW	National / international	Partner in charge	Type of participants	Workshop title/Dates	Number of participants	URL
Workshop in Belgium	International	European Schoolnet (with the collaboration of ITD-CNR)	Science teachers	Scientix workshop and training: Science Projects and Teaching STEM in Future Classroom, 14-16 September 2012	25	http://www.pathway-project.eu/sites/default/files/ScientixPathwayWorkshop.pdf

Table 1 Summary of the national/international workshops organized between February 2011 and September 2012

2.3. National workshops in detail

In the following section a full account of each national workshop is provided, giving the details of the activities performed during the workshop as well as an overview of the Timetable.

2.3.1. UniSchoolLabS at University of Patras

The Regional Directorate of Primary and Secondary Education in Western Greece in collaboration with the Research and Development Departments of Ellinogermaniki Agogi, organised a training workshop on the use of educational digital libraries within the European Programme eContent & Open Science Resources on:



Image 1 UniSchoolLabS workshop at University of Patras

"Meeting educational information on the use and organization of digital educational material - The usefulness of digital libraries"

The workshop took place on **Thursday, February 23rd, 2012**, between 11:00-14:00, at the Pilot School, University of Patras, University Campus.

Besides teachers, the event has been attended by several stakeholders, school directors, school counselors as well as people from the Ministry of Education. The total number of participants was **150**.

The workshop started with a plenary session where all participants have been introduced to the project, its aims and its principals. The programme continued with a number of hands-on workshops where teachers had the possibility to experience the Toolkit and carry out some activities.

2.3.2. UniSchoolLabS at University of Bologna

The last national workshop took place in Bologna, **30th March 2012**. The workshop was organized by Scierter¹ and the aim was to exchange opinions and build a vision towards university-school

¹ <http://www.scierter.org/>

collaboration in the area remote/virtual laboratories in order to improve science education. The team was backed up by Chiara Piccolo (MENON², Brussels), Augusto Chiocciariello (CNR-ITD³, Genova) and the UniSchoolLabS pilot teachers Corrado Gamberonci, Ruth Löwenstein and Daniela Ambrosi who support the project by creating lesson activities for remote laboratories and test the Toolkit on its usability for teachers. **25 individuals** attended the workshop with the following topics on the agenda:

Introduction to the UniSchoolLabS project and the online Toolkit

- Remote/Virtual laboratories and their potential for science teaching in Italian classrooms
- The integration of the Toolkit into classroom science education: Examples from Istituto Torno di Castano Primo and Liceo Scientifico Galileo Galilei di Perugia.
- Building a shared vision:
 - Which resources and excellent programmes exist in Italy on a regional and national level?
 - Which initiatives could support the use of the UniSchoolLabS Toolkit?
 - Following the above, how do we plan future involvement? Which activities could we carry out in the future?
- Discussion: How can we consolidate continuous collaboration between schools and universities to improve science education?

Images of several presentations as well as some activities during the workshop can be found below.



Image 2 Carlo Angelo Borghi (Head of the Department for Electrical Engineering, University of Bologna)



Image 3 Corrado Gamberonci, Daniela Amrbosi – UniSchoolLabS pilot teachers

² <http://www.menon.org/>

³ <http://www.itd.cnr.it/>



Image 4 Exploring the online Toolkit



Image 5 Sharing knowledge on existing initiatives in science teaching and school-university collaboration – Group of teachers

Outcomes of the workshop in a nutshell

1. The Italian Teacher Association (ADI) currently highlights the project on its website for teaching resources.
2. Three further Italian schools expressed their interest to work with the UniSchoolLabS Toolkit and remote laboratories in the future.
3. The discussion led to the following insights from teachers, university representatives and other stakeholders (education innovators, Emilia-Romagna region, teacher associations etc.)
 - There are very many technical resources available with regards to remote and virtual laboratories, which could potentially be used by teachers.
 - Those are often located outside of Italy, many laboratories do not provide sound or engaging teaching and learning materials as those developed by the UniSchoolLabS pilot teachers. Most laboratories hosted and maintained by universities are not designed to provide a larger-scale service to schools.
 - Teachers are not aware of the existence of remote/virtual laboratories and some of them have misconceptions about their potential. Teachers involved in the piloting activities were enthusiastic about the potential for experimentation in the science classroom and creative in developing lesson plans. The group felt a strong need to promote existing technical AND pedagogical material.
 - Participants expressed the lack of coordination and systemization for a wider take-up in schools. To achieve that a small group of teachers and laboratory owners might not be sufficient, but rather governmental or regional support in the educational sector is needed, since the mediation between schools and universities is a challenging field with different professional approaches.

2.3.3. UniSchoolLabS workshop with Greek students

This students' summer school was co-organized by the Greek Physical Society and Ellinogermaniki Agogi. The presentation of the UniSchoolLabS was divided into two sections. The first 20 minutes were devoted in the presentation of the toolkit and its functions.

Title	"The Lab of Natural Sciences in the School of Tomorrow"
Main Leader	Ellinogermaniki Agogi - CNR
Date	Monday, July 2 nd 2012
Duration	1 hour 30 minutes
Place	'Panormos Beach' hotel Panormos, Crete, Greece
Type of audience	Students between 15 and 18 years old
Policy makers	National Physical Society of Greece
Size of audience	43 students
Countries addressed	Greece

Table 2 Students' workshop summary

In the second part the students were presented with the Crashing Galaxies activity. This activity gave the **43 attending students** the chance to follow an inquiry procedure. The students managed to carry out all the step of the inquiry easily and successfully. First there was a brief discussion about the formation of galaxies during which students made their own predictions on the subject. In sequence, they used the OWN robotic telescope to get images of crashing galaxies and the Galaxy Crash simulation in order to simulate the interactions of galaxies. The team of students studied the observation and the data they gathered from their little experiment, they discussed on their findings and came up with their own explanations about the images they observed the galaxy classification and how galaxies formulate. Throughout the activity, they recorded their predictions and their findings in the class notebook. Finally, they searched the internet in order to cross check and verify their conclusions and consider other possible explanations. The students kept asking questions during the whole session for the exercise but they faced no difficulties while working in the platform. By the end of the session they wrote a few words about their experience in the forum.



Image 6 Students using the labs in order to simulate crashing galaxies

Conclusions

The hands-on workshops were considered a great success having engaged teachers, students, school directors, professors as well as representatives of local municipalities and national policy makers. The main idea of the workshops was to discuss a variety of topics, from pedagogy, learning resources to interactions between science, policy and society. At the end of each workshop, it was noticed that hands-on activities training helped teachers to better understand and exploit the concept of inquiry based learning. According to their feedback, we can conclude that these kind of workshops are crucial to

share knowledge on inquire based science education among teachers, educators, etc from different countries.

Another important point that needs to be made is that despite the fact that the partnership carried out 3 instead of 4 national workshops, a total number of **217 participants** (teachers, schools directors, universities, policy makers), a number much higher than the one required, 160 participants. The variety of the targeted audience, has also provided the consortium with precious feedback that the team took on board for the further implementation of the UniSchoolLabS Toolkit.

Annex I – University of Patras - Programme



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ

ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ

ΠΕΡΙΦΕΡΕΙΑΚΗ Δ/ΝΣΗ Π/ΘΜΙΑΣ & Δ/ΘΜΙΑΣ

ΕΚΠΑΙΔΕΥΣΗΣ ΔΥΤ. ΕΛΛΑΔΑΣ

ΤΜΗΜΑ ΕΠΙΣΤΗΜΟΝΙΚΗΣ & ΠΑΙΔΑΓΩΓΙΚΗΣ

ΚΑΘΟΔΗΓΗΣΗΣ Π.Δ. & Δ.Ε.

Ταχ. Διεύθυνση : Ακτή Δυμαίων 25Α

Ταχ. Κώδικας : 262 22 ΠΑΤΡΑ

Ταχ. Θυρίδα : 2540

Πληροφορίες : Λαμπροπούλου Νίκη

Τηλέφωνα : 2610-362407

Fax : 2610-362411

E-Mail : pdede@sch.gr

Πάτρα 06-02-2012

Αριθ. Πρωτ. Φ.7.2/ΚΔ/ 1031

Προς:

- **Δ/νση Δ/θμιας Εκπ/σης Ηλείας**
...
- **Σχολικούς Συμβούλους Δ/θμιας Εκπ/σης Ηλείας**
- **Γραφεία Σχολικών Συμβούλων Πύργου και Αμαλιάδας**
- **Σχολικές Μονάδες Δ/θμιας Εκπ/σης Ηλείας (δια της Δ/νσης Δ/θμιας Εκπ/σης Ηλείας)**

ΘΕΜΑ: «Ενημέρωση - Πρόσκληση σε επιμορφωτικό σεμινάριο»

Η Περιφερειακή Διεύθυνση Πρωτοβάθμιας και Δευτεροβάθμιας Εκπαίδευσης Δυτικής Ελλάδας σε συνεργασία με το τμήμα Έρευνας και Ανάπτυξης της Ελληνογερμανικής Αγωγής διοργανώνουν ημερίδα κατάρτισης πάνω στη χρήση ψηφιακών εκπαιδευτικών βιβλιοθηκών με θέμα:

«Ημερίδα ενημέρωσης εκπαιδευτικών για τη χρήση και την οργάνωση ψηφιακού εκπαιδευτικού υλικού – Η χρησιμότητα των ψηφιακών βιβλιοθηκών στα projects της Α΄ Λυκείου»

τη Πέμπτη 23 Φεβρουαρίου 2012 και ώρα 11:00-14:00, στην αίθουσα του Πνευματικού Κέντρου του Λάτσειου Δημοτικού Μεγάρου Πύργου (2^{ος} Όροφος) και το οποίο θα υλοποιηθεί με τη μορφή εισηγήσεων και βιωματικού εργαστηρίου.

Η ημερίδα απευθύνεται κυρίως στους εκπαιδευτικούς της δευτεροβάθμιας εκπαίδευσης που διδάσκουν φυσικές επιστήμες και είναι μάλιστα ιδιαίτερα χρήσιμη σε όλους τους εκπαιδευτικούς που εμπλέκονται στα projects της Α΄ Λυκείου.

Κατά τη διάρκεια της ημερίδας θα παρουσιαστούν ψηφιακές βιβλιοθήκες με πλούσιο εκπαιδευτικό ψηφιακό υλικό, ολοκληρωμένες εκπαιδευτικές δραστηριότητες καθώς και εικονικά ή απομακρυσμένα εργαστήρια με τα οποία μπορούν να πραγματοποιηθούν σειρά από πειράματα μέσα από τον υπολογιστή. Επίσης οι εκπαιδευτικοί θα έχουν την ευκαιρία να δουν πως μπορούν να οργανώσουν το δικό τους ψηφιακό υλικό, να δημιουργήσουν δραστηριότητες με βάση το ανακαλυπτικό μοντέλο διδασκαλίας και να τις μοιραστούν με τους συναδέλφους τους μέσα από ένα Ευρωπαϊκό δίκτυο εκπαιδευτικών. Πιο συγκεκριμένα οι θεματικοί άξονες της ημερίδας είναι οι εξής:

- αναζήτηση εκπαιδευτικού περιεχομένου και εκπαιδευτικών δραστηριοτήτων μέσα από ψηφιακές βιβλιοθήκες

- οργάνωση ψηφιακού υλικού και δημιουργία εκπαιδευτικών δραστηριοτήτων με βάση το ανακαλυπτικό μοντέλο διδασκαλίας.

- χρήση εικονικών και απομακρυσμένων εργαστηρίων για τη διεξαγωγή πειραμάτων

- παραδείγματα ψηφιακών δραστηριοτήτων και σχετικού υλικού για τα Projects της Α΄ λυκείου.

- Μια μοναδική ευκαιρία για project: Ο διαγωνισμός "Formula1 in School" στην Ελλάδα

Τέλος οι εκπαιδευτικοί θα έχουν την ευκαιρία να μάθουν πως μπορούν να προωθήσουν τη δουλειά τους, παρουσιάζοντάς την σε συνέδρια όχι μόνο εθνικά αλλά και Ευρωπαϊκά καθώς και πως μπορούν ψηφιακές βιβλιοθήκες και πλατφόρμες εκπαιδευτικού υλικού και εκπαιδευτικών εργαλείων να τους βοηθήσουν να διακριθούν σε διάφορες δράσεις όπως τα «Αριστεία και Καινοτομία στην Εκπαίδευση» και οι «Καλές Πρακτικές» του Μείζονος Προγράμματος Επιμόρφωσης.

Επιστημονικά Υπεύθυνη του Προγράμματος είναι η κα. Ελευθερία Τσουρλιδάκη

Email: eleftheria@ea.gr

Τηλ. 210 81 76 790

Ημερομηνία εγγραφών στο σεμινάριο: από 06-02-2012 έως 24-02-2012

Συμμετέχοντες : ένας (1) εκπαιδευτικός από κάθε σχολείο Δ.Ε. της περιφερειακής ενότητας Ηλείας... με την προϋπόθεση ότι τα σχολικά προγράμματα θα αναδιαμορφωθούν, ώστε να μη διαταραχθεί η εύρυθμη λειτουργία των σχολείων.

Στους συμμετέχοντες θα δοθεί πιστοποιητικό παρακολούθησης

Το Σεμινάριο θα υλοποιηθεί σύμφωνα με τον ακόλουθο πίνακα:

11:00 —11:30	Αναζήτηση εκπαιδευτικού περιεχομένου και εκπαιδευτικών δραστηριοτήτων μέσα από ψηφιακές βιβλιοθήκες.
11:30 – 12:00	Η ψηφιακή πύλη “ Open Science Resources”
12:00 — 12:30	Η χρήση εικονικών εργαστηρίων στη διδασκαλία των θετικών επιστημών: Η πλατφόρμα του UniSchools
12:30 - 12:45 .	ΔΙΑΛΛΕΙΜΑ
12:45 – 13:30	Εκπαιδευτικές δραστηριότητες κατάλληλες για project Α΄ Λυκείου και διαθεματικές εργασίες δημοτικού
13:30 – 14:00	Ο διαγωνισμός «Formula1 in schools” στην Ελλάδα

Όσοι επιθυμούν να συμμετάσχουν στο σεμινάριο παρακαλούνται να συμπληρώσουν το συνημμένο ΔΕΛΤΙΟ ΕΓΓΡΑΦΗΣ ΣΕΜΙΝΑΡΙΟΥ και να το στείλουν στην ηλεκτρονική διεύθυνση eleftheria@ea.gr με επισήμανση για το σεμινάριο «Επικοινωνώντας καλύτερα με τον έφηβο στο πλαίσιο της σχολικής τάξης».

Ο Περιφερειακός Δ/ντής

Π/θμιας & Δ/θμιας Εκπ/σης Δυτ. Ελλάδας

Παναγιωτόπουλος Γεώργιος

