

SMART PROJECT

Report on the 6th International Meeting

Topic: Final meeting. Evaluation of all the project products and results. Final conference

Location: Turin (Italy)

Duration: 10th – 12th October 2016

Participants:

Applicant/Beneficiary:

Carlo Anti School (Italy): Claudio Pardini, Laretta Zoccatelli and Chiara Tacconi

Partners:

MIUR (Italy): Anna Brancaccio and Massimo Esposito

University of Roma Tre (Italy): Settimio Mobilio and Carlo Meneghini

University of Turin (Italy): Marina Marchisio

Accademia delle Scienze (Italy): Chiara Mancinelli and Alberto Conte

Risorse in Crescita (Italy): Anna Tombesi and Isabella Tosatto (Confindustria)

TU Delft (Netherlands): Meta Keijzer-De-Ruijter and Michel Beerens

Chalmers University Gothenburg (Sweden): Jan Stevens

St. Thomas Gymnasium (Germany): Günther Besold and Ulrike Kempfle

Radnoti School Pécs (Hungary): Andrea Banò, Marta Zsbanné Hamory and Kajline Somogyi Ildiko

Activities performed:

10th October 2016, Monday

Afternoon

Dipartimento di Matematica "G. Peano", University of Turin, via Carlo Alberto 10, Torino

2.00 p.m.

- **Welcoming coffee** at "Sala Professori" (First floor)

2.30 p.m. at aula informatizzata 5 (ground floor)

Marina Marchisio welcomes all the participants and illustrates the final meeting programme. Claudio Pardini, the coordinator of the project, gives all the participants a little present.

- **Final reporting** and checking of all the documentation produced
(Discussion Coordinator Laretta Zoccatelli)

Laretta Zoccatelli draws a short story of the project from a financial and organizational point of view and shows the project identification numbers which must be written in all project documentations. She illustrates how the budget was distributed among the partners. The final 20% grant will be credited to each partner when the National Agency receives and evaluates the project final report and the quality of the project products.

As far as the eligible costs are concerned, according to the Erasmus Plus Programme *Guidelines for Administrative and Financial Management and Reporting*:

- they are incurred during the lifetime of the project
- they are indicated in the estimated overall budget of the project
- they are necessary for the implementation of the project which is the subject of the grant
- they are identifiable and verifiable, in particular being recorded in the accounting records of the beneficiary and determined according to the applicable accounting standards of the country where the beneficiary is established and according to the usual cost accounting practices of the beneficiary
- they comply with the requirements of applicable tax and social legislation
- they are reasonable, justified, and comply with the principle of sound financial management, in particular regarding economy and efficiency
- they are not covered through EU grants in the form of contribution to unit costs, lump sums or flat-rate financing.

As regards the documentation needed by the coordinator, the partners are requested to strictly adhere to the following rules:

For the Project management and implementation, to provide proof of the use of the grant:

- The Coordinator needs to receive from the partner organizations a document, signed by their legal representative, certifying the correct use of the grant.
- The Partner Organizations (beneficiaries) shall keep records, original supporting documents (invoices, appointment act, statistical records and other documents connected with the grant during this period). N.A. or E. A. may check the use made of the grant at any time up to five years, starting from the date of the final payment.

For the Transnational project meetings:

- The Coordinator needs to receive from each participant a short report on the meetings she/he has taken part. Moreover, the coordinator needs to receive from the Hosting Partners Organizations a document reporting the date of the meeting and the name of participants. The Coordinator has to fill out the mobility tool.
- The Partner Organizations (beneficiaries) must keep all original documents (boarding pass, travel tickets, receipts) in order to demonstrate the fact that the trip actually took place.

For the Intellectual outputs:

- The Coordinator needs to receive from the partner organizations the timesheets of the persons involved in the project and write the quality and quantity results on the final report.
- The Partner Organizations: manager, teachers /researchers and technicians have to fill out a time-sheet to confirm the number of days worked. The timesheet has to be signed and dated by the person and by an authorized person and sent to the coordinator.

An email with a list of all the requested documents will be sent to the partners.

Finally, Laretta Zoccatelli illustrates the updated and final dates of the Work Packages for the intellectual outputs.

The last project action will be the dissemination of the project products. As far as this matter is concerned, she draws the attention on a very important issue regarding the **VISIBILITY OF UNION FUNDING** and the use of the European Union emblem: “Unless the Commission requests or agrees otherwise, any communication or publication made by the beneficiary that relates to the action, including at conferences, seminars or in any information or promotional materials (such as brochures, leaflets, posters, presentations, in electronic form, etc.), must:

- (a) indicate that the action has received funding from the Union; and
- (b) display the European Union emblem

- **Checking** of the completeness of all the **project products**: web site and open on line courses (Discussion Coordinator Settimio Mobilio)

Settimio Mobilio shows the project platform containing the completed Open Online Courses. He invites Marina Marchisio and Carlo Meneghini to go through the materials so that everyone can see the final form of all products.

First of all, the Science Open Online Course is illustrated in details with topics, contents and activities. In the forum there haven't been any comments because the contact has been direct between the teachers, the project partners and the staff of Roma Tre. Jan Stevens gave Carlo Meneghini some suggestions for the implementation of materials. The Hungarian partners sent some feedback and observations on the materials last July. The German school experimented the materials but didn't send any comments on them. The Carlo Anti Science teachers will soon send their comments on the materials.

Marina Marchisio illustrates the Mathematics Open Online Course “Mathematical Modelling”. Evaluation questionnaires on the materials were filled out both by teachers and students. All the suggestions received by the non Italian partners were really useful because they gave a different point of view on the materials. Partners are all asked to access the course in its final form (it has just been finished) and give suggestions for the improvement.

Accessibility to materials through a social media could be an idea (Facebook, Google Mail, etc.) to facilitate the access for teachers and users after the end of the project life when the OOC is public.

A questionnaire at the end of each module could be prepared in order to get some feedback after using the materials and see if the users found the materials useful.

- **Feedback** on the quality of the project products (Discussion Coordinator Anna Brancaccio)

Anna Brancaccio invites all the partners to give their own opinion about the project products.

Jan Stevens thinks that the OOC in Mathematics looks very nice in its final form. Extra effort to make the materials better should be done even though there is not much time left. As far as the sustainability of the products is concerned, the courses have to be open and people must know that they exist.

Meta Keijzer-De-Ruijter thinks it is hard to give an opinion now. The project was ambitious. There are very nice materials to work in the schools, very good for the Italian schools. They have a lot of potential but maybe not for all European schools. Anyway, she will do all her best to disseminate the materials in her country.

Ulrike Kempfle thinks there is a huge quantity of materials and she experimented only a few. Some materials contain a lot of text, few images and not many interactive activities. Assignments were sometimes difficult for her class. There were also some difficulties with the English language for her students. Most materials are thought for Italian students and maybe don't work with students of other countries. She would have expected more interactive materials. Marina Marchisio says that most materials are for the teachers, not for the students: that's why they don't seem to be interactive and sometimes difficult to be used directly by the students.

Marta Zsbanné Hamory states that the Hungarian teachers found the materials very good and very new to them. A big task for the teachers was to choose among the materials and to translate them. Teachers had to work a lot on materials but when they were taken to the class, they worked. Students really liked them. In Hungary, the materials can work.

Marina Marchisio thinks we started a European way of doing things: maybe we didn't reach all the aims, but we've started something important.

Carlo Meneghini says that the Science OOC was rather complicated to manage, with many different subjects. Maths was easier. Translation of the activities in Hungarian and German can be a starting point in order to help teachers and students to use the materials.

Michel Beerens underlines that Meta said that the project products are ambitious, not negative. They can be used in some parts of Europe, not in all parts. We should cooperate: that's the most important thing.

As regards the products, Settimio Mobilio thinks that we only miss the number of people experimenting the materials. We didn't get much feedback, but maybe we need more time to get it and improve the course.

Finally, Anna Brancaccio illustrates the results of the final internal questionnaire administered to all partners (see attached document).

- **Brainstorming** for the evaluation of the SMART Project

Anna Tombesi expresses her opinion on the organization of the materials and the use of the platform. Materials can be useful in her opinion also outside Italy. It is the teacher who has to decide what to use and what not to use. A huge job has been done. The methodology is engaging, interesting, motivating for students and teachers. In the scientific topics and in schools the English language is very important: it is an advantage that the materials are all in English.

Ulrike Kempfle thinks that the materials are useful. Every teacher must adapt the materials produced to their class and situation.

Meta Keijzer-De-Ruijter thinks that many of the objectives have been reached, and the materials are useful. Maybe they are not usable everywhere in Europe, but any effort will be done to spread them.

Marta Zsbanné Hamory states that they chose to take part in the project because it is a problem in Hungary how to teach Mathematics in an interesting way. They learnt a lot in this sense from this project and they are

happy to have taken the opportunity to be in the partnership. Teachers improved a lot in working with the materials produced for the OOCs. They found the products very useful and usable.

Günther Besold asks about the experimentation of materials in Italy. Anna Brancaccio explains that some Carlo Anti teachers tested the Science and Mathematics modules. They had already tested the materials within two Italian projects, PP&S and LS OSA Project. Many Italian schools have experimented the materials within the two projects.

Settimio Mobilio reminds the partners that the first aim of the project was to produce shared materials useful for teachers. The second aim was the use of materials inside the partnership. Both aims have been reached and this is the point of view we must keep.

Evening

Restaurant Arcadia, Galleria Subalpina - Piazza Castello 29

8:00 p.m.

- **Dinner**

11th October 2016, Tuesday

Morning

Accademia delle Scienze, via Accademia delle Scienze 6, Torino

9.00 - 10:30 a.m.

- **Welcoming and introduction** by the President of Accademia delle Scienze

Alberto Piazza, the President of Accademia delle Scienze, gives a short presentation about the academy regarding its history, the founders, the type of books it contains, etc.

Chiara Mancinelli guides the participants on a short tour in the three main rooms of the Accademia. The librarian shows some precious publications to the participants.

- **Discussion** about the afternoon session

Anna Brancaccio illustrates the programme for the afternoon conference. Carmela Palumbo will not be at the meeting due to some urgent work issues at the Ministry of Education.

All presentations are shortly introduced by the conference speakers and a discussion about them is started and coordinated by Anna Brancaccio.

In the afternoon the future developments of the projects will also be discussed: a new Erasmus Plus project on Job Shadowing for teachers will be presented next February.

By 24th November (starting date of the Job&Orienta Fair in Verona) the OOCs will be available for everyone on the SMART platform. A questionnaire will be added to each Mathematical module for the self evaluation of the teachers who will experiment them.

Anna Brancaccio reminds everyone that a report will have to be prepared by each partner and sent to the coordinator who will use it for drawing the project final report for the Erasmus Plus National Agency. Laretta Zoccatelli will write an email to everyone containing a scheme for the partners report.

10.30 a.m.

- **Coffee Break**

11:00 - 1:00 p.m.

- **Guided visit of the Turin Egyptian Museum**

The meeting participants enjoy a guided tour of the Egyptian Museum.

1:00 p.m.

- **Light lunch**

Afternoon

Accademia delle Scienze, via Accademia delle Scienze 6, Torino

3:00 – 6:00 p.m.

- **Final Conference** (slides in English, conference in Italian)



SMART

Science and Mathematics Advanced Research for good Teaching

11th October 2016
15.00 - 18.00

Sala Mappamondi
Accademia
delle
Scienze
Torino



Final Conference
The SMART Project:
past, present and future for Mathematics and Science teaching

Chairman Claudio **PARDINI**

Claudio **PARDINI** *Carlo Anti School, SMART coordinator*
Opening of the conference and welcoming of the participants

Carmela **PALUMBO** *Italian Ministry of Education*
Possible utilization of the project results; impact on the education policy

Settimio **MOBILIO** *University of Roma Tre*
The Science Open Online Course and access modalities

Marina **MARCHISIO** *University of Turin*
The Mathematics Open Online Course and access modalities

Chiara **MANCINELLI** *Academy of Science of Turin*
Presentation of the results of the evaluation questionnaires administered to the teachers

Meta **KEIJZER-DE-RUIJTER** *TU Delft (Netherlands)*
The role of Delft University within the SMART Project

Ian **STEVENS** *Chalmers University Gothenburg (Sweden)*
The role of Chalmers University within the SMART Project

Anna **TOMBESI** *Risorse in crescita*
The impact of the project on the world of work

Anna **BRANCACCIO**
Conclusion, the future for Mathematics and Science teaching

le relazioni saranno tenute in lingua italiana

Co-funded by the European Union

The SMART Project: Past, Present and Future for the teaching of Mathematics and Science

Chairman: Claudio Pardini

Alberto Conte, the former president of Accademia delle Scienze, opens the conference and welcomes the participants.

Claudio Pardini thanks the hosting partners for choosing such a beautiful place as the Globe Hall for the final conference. He draws a short story of the SMART project and states that it has been developed to transfer two important Italian projects on Mathematics and Science on a European scenario. The project was chosen and started in order to improve the methodologies for the teaching of the scientific subjects. Innovation and research are the basis on which the project was founded. Internationalization of two Italian projects was pursued in order to confront and compare with prestigious partners: the Chalmers and Delft Universities, but also the German and the Hungarian schools.

After the end of the project life the products will be disseminated with the diffusion of best practices in different European countries. The project products, the OOCs, are precious materials for teachers to improve their teaching methodologies. It is necessary to introduce a new way of teaching, in particular for the scientific subjects.

- **Anna Brancaccio: *Possible Utilization of the project results; Impact on the education politics***

Anna Brancaccio brings Carmela Palumbo's regards: she had to stay at the Ministry of Education due to some urgent work issues.

Anna Brancaccio underlines that this project, promoted by the Italian Ministry of Education, has as its main objective that of setting up a strategic partnership among schools, universities, social parts in order to share strategies on the European level. The new school reform, "la buona scuola", has introduced important innovations. Ministerial Programs have been replaced by National Indications. Students have to acquire competences and we must verify and assess them. In order to gain this aim, new methodologies are necessary, like the problem posing and solving methodology. This methodology is a real learning environment, not only a method. In Mathematics contents must be presented through problems; in Science contents should be presented through laboratory activities. These methodologies help to improve the students' motivations. In order to be able to use these new methodologies, teachers have to be trained: the OOCs have been created for this reason, as they allow teachers to train and self train.

At the beginning of the project, the teachers training needs were investigated through a questionnaire. The questionnaire results analysis was drawn by M. Marchisio and T. Giraudo and a report about them will be soon published on the project website.

After the needs analysis, two OOCs were prepared. They are products which now have to be tested outside the project partnership. They will be opened to everyone on 24th November during the Job&Orienta Fair in Verona. Changes, improvements and amendments will be made thanks to the testing by a greater number of teachers.

- **Settimio Mobilio, University of Roma Tre, *The Science Open Online Course***

Science is more complex than Mathematics because it includes several subjects and teachers with different university degrees can teach the Integrated Sciences in Italy. In Europe, Science is even more complicated because it includes also Physics. For this reason, in the SMART Project, choices had to be made in the selection of topics and materials.

Settimio Mobilio illustrates the Science OOCs on the SMART platform. There are modules on the teaching methodology and some experiments in different scientific subjects. Laboratorial didactics is something different today: we don't need expensive materials, but simple and everyday materials for the Science

modules. Lab teaching also includes the capacity of working together, which is fundamental both at school and in the world of work.

Finally, Settimio Mobilio invites everyone to use the materials, take them to their classes and give some feedback on them.

- **Marina Marchisio, University of Turin, *The Mathematics Open Online Course***

Marina Marchisio illustrates the Mathematics OOC, focusing on the structure and on the methodology used. She thinks that this course could also be used at university, not only in schools. Many people contributed to the construction of the course. The topics were chosen among the OECD PISA contents as the schools in Europe have different programs. Best practices were shared thanks to the cooperative work inside the partnership. The course is aimed both at initial teachers and in service teachers. All the materials are in English and this is an advantage e.g. for the CLIL curricula. A teacher attending the Maths OOC can keep up to date, experiment new learning methodologies and have available a repository of different resources for teaching.

Feedback is requested by all the teachers who will use the materials. Teachers can work in full autonomy in this OOC. There are also parts dedicated to the self training. The structure is modular. The students will have the possibility to work in groups. Maple has been chosen as the ACE environment for the OOC: the license is not free but, at the same time, not very expensive. Anyway, it is also possible to download all the OOC materials in the pdf format, without any license and completely free.

There will be a supported self-pacing after the end of the SMART project. Teachers will get badges after completing the methodology and the self-training modules. Each module will have an assessment part at the end for the teachers' self-evaluation.

The digital tools adopted are a Virtual Learning Environment (Moodle) with and Advanced Computing Environment (Maple) and an Automatic Assessment System (Maple TA). The Easyreading font was chosen for its high readability.

As regards assessment, teachers will be asked to assess their preparation, evaluate the module and give suggestions.

From 24th November the OOCs will be available on a platform dedicated to the SMART project.

The modality of access will be via social media (Google mail, Facebook, etc).

- **Chiara Mancinelli, Accademia delle Scienze, *Presentation of the results of the evaluation questionnaires administered to the teachers***

Chiara Mancinelli illustrates the results of the evaluation questionnaires administered to the teachers of the SMART project partner schools: the Italian Carlo Anti School, the German St. Thomas Gymnasium and the Hungarian Radnoti School.

The questions contained in the Science and Mathematics questionnaires were almost the same. The teachers filled out the questionnaires on the SMART platform. They had to indicate the subject taught and the materials tested in the class; the age of the students was also requested. There will be the same requests for the teachers who will experiment the materials in the future.

The students appreciated the activities in all the schools both for Mathematics and Science. Most teachers experimented the activities at home before presenting them to their students. The majority of teachers found the activities and the methodology relevant to their didactics.

A student questionnaire was also administered and interesting answers arose.

All teachers and students who will experiment the activities from 24th November are invited to give their feedback on materials and methodology.

- **Meta Keijzer-De-Ruijter, TU Delft (Netherlands), *The role of Delft University within the SMART Project***

Meta Keijzer-De-Ruijter introduces herself and the university of Delft. She shows a video on Delft University, which was founded in 1842. They have eight faculties and since 2014 there is also a Delft Extension School. The number of students has strongly increased in the last years. They come from all over the world. The university offers a lot of online activities, in particular MOOCs. They have very modern facilities. After MIT they are the best providers of open courseware.

TU Delft is an active participant in the promotion of STEM education in the Netherlands (Platform Beta & Techniek). They are also a leading University in the use of digital test system, MapleTA, for home work and exams. For these reasons, their role in the SMART project was the review of the materials developed for Science and the distribution of the developed materials through STEM education network (betasteunpunt) <http://regionaalsteunpuntzuidholland.nl>.

The Platform Beta & Techniek's goal is stimulating the choice for technology in schools, studies and work. They have partners from different fields: Ministry of Economics and Ministry of Education, Industry (both local and international), Universities and colleges, Primary and Secondary Schools. The activities that they perform are: meetings of teachers to develop and exchange materials, visits to companies, presentations from universities as inspiration for new materials, publications (national level).

At Delft TU, digital testing with Maple TA reaches huge numbers: in the past year there were 32.000 digital exams using MapleTA and 150.000 homework assignments.

- **Jan Stevens, Chalmers University Gothenburg (Sweden), *The role of Chalmers University within the SMART Project***

Jan Stevens introduces Chalmers University and illustrates its history in brief. Chalmers University is working to have a sustainable future. Their vision is allowed to permeate all activity within the fields of research, education and innovation. The goal is to develop technical solutions that are needed to create a sustainable future.

They have about 11000 students, 1200 doctoral students, 3000 employees, 17 institutions and 8 areas of advance. They educate engineers, architects and ship's officers. They have a Bachelor of Science in Engineering (3 years), a Master of Science in Engineering (5 years) and 41 Master's programmes, all except one taught in English, and 30% international Master's students from 79 countries.

The Summer Math is a very interesting initiative of Chalmers University: they are courses during the summer. Their aims are to reach those students who plan to start a math intensive training and to repeat and

reinforce students math skills before they start their education. For the individual student it should become a better start and easier to complete their studies.

All examination is performed through Maple TA. The number of students enrolling and accessing these courses is increasing over the years. The students are quite satisfied. Maple TA is now used in the majority of Chalmers university courses.

- **Risorse in Crescita, *The impact of the project on the world of work***

Anna Tombesi illustrates the impact of the SMART project on the world of work. World of knowledge and world of work were two separated sectors in the past. The Ministry of Education has tried to make the two worlds communicate and to fill the gap between them. For this reason, Confindustria was initially asked to take part in the SMART project. Then Risorse in Crescita substituted Confindustria with the same role. Companies do not only need technical skills, but also soft skills, which are key competences nowadays. They are: ability to face the change, ability to work in team, attitude to problem posing and solving, ability to use knowledge in a real situation, flexibility in changing role in different situations and attitude to learn new skills.

In order to evaluate the achievements of the SMART project, a questionnaire about the project products was administered to some external stakeholders: representatives of the industrial world, company consultants and vocational teachers.

Risorse in Crescita has been given the responsibility of preparing the questionnaire because they have a lot of experience in this field and many contacts with organisms of various types. They prepared a questionnaire on the materials and on the project processes and chose the organizations who evaluated the project products.

A Red Team was constituted and its components were given a project summary and the project materials; they had the possibility to access the project platform with the role of students in order to evaluate the Open Online Courses in Mathematics and Science.

The materials which have been assessed are those prepared during the project life: the website (e.g. structure, usability, graphics), the platform (e.g. structure, usability and the didactic materials contained), the two reports prepared by Accademia delle Scienze (*Topics* report and *Competences* report) and the report written by Marina Marchisio about the teachers' need analysis questionnaire.

The results were really positive: all the Red Team components evaluated the materials and the project with very good observations: considered competences were consistent with the need of working daylife; the methodology to develop them was clear and effective; experimental activities were consistent and effective.

The SMART project has reached its objectives because it helps to develop the competences requested by the world of work: problem posing and solving reflects the companies needs to have new approaches to face problems; the laboratory activities improve the ability to work in a team; the experimental methodology enhances the ability to use knowledge in a real situation and the attitude to learn new skills.

Isabella Tosatto of the former partner Confindustria thinks that the materials produced in the SMART project are excellent and she will do her best to spread them among the teachers involved in the School Job Rotation with whom she is going to have a meeting in a couple of weeks.

- **Anna Brancaccio, *Conclusions; The future for the teaching of Mathematics and Science***

Anna Brancaccio states she is really satisfied with the Red Team questionnaire's results.

In the future, the experimental path will be prosecuted with a new Erasmus Plus project for the mobility of teachers (job shadowing). The teachers will have the opportunity to go to schools, universities, companies where these new methodologies are regularly used. The aim of the new project is the exchange and sharing of best practice.

As far as the sustainability of the OOCs is concerned, thanks to feedback questionnaires, the courses will be improved even after the end of the project. New materials will also be developed for the improvement of the PP&S and other similar methodologies in order to promote creative thinking in the students.

Finally, Claudio Pardini thanks all the conference speakers and participants.

Evening

Restaurant Pautasso, Piazza Emanuele Filiberto 4, Torino

8:30 p.m.

- **Dinner**

12th October 2016, Wednesday

Morning

Cavallerizza Reale, via Verdi 9, Torino

9.00 - 10:30 a.m.

- Welcoming by the vice-dean of the University of Turin and presentation of the courses

Marina Marchisio illustrates the programme for the day and introduces the speakers of the University of Turin.

Prof. Alessandro Andretta, director of the department of Mathematics, welcomes the meeting participants and gives the floor to Prof. Lorenza Operti, vice dean for didactics, who gives a short presentation of the university.

They have 67,000 Enrolled Students, 3,800 International Students, 8,100 Bachelor Graduates in 2015, 3,600 Master Graduates in 2015, 27 Departments and 150 Courses. There are also 1,953 Lecturers and Professors and 1,795 Technical and Administrative Staff.

For the research, international and local funding programmes, both public and private, support the University's commitment to innovation and research. They have 4 PhD Schools with more than 40 programmes: Law, Economics, Political and Social Sciences; Humanities; Life and Health Sciences; Natural Sciences and Innovative Technologies .

A lot of courses are taught in English: Business and Management (Bachelor's Degree), Cellular and Molecular Biology (Master's Degree), Economics (Master's Degree), European Legal Studies (Master's Degree), International Accounting (Master's Degree), Materials Science (Master's Degree), Molecular

Biotechnology (Master's Degree), Quantitative Finance and Insurance (Master's Degree), Stochastic and Data Science (Master's Degree), Medicine and Surgery (one long cycle degree in 6 years)

For the International Relations there are 30 Double and Joint International Degree programs: 4 with more than one country (Erasmus Mundus), 22 with French Universities, 1 with a Spanish University, 1 with a German University, 1 with a Morocco University, 1 with a Chinese University.

They have 600 international cooperation agreements and 980 cooperation agreements for Erasmus student exchange. They encourage experiences abroad for all students.

Students' mobility in the framework of development cooperation projects in the Global South: the project plans a partnership between the University, NGOs and local authorities and its principal aim is sponsoring mobility grants to undertake applied field research in development cooperation projects.

From 2012 to October 2015 UniCoo has granted 178 mobility scholarships to 40 countries (23 in Africa, 13 in Latin America, 4 in Asia).

They also have mobility for the staff: visiting professors and visiting scientists.

TeachMob Project - Visiting Professors: UniTo offers the opportunity to enhance their careers through teaching positions (3 months contract).

Visiting Scientists – World Wide Style: UniTo offers fellowships to researchers wishing to spend a training and research period at our Departments.

- **Presentation** of the e-learning activities of the Turin University

Prof. Wanda Alberico, director of the School of Science, gives a presentation about e-learning for Science.

Scivoli (SCIENCE Video On Line) is a project addressed to incoming students and students of the first year. It is supported by the Ministry of Education with funds for a triennial plan. The online material is aimed at providing multipurpose help at various levels. Before enrolling at university, students can exercise to pass selection tests. They can refresh scientific items studied at secondary school and complete their preparation in autonomy. Online material is available for consultation before enrolment to undergraduate courses. Basic courses are helpful for the first year of course. In the platform, there are video registrations of basic courses, pre-courses (complements), re-alignment courses and conferences.

The Scivoli project is in connection with ORIENT@MENTE, a project promoted by Marina Marchisio. ORIENT@MENTE is aimed at supporting students in their choice of the most appropriate university study course. It helps students in succeeding in their first exams. The project prevents students from quitting university at the first year and it supports the diffusion of tertiary education.

The project gives reliable and relevant information about 15 university courses; possibility of revision of basic knowledge; activities which encourage self-assessment and self-organization; tools for verifying one's preparation and attitude for the main subjects of the university courses (automatically graded tests, algorithmically generated questions).

In the undergraduate courses there is an extended use of Moodle platforms as a didactic support in Information Technology and in Mathematics, but not only: also in Physics, Chemistry, Biology, Natural Science and Earth Science. They are also developing it for the department of Science and Technology for drugs.

Prof. Isabelle Perotteau, the deputy director of teaching, illustrates her experience with some colleagues of hers with e-learning at the department of Clinical and Biological Sciences. They have blended courses in which they use the Moodle platform and have a lot of online activities (pdf repository, URL-documents, video, lecture registration). The activities are student centred: reports, presentations, lessons, forum/chat, mind maps, databases, quiz, workshops and assignments. Students take part using their own devices but the

university offers 70 iPads for those students who don't have their own device. Prof. Perotteau shows some of the materials on the platform: they are interactive and motivating.

They also have some flipped courses: students are given all the materials and they have to study them before the lecture because they will be assessed on them.

They have a huge archive of videos on clinical visits. They give lectures with clinical case study discussion. This makes the students very active. There are also virtual clinical simulations.

They also have distant teaching with partners like France, Spain, Egypt, Lebanon and Morocco. Real time quizzes are used for students across the Mediterranean area and they are very motivating.

Prof. Manuela Consito of the School of Law speaks of the e-learning academic education. They started ten years ago.

The on-line courses of the University of Turin Law School's strength is the remote and interactive teaching methods that allow student-workers and students living far from university facilities to take advantage of a customized and adaptable teaching.

The on-line students have access to the on-line classes, to blended education tools, to weekly exercises and have a tutor for each class.

The enrollment in the on-line courses moreover guarantees an academic position equal to the one guaranteed by the traditional degrees and give access to all services provided to students of the traditional degrees.

The Undergraduate degree in Scienze dell'Amministrazione (*on line*) is a three-year degree that provides classes in economics, law, public policies, management and security. The classes focus on the administration of public bodies and firms. The Career opportunities are: Freelance activities for public/private entities, Employment at public administrations, Employment and human resources management, Labour consultant.

The Graduate degree in Scienze Amministrative e Giuridiche delle Organizzazioni Pubbliche e Private is a two-year degree that provides a deeper understanding and it develops the fundamentals acquired in undergraduate studies in the fields of law, economics, business, management and socio-politics. The admission to the degree is guaranteed only to students holding a pertinent undergraduate degree. The Career opportunities are: Legal expert for companies or public bodies. Experts in the management of public administrations, Tax and fiscal consultant, Labour consultant.

The online Graduate degree in Law is a five-year degree that provides all the fundamental classes of the traditional degree in law. The Career opportunities are: Lawyer, Judge (magistrate), Notary, Legal expert and consultant.

Engineer Sergio Rabellino and Dr. Alex Cordero of the Computer Science Department talk about the e-learning services which are having new directions. Sergio Rabellino shows the number of active users in the last year, the online users in real time, etc. They manage three active platforms. They develop solutions for e-learning activities. Moodle will still be the standard platform for e-learning for the next years. They are moving from Moodle 2.7 to Moodle 3.1, which offers new ways of organizing teaching and of assessing the competences reached by the students.

Alex Cordero explains that Moodle 3.1 is a social learning environment, a new paradigm. There is a more relaxed hierarchy between teacher and students. Contents can be created by any actors and learning comes from making connections between contents and between people. Social network tools are used such as sharing, tag, grouping, gathering resources, instant messages.

The project is driven by UniTo strategic plan. It was funded and approved by Unito boards of directors. The sponsor is the Vice-rector for Innovation Prof. Germano Paini.

A new web environment has been developed in order to drive learning by sharing/collaborating, to create best-practices communities, to act continuous improvement and learning, to enhance competences rather than knowledges.

The SLE web platform is an open source platform; it has an on-the-edge architecture (responsive, fast, UX centred); de-structured hierarchy (users and documents); competence driven / learning driven.

This new learning environment can be used now but will be fully available for test in late 2017.

10.30 a.m.

- **Coffee break** at "Sala Colonne" (adjacent to "Sala Multifunzione 1")

11.00 - 12:00 a.m.

- **Brainstorming** on the sustainability of the project products and possible **future developments** of the project

The future of the results of the SMART project has already been discussed in the previous days. Two points must be underlined now: the first is the life of the platform and the life of the project after its end. Anna Brancaccio thinks it is necessary to add some self-assessment sheets at the end of each Mathematical module. Jan Stevens agrees.

The second point is the dissemination of the project products. Meta says that they will use a sub net to spread the project products in her country. Anna Tombesi and Isabella Tosatto will create a link to the project platform on the websites of their organizations. All partners are invited to do the same thing by Anna Brancaccio.

12:00 a.m.

- **Conclusion** of the meeting and of the project and departure of all the participants

Claudio Pardini asks the representatives of Chalmers University, St. Thomas Gymnasium and Accademia delle Scienze to let him have a readable logo of their institutions: the logos will be used for the publication of project materials.

All SMART documents and products will have to carry two logos, the European Union emblem and the Co-funded one, as explained during the meeting's first day.

Lauretta Zoccatelli invites all partners to read and follow the indications in a very important email she's sending in a short time containing the final requests to the partners in order to be able to complete the final report form. Formats will be sent to all partners for their final report on the project.

Anna Brancaccio thanks all the partners for their collaboration throughout the project.

Claudio Pardini thanks everyone and gives out the certificates of attendance to all participants.