IETC 2017

INTERNATIONAL EDUCATIONAL TECHNOLOGY CONFERENCE

AUGUST 16-18, 2017

LOCATION: HARVARD UNIVERSITY CAMPUS, CAMBRIDGE, MA, USA

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Dear Guests…

Welcome to IETC & ITEC -2017 at Harvard University in Boston, USA.

International Educational Technology Conference (IETC) and International Teacher Education Conference (ITEC) are international academic conferences for academics, teachers and educators. They promote the development and dissemination of theoretical knowledge, conceptual research, and professional knowledge through conferences activities, the conference proceedings books and TOJET and TOJNED Journals. Their focus is to create and disseminate knowledge about new developments in these academic fields.

IETC & ITEC Conferences are now well-known international academic events and the number of paper submissions and attendees are increasing every year. This year we have been organizing 17th IETC Conference at Harvard University. Together with IETC 2017, we are organizing two other conferences; ITEC at the same time and place. These three Conferences have received more than 750 applications. The Conference Academic Advisory Board has accepted approximately 350 papers to be presented at Harvard University, Boston, USA.

We would like to thank Prof. Dr. Muzaffer ELMAS, Rector of Sakarya University for his support of organizing these conferences.

We also would like to thank Prof. Dr. Robert DOYLE from Harvard University for his collabration and support. Without his efforts and help, this conference would not be possible at Harvard University. We would also like to thank to Harvard University for hosting us here during three days.

Also, we would like to thank to our distinguished guests, keynote speakers for their collaborations and contributions to the success of these conferences.
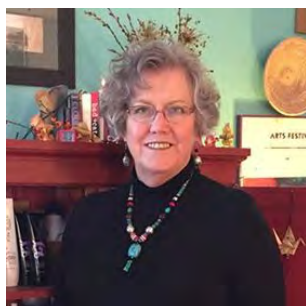
And we would like to thank all of you for coming, presenting, and joining in these academic activities.

Finally, we would like to wish you all a successful conference, pleasant stay in this historically prestigious university and good time in beautiful city of Boston.

Thank you...

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KEYNOTES

Active Learning in the 21st Century Classroom
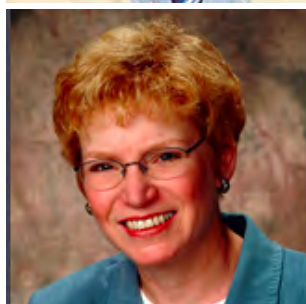
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Technology and Teaching: Transformative Innovations
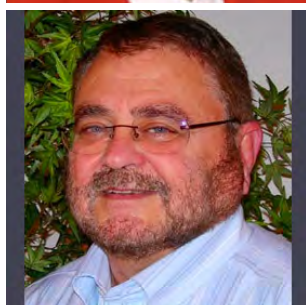
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Is it Time to Hit RESET on the Early 20th Century Model of Teacher Education?

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Fostering Inquiry Learning and Critical Thinking Using Formative Assessments and Gamification

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SHARE AND TEACH: A NEW INTERACTIVE WAY OF DESIGNING TEACHING MATERIALS ON DIFFERENT DEVICES

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ABSTRACT

Still today, interactive tools and touch screen devices are used in a traditional way by many teachers to prepare educational materials without using the most of the possibilities offered by new technologies.

The objective of this research is to promote a new way of using interactive white boards (IWB). The project, named "Share and Teach", is dedicated to teachers and students of the primary school and proposes a new collaborative approach in managing and integrating training materials using interactive systems. In order to improve awareness among the users, this research has developed an innovative human machine interface (HMI) with a friendly graphic user interface (GUI) used to design educational items that can be accessed and modified through many kind of devices (IWB, pc, tablet, smart phone).

This tool lets users to save data also on cloud with the possibility to log in and to work on the platform from everywhere. Finally, this method allows teachers to share and compare the strengths and weaknesses of the different teaching methodologies.

Keywords: interactive white boards,, design, friendly graphic user interface, teaching, learning.

INTRODUCTION. CONTEXT OF REFERENCE

In recent years, the development and dissemination of information and communication technology has undergone considerable transformations, becoming an integral part of our lives. the daily life of us all.

Digital technologies have therefore become an infrastructure that enable much of human activity, from training to working , from fun to socialization, from online payment to the delivery of different types of services.

As a consequence and effect of this change, digital skills (Innovation Communication Technology) have also gained a significant place in the European education system since the Seventies. A huge amount of money has been invested to provide the school – from the primary school to the university - with technological equipment, in a climate of trust and general enthusiasm.

The history of educational technologies to improve students skills and learning is long and full of difficulties.

The continuous need of rethinking the level of learning settings to improve the students' performances promoted the development of innovative systems of learning and teaching.

The resulting school has to be inclusive and able to create a new way of designing lessons to increase students' participation and abilities. Today the use of ITC at school is supported by international politics and a considerable quantity of economic investments. For instance, in 2006, the European Commission fixed eight educational key competences * for the education of the citizens of the future. These are, as follow:

1. Communication in one's mother tongue.

2. Communication in foreign languages.
3. Basic skills in maths and science.
4. Digital skills.
5. Learning to learn.
6. Social and civic responsibility.
7. Initiative and entrepreneuership.
8. Cultural and awareness.

* *http://ec.europa.eu/education/policy/school/competences_en*

Other drivers to the school change are due to the migration phenomena – multiethnic classrooms - and the need of inclusive teaching according to different cultures.

The traditional school is inadequate to the profound change of culture in the era of technology.. The contemporary society needs of people with new competences and the abilities of learning throughout their life. It's necessary to realize a changing to create a new dynamic school able to answer to the new society needs. Today the strategies on teaching research are not only based on contents, but also on learning methodologies. According to this direction a new focus is represented by the concept of lifelong learning.

The main items of teaching are:

1. the contents - know what - belonging to the cognitive area and including information and meanings.
2. The values - know why – belonging to the emotional and functional areas and responsible of the development of the personality.
3. The competences – know how – related to the conscious and creative application of the know how held in specific contexts.

The innovation for learning also requires new competences for teachers. They do not need only basic pedagogical teaching knowledge, but much more. The profile of the new teachers has to include the know-how in technological field in order to allow them to use and manage the potentiality of ICT.

According to the previous concept it is appropriate to quote the European Commission work that defined a common European framework, defining how teachers have to interact:

1. Themselves : teachers modifies their practice to changing contexts.
2. Students: teachers have to adjust their teaching methodologies according to a new school's vision.
3. Colleagues: teachers involve other teachers and share their methodologies with a professional community.
4. External context: teachers relate with students' parents and with the students' work areas.

These new kind of teachers are called "pioneer" teachers. For the development of such a professional figure, the new technologies are fundamental. The educator has to live in a virtual community while developing processes of innovative teaching, Inside the community teachers could compare, experiment and share their ideas and strategies with colleagues all over the world.

INTERACTIVE WHITE BOARDS AND THEIR ROLE IN LEARNING INNOVATION

In the contemporary scenario, the research for teaching technologies focuses on the users' needs in relation to new methodologies and strategic ways for learning.

The Interactive White Board (IWB) represents the main solution adopted at school to answer these needs, The IWB proposes a new inclusive learning model able to involve a large number of students to participate and to collaborate in active and interactive way to the classroom tasks. The results are better in comparison with the traditional methods.

The first IWB was designed about in 1990 for using in offices during meetings and presentations. Then the IWB starts to be used at school, as a new tool for teaching and learning. From 2007 the use of IWB has increased in both primary schools and secondary schools during lessons.

The Interactive White Board is a large interactive display, a standalone touch screen, to be used independently to perform the desired tasks and that could be controlled by the computer. Users can manipulate the virtual elements using fingers directly on the screen. The IWB allows users to integrate media contents into lectures supporting collaborative learning and offering a wide range of teaching opportunities. Consequently teachers, using IWB, are able to redesign and personalize their learning settings.

Summarizing the IWB peculiarities for learning are:

1. Stimulating attention and motivation improving learning in classroom.

2. Allowing the learning of concepts and content through innovative communicative means.
3. Letting the independent creation of learning content in a new way (i.e. realizing digital storytelling).
4. Developing metacognition processes changing the criteria of evaluation and self-evaluation.
5. Promoting the use of cooperative learning methodologies and the development of problem-solving skills.
6. Evolving autonomous learning processes (i.e. according to flipped class models).
7. Improving participation and engagement through meaningful learning forms, user-centred.
8. Students become actors of their own training path.

The use of the IWB redefines the learning setting and the model of instructional design. The didactic strategies change from a transmissive mode based on student's idea as a passive knowledge receiver to an interactive and collaborative mode, where know-how and knowledge are built according to direct experiences and interactions of students, teachers, learning materials living in that specific scenario.

What basically differentiates the IWB from the traditional blackboard or the common use of video projector is the possibility to give the access to knowledge through three different channels simultaneously.

Using indeed the IWB students could live multi-sensorial experiences, learning through three different senses at the same time: (Beeland, 2002) visual, auditive and tactile

Unfortunately despite of these potentialities, still today, the software generally diffused and used on IWB did not offer the possibility to exploit at the best the potentialities of this innovative interactive tool. Furthermore the graphic user interface is not easily accessible and usable and the digital tool results not friendly and not usually able to facilitate the use.

LEARNING SETTINGS STRATEGIES

The support of Interactive White Board in classroom could stimulate the attention and the motivation of students improving the learning of the whole class. Moreover it could allow the learning of concepts and content through various communicative media such as videos, images, documents, maps etc., also modifying and improving the traditional "frontal" lesson. The IWB could allow independent creation of learning content in innovative ways that could be shared by all the class (for example, through the realization of digital storytelling). Through the use of IWB it is also possible to implement metacognition processes (an individual's awareness of one's own ability and cognitive processes), this could change the criteria for evaluation and self-evaluation of the students. If used at the best of its potentiality the IWB is able to develop cooperative learning methodologies, developing problem solving skills. The IWB has also the ability to develop independent learning processes - according to flipped class models - increasing the skill of participating and engaging, creating learning methodologies focused on students.

Possible ways of use

- Introducing "Key Concept".
- Searching information.
- Presenting the content of lessons.
- Presenting different kind of video formats.
- Evaluating learning activities.
- Sharing the students' work.
- Saving lessons.

Main functions:

- Running the software that is loaded into the connected PC.
- Capturing and saving notes written on IWB to the connected PC.
- Controlling PC from IWB.
- Using software able to translate italic writing into digital text.
- Using computer software for digital drawing and other basic function of digital languages.

Possible operations for teachers:

1. Realizing "conceptual maps".
2. Making a brainstorming.

3.   Organizing and managing cooperative learning activities.
4.   Explaining frontal lessons.
5.   Implementing metacognition processes (awareness of individuals own ability and cognitive processes).
6.   Applying flipped classroom activities. Lessons that are moved at home as homework using full advantages of the online potential teaching materials. (Children have to research on topics defined in classroom).
7.   Designing and realizing "authentic tasks". Students have to build their knowledge in a active way, in real and complex context and then they have to use their know how demonstrating the acquired competence.

The aim of the use of IWB at primary school is to introduce a new contemporary tool in didactics able to develop the abilities of each child/student that are different according to their own growing.

More than three hundred teachers interviewed by Gfk Eurisko for Pearson Italia had very clear ideas: the didactics with the IWB are no longer the same, the relation with the children has improved and, it is always an advantage to have IWB in class. Though preparing lessons is more challenging (64% of them support it), 97% say they will not come back to the traditional method.

The use of IWB is effective, the students participate actively. In fact, 70% declare that they have seen an increase in the effectiveness of their teaching and, above all, it shows the satisfaction of seeing "enthusiasm, curiosity, willingness to participate and collaborate "on the face of the children.

THE AIM OF THE RESEARCH

The aim of this research is to promote a new way of using interactive white boards (IWB).

The research proposes a new interactive digital system tool able to design, integrate, manage and share educational items for teachers and students of the primary school starting from the interactive white boards (IWB). In order to spread a new practice on designing and managing educational items for teachers the aim of this research is to propose an innovative human machine interface (HMI) with a friendly graphic user interface (GUI) to be easily applied in different learning settings and in teaching methodologies. The HMI have to be accessed and modified through different kinds of devices (IWB, pc, tablet, smart phone) from everywhere.

The proposed GUI is dedicated to two different kind of users, teachers and students and it allows to interact with them according to different levels of interaction. The first level is dedicated to the teachers and allows them to design, manage, integrate and share educational items, also communicating with other teachers and specialists using the network. The second level of interface is dedicated to students of primary school and it allows them to interact and to share their lessons contents and their learning outcomes. with their class/ other classes.

 The research goal is also to find a new easy method letting teachers to share and compare the strengths and weaknesses of the different teaching methodologies all over the world. From this point of view the proposed human machine interface should be able to generate interaction among teachers and students around the world in a multicultural context, favouring internationalization.

The final goal of this research is to promote a new way of using interactive white boards (IWB) making them used according to their full potential.

METHODS OF RESEARCH

The research uses the interdisciplinary approach involving two main different disciplines: educational science and design. Then the referring theoretical frameworks of this research are:

1.   Universal design for learning (UDL) .
2.   Human Centred Design (HCD) .

The application of the Universal design for learning, about didactic and education models generates:

"A framework of reference for the planning of pathways that guarantee the maximum flexibility of the didactics aims, methods, and valuation, in order to optimize learning opportunities for all individuals"
(Rose, Gravel, 2016, p.27)

The UDL refers to a flexible method for teachers designing learning items and didactic paths. At the centre of this model there is the development of inclusive didactic methodologies.

The principals of UDL are:

1. The necessity of proposing a variety of methods of information, representation (and knowledge) planned to be learned.
2. The possibility of engaging in learning methods according to various expressive approaches.
3. The development and the use of didactic strategies centred on engagement and intrinsic motivation.

The second discipline involved in this research is the Design and the Human Centred Design approach (HCD). The HCD process defined in the ISO 13407 in 1999 ad systematized in 2010 with ISO 9241 - 210, represents a starting point of this research. It refers to the specificity of the interactive system, even though it is a resource to which the design can always refer when interactive system meant complexity of interactions determined by different entities.

The HCD, is related to getting information about the approach in question and to outlining useful design processes. In the Human Centred Design research, design, development, testing, and evaluation are the central activities of the field of human factors —with the aim of designing products for human use.

The Human Centred Design processes for interactive systems, ISO 13407 (1999), states: "Human-centred design is an approach to interactive system development that focuses specifically on making systems usable. It is a multi-disciplinary activity."

In particular the standard specifies that it is necessary to develop four activities to follow during the design of any interactive system. These activities are:

1. to understand and specify the context of use;
2. to specify user requests;
3. to produce design solutions;
4. to evaluate the project

The previous standard ISO 9241:210, 2010 at 4.1 identify six principles of human-centred design:

1. the project is based on explicit understanding of users, activities and environments;
2. the users are involved in all phases of design and development;
3. the design is guided and refined by the User-Centred evaluation;
4. the process is iterative;
5. the design considers the entire user experience;
6. the design team includes multidisciplinary skills and viewpoints.

Moreover the "User Centred Design (UCD) is a user interface design process that focuses on usability goals, user characteristics, environment, tasks, and workflow in the design of an interactive tool or products. The UCD follows a series of well-defined methods and techniques for analysis, design, and evaluation of software and web interfaces. The UCD process is an iterative process, where design and evaluation steps are built in from the first stage of projects, through implementation *(Shawn Lawton Henry*, 2007)

The User centred Design process is a concept methodology. The design is based on the explicit understanding of users, tasks, and environments; it is driven and refined by user-centred evaluation; and includes the whole user experience (UX). On the other hand the definition of the HCD has to be consider very wide. It's important to note that the UCD process does not specify exact methods for each phase.

This approach, must be understood in a broader sense as the authors Norman and Verganti said (2014, pp. 11), the HCD is like a design philosophy and not only a defined set of methods so the innovative line should start approaching users and observing their activities. Norman (2014, pp. 222) talking about the "design thinking", and how this distinguishes designers among the innovators who practice it, underlined that the human-centred design is one of the most effective method that designers have at their disposal to solve problems designing products and services. Moreover he points out that designers work according to their favourite procedures and the HCD approach could be applied using different procedures. These are really variations of the same general method, iteration of the four steps: observation, generation, creation of a prototype and verification.

TEACHERS NEEDS ACCORDING TO THE HCD (Human Centred Design) APPROACH

The above interdisciplinary method of approach represents the starting point we consider to developing the present research. This approach is open and adjustable to different situations and needs.

The process of analysis related to the application of the HCD approach starts from the observation of the users, that in this case are the teachers. The research studied their activities in classroom, at school and at home, deepening their different referring contexts of use and scenarios using interactive tools on different devices.

The research individuates teachers needs also observing them using IWB in classroom and using any other interactive digital systems for learning in different scenarios. This activity underlines that, generally, teachers did not manage to exploit the potentiality of the IWB because of the graphic user interface is not friendly and at the same time they did not find functions that they need.

According to this approach the results are that teachers need the possibility to:

1. managing, also online, their digital didactic materials and documents in a single tool.
2. Giving space to ideas. The possibility to compare various didactic methodologies with other colleague.
3. Using a flexible tool for keeping notes and for designing lessons.
4. Saving time in the research of didactic items for lessons in classroom.
5. Having the opportunity to interact with other teachers.
6. Keeping a personal and shareable diary with information on students, classrooms and teaching methodologies also in order to customize the leaning activities according to special needs of classes or students.

The above emerging needs could represent the basics of the second part of the present research centred on the design of a new interactive digital system tool. The IWB with its features is an interesting tool for developing a didactic design based on the above principles.

THE USE CASE: SURVEY TO A SAMPLE OF TEACHERS OF AN ITALIAN PRIMARY SCHOOL

The experimentation was set in a suburb of Rome, the capital of Italy. It consists in two activities interviews. and direct observation. The interviews have been carried out with 15 teachers from the first to the fifth class of the primary school inside the Comprehensive School *Calderini Tuccimei* in Rome. The questions aimed to investigate about the modality of use and interaction of teachers with the IWB. In particular the questions were asked to evaluate the following main contents:

- current way of using the IWB in the Italian primary school.
- The threats, the weakness and critical elements of IWB principles.
- The strengths, the potentiality of IWB for didactic activities.

Moreover the surveys asked teachers to specify the functionality they prefer or would like to use in IWB. The answers of the above questions represented an important point reference of the research because they identified the real way of the use of the IWB tool. The answers also underline that the primary users of this tool (IWB) have full control of the tool itself and over the spread of content to their classroom. Furthermore they are perfectly able to decide when and how use the IWB in their lessons.

In a second step teachers were invited to propose learning tools dedicated to the IWB to use in classes of primary school. The observation involved 3 classes - of the fifth class – and show how teachers and students use IWB. The remark underlined the difficulty of teachers and students to interact easily with the GUI of the IWB. The activities allowed to understand and verify teachers real needs, to evaluate their suggestions and moreover to individuate recognizable, useful and recurrent practices. The interesting data emerging from this survey resulted relevant to design the interactive digital system.

It is easy to understood that, also today, there are several difficulties to approaching the IWB at school. This tool, even after many years from its implementation at school, is not used at 100% of its potential. However, at the same time, it is strong the will to experimenting the understanding, and the full use of this new tool that could be an innovation for the teacher and students.

The results underline the elements for learning that are critical for teachers and students not allowing them to live pleasant experiences.

At the same time, the analysis helps to define a method to designing a new interactive tools able to be used in an easy and pleasant way on different devices.
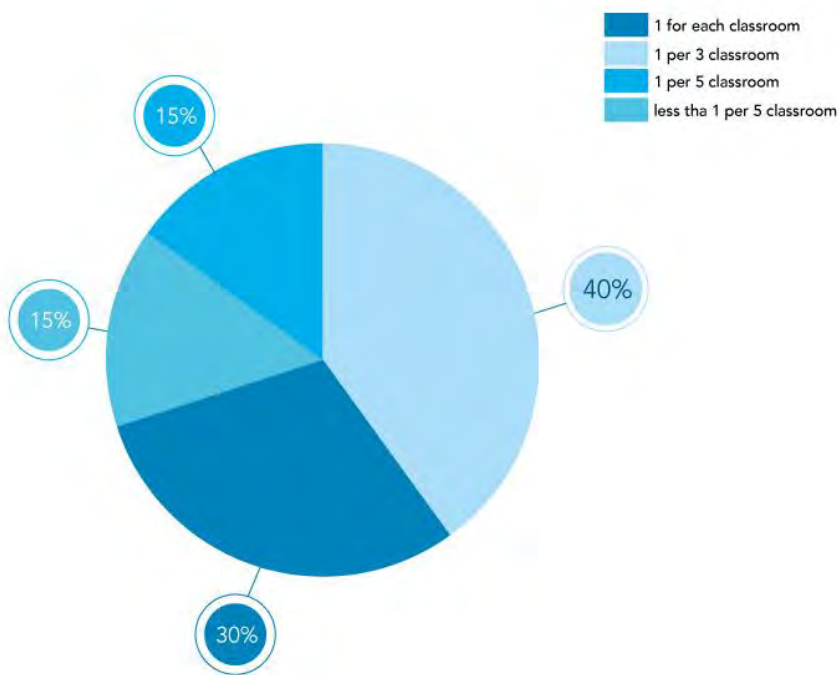
SURVEY

Fig. 1 Amount of IWB in Italian Classroom. Results show the lack of clarity on the availability of IWB within the Institute.
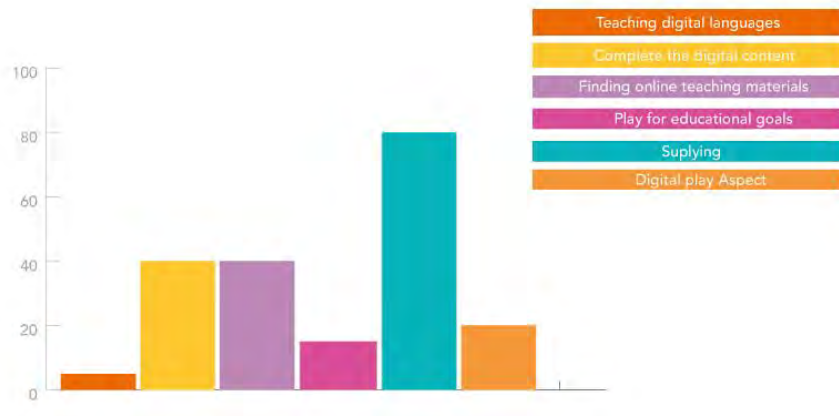

Fig. 2 "How do teachers use the IWB in classroom?" The use of the IWB as a tool for supplying teaching materials is preponderant while the play and the use for playing and for learning languages is not relevant.

Fig. 3 How do teachers prefer to use the IWB? The lack of attention for languages learning is confirmed by the survey results. when asked to express their intentions towards using the IWB. In fact, 0% of respondents indicated the IWB use to implementing languages skills.
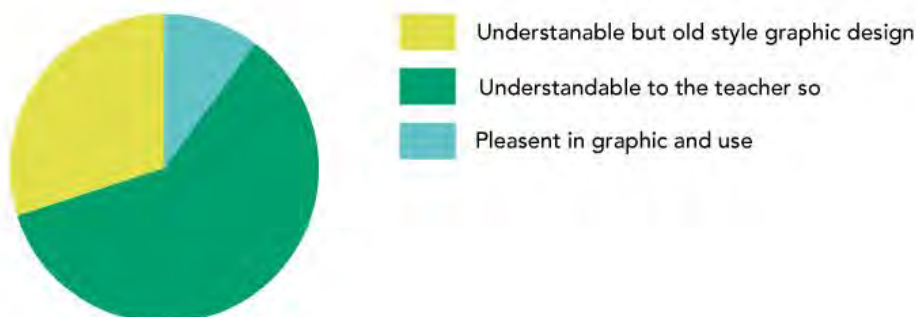

Fig. 4 What teachers think about the GUI of the IWB?.A 60% of the respondents state that IWB is understandable and therefore functional. However, this figure shows how the graphic factor and the use experience not taken into account.

THE PROPOSED HMI TOOL: SHARE AND TEACH

Share and teach: is the name of the innovative human machine interface (HMI) with a friendly graphic user interface (GUI) for designing educational items able to be accessed and modified through many kind of devices (IWB, pc, tablet, smart phone) using the network.

Share and Teach is a new tool for managing digital didactical material at primary school.

The starting points of the design of the new tool are the study results on teachers needs, summarized as follow:

1. managing work documents and the digital didactic materials in one single and online sharable content tool during all the school year.
2. Having a personal not official tool for saving notes and didactic materials useful for teachers during all the scholastic year.
3. Saving time in looking for classroom teaching material or lesson, having the opportunity to interact with other teachers.

4. Comparing and sharing learning tools and didactic items and teaching methodologies with other teachers in the network.
5. Having the possibility to compare and evaluate different didactic methods with various colleagues.
6. Keeping a shareable diary to notes any interesting information on class on students and on didactics for shaping teaching activities around the real needs.
7.

The main goals to reach with the development of *Share and teach* are, as follow:

1. Stimulating the use of IWB by teachers transforming all the first listed weaknesses in strengths.
2. Sharing digital educational material at territorial, regional, National and international level on the network.
3. Innovating the teaching material and the distribution system
4. Experimenting innovative ways to share and to internationalize the idea of a new kind of school.

The basic functions of *Share and teach* are:

1. Create / set up a personal profile
2. Access to a personal work folder
3. Quick access to school or teacher timetable
4. Access to a digital didactical material library
5. Quick access to a web search
6. Save materials from researches in a personal library
7. Save digital didactical material
8. Create digital material with IWB
9. Compare didactic material or methodologies with other teachers at school or all over the world

Share and teach is a tool with a GUI to be used on IWB during lessons in classroom, but it has the main purpose to facilitate the use of new technology in every moment of teacher's life. For this reason the tool is accessible from any type of device, tablet, pc and smartphone with a specially designed app version, to be upgraded in future. The Graphic User interface is designed to be friendly, simple and intuitive. It is composed of a hierarchical structure that start in the Homepage, where all content are accessible and visible by the user. (Map of content Fig. 5)

In the **Login page** (Fig.6) teachers (Users) can add their personal username and password and enter to the Homepage (Fig.7).

In the H**omepage** , the user can navigate in a simple and intuitive way. At the top of the screen the logged in person is identified.

During all the time of navigation experience the logged users has at their own disposal a menu that it is possibile to personalize, setting up the user profile, and checking private mail messages.

The core of Share and teach is in "My Dashboard**"** section (Fig. 8) accessible from the Homepage. In this section, teachers can visualize the lists of their digital teaching materials uploaded and manage them. They can upload and download their lessons, change and save them. It is also possible to open each item in a full screen to work, copy, modify and to save.

In the section **"My Dashboard"** there is a secondary menu that allows teachers to do several actions:

- check their bookmark lessons: choosing this menu item, teachers can resume the lesson at the point of interruption.
- Check their personal school agenda. Teachers can interface with the school schedule, displaying planned engagements or seeking a meeting. Moreover, they can add an event or write a   didactic observation with reference to the current date.
- View and share their class projects. The goal is to create communication among teachers, and classes.

From the Homepage it is possible to link to the **"Library"** section (Fig.9)

In this section teachers can find the official digital materials in a complete library divided in subjects of learning. From this section it can possible to go to two different secondary areas:

1. the **Personal Library**: where teachers could collect all the materials they prefer or create educational papers.
The personal library can be organized in folders and subfolders, like the structure of a personal computer.

2. the **Saved Search**: where teachers could save useful links about interesting and favourite websites. The aim is to facilitate the availability of material and to save time.

From the Homepage it is possible to link to the **"Timetable"** section (Fig.10).

In this area the users can check the school time table in real time through personal login. The tool shows to the teacher his real time position in a classroom or in a meeting.

From homepage is possible to access the **"Search"** function (fig. 11) . This section allows user to researching online digital didactical material and to save the results in a favourite list in the secondary area called **Saved Search** inside the **"Library"** section and check them in a second moment.

In order to stimulate a better use of the IWB , this tool propose to the teacher to use creative activities .

The **"Create"** command (Fig.12) from the Homepage menu leads to a unified screen where the teacher can be find the commands to create educational content.

The **"Share"** section allows to send and share materials and documents to other teachers for observations and notes.

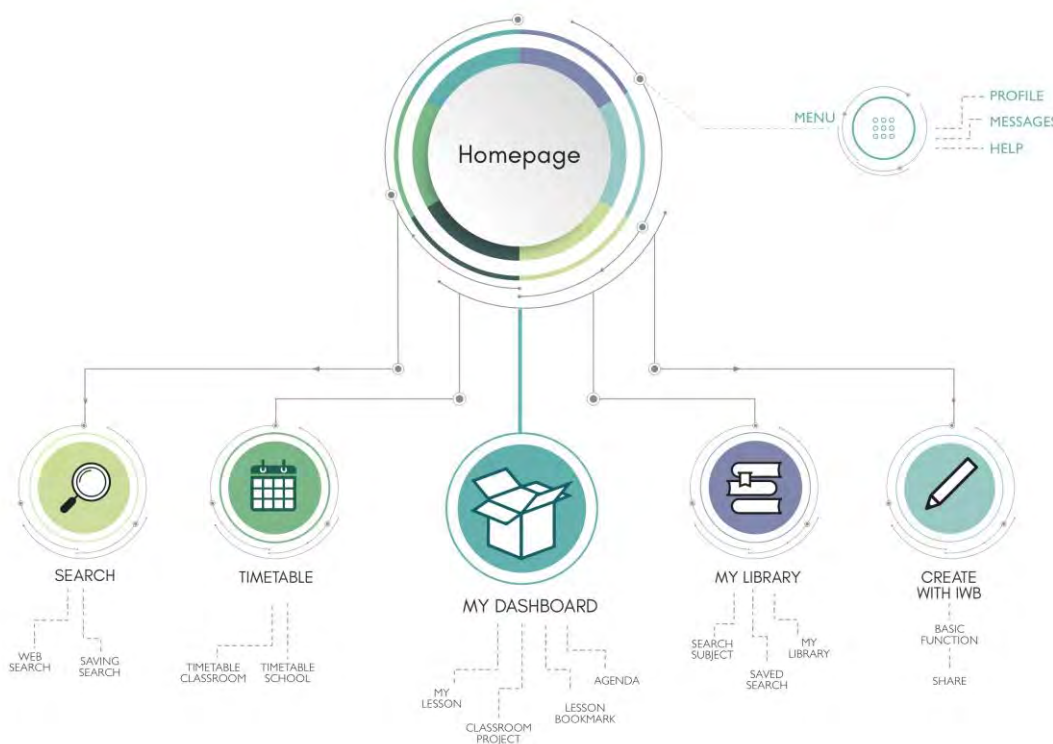While the rescue functions are present in **"My Dashboard"**.

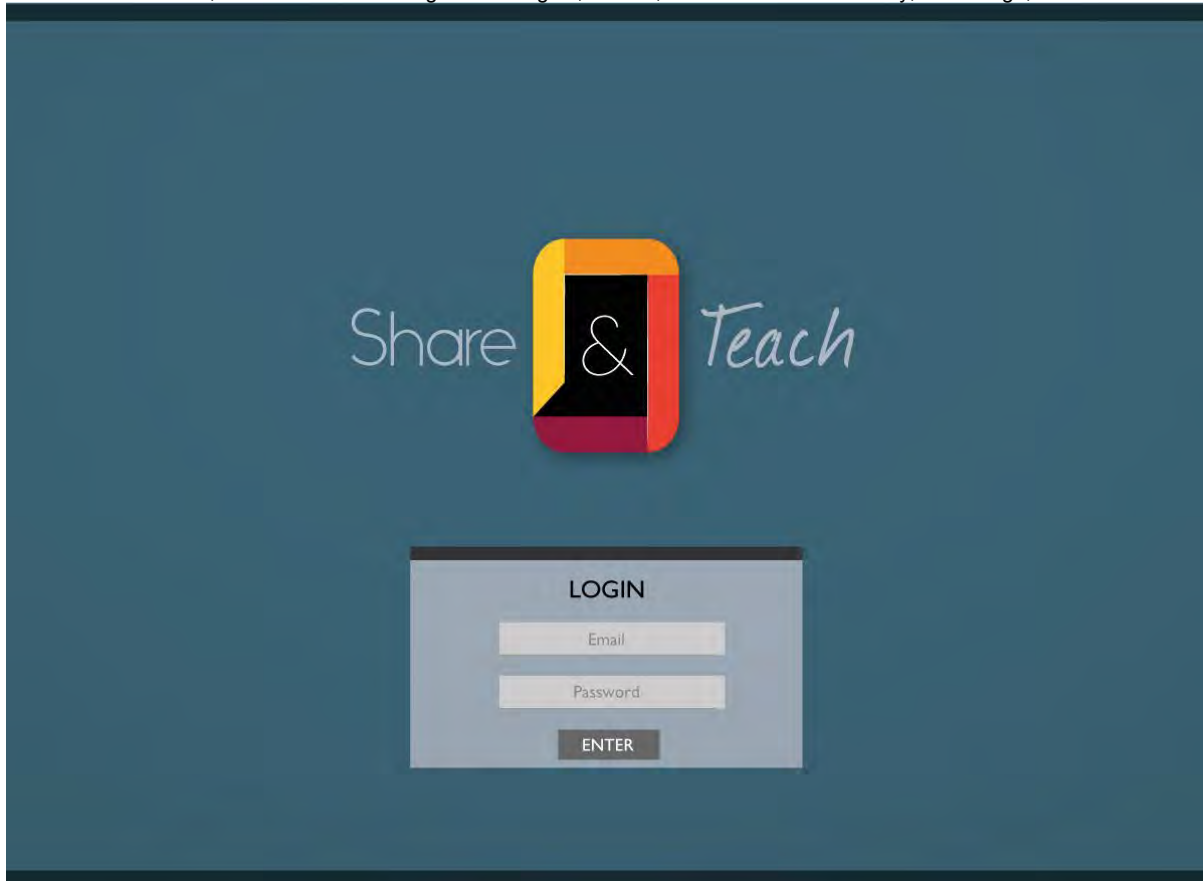Fig. 5 *Share and Teach* map of content
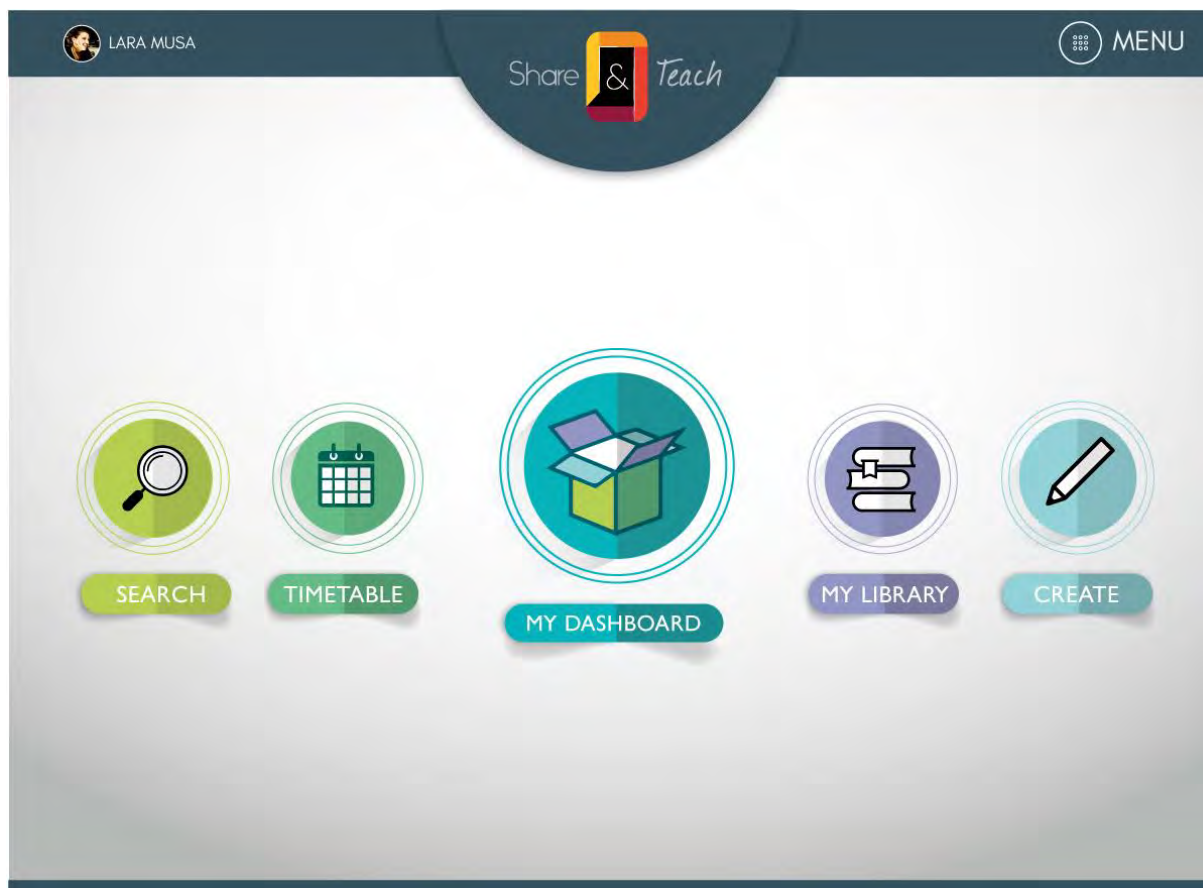
Fig. 6 Login screen
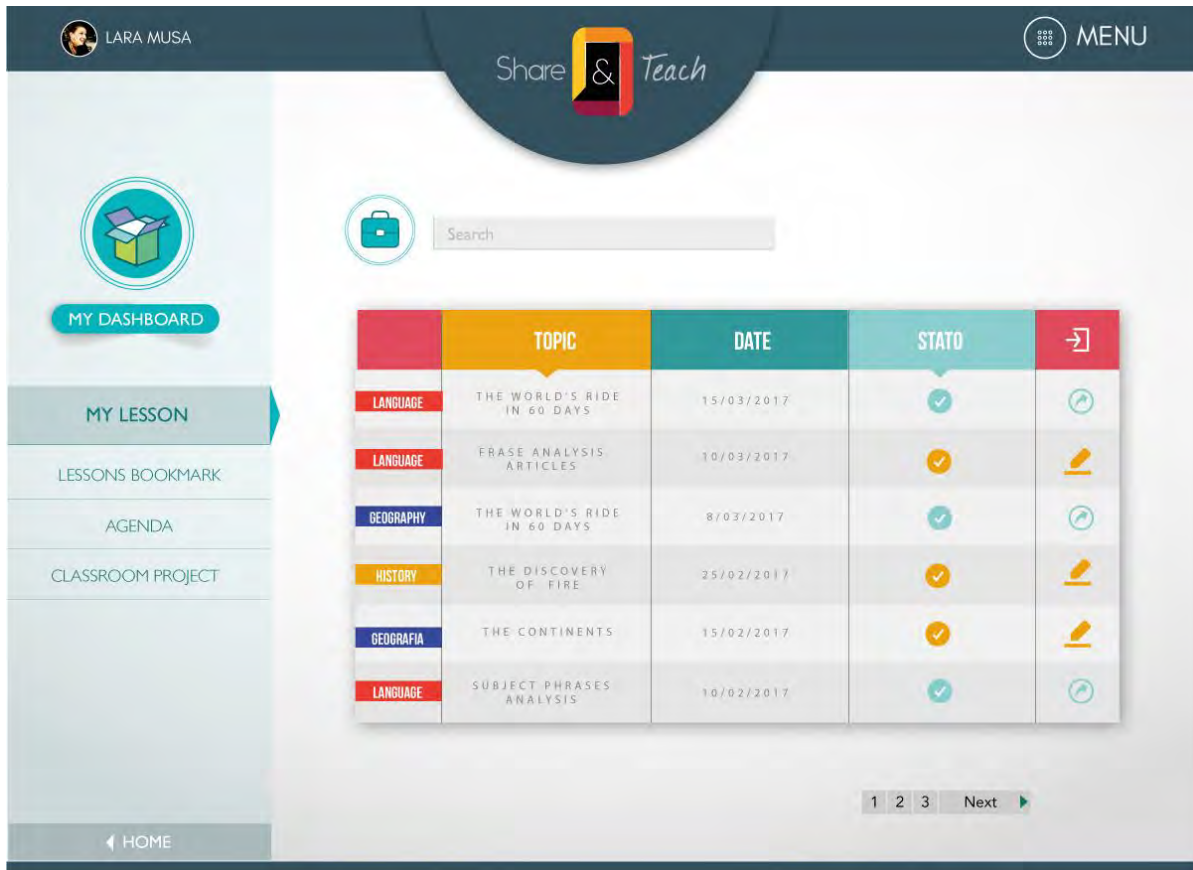

Fig. 7 Homepage screen

Fig. 7 My Dashboard
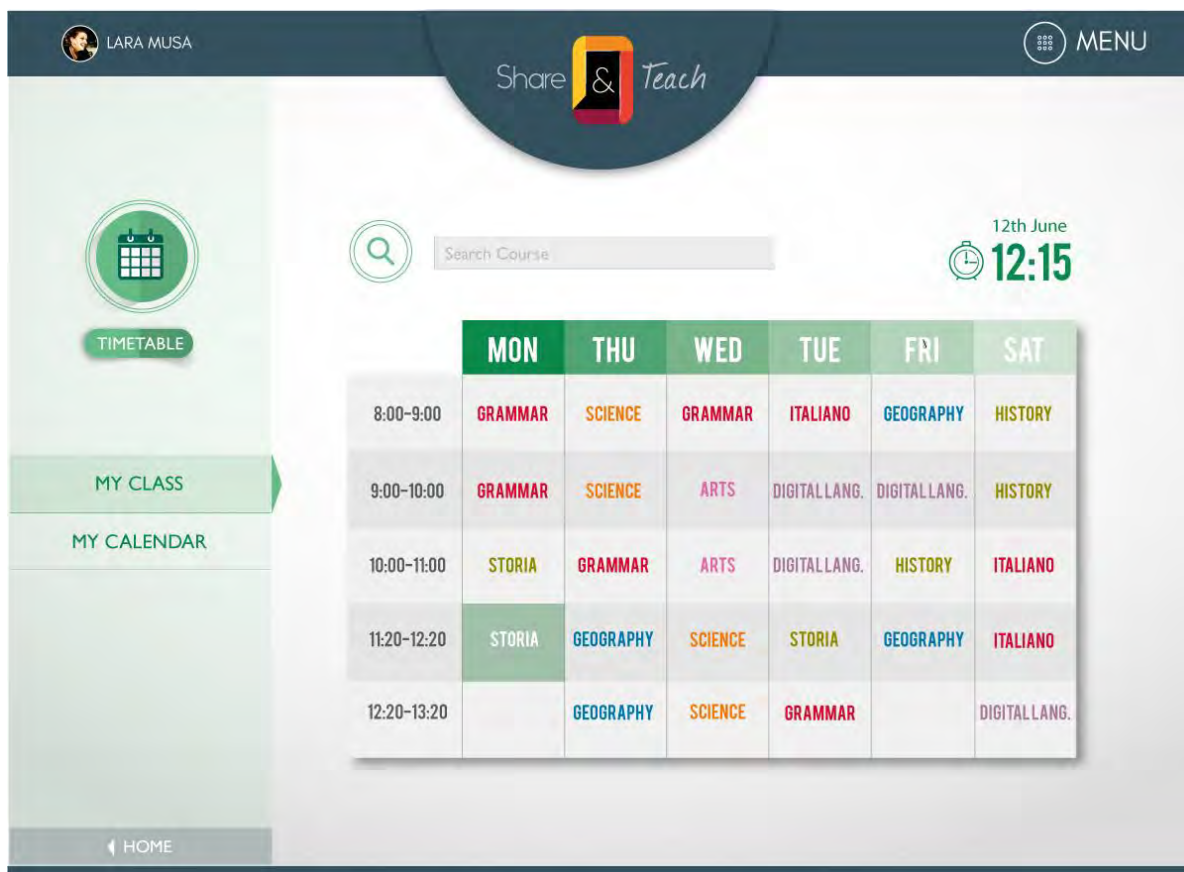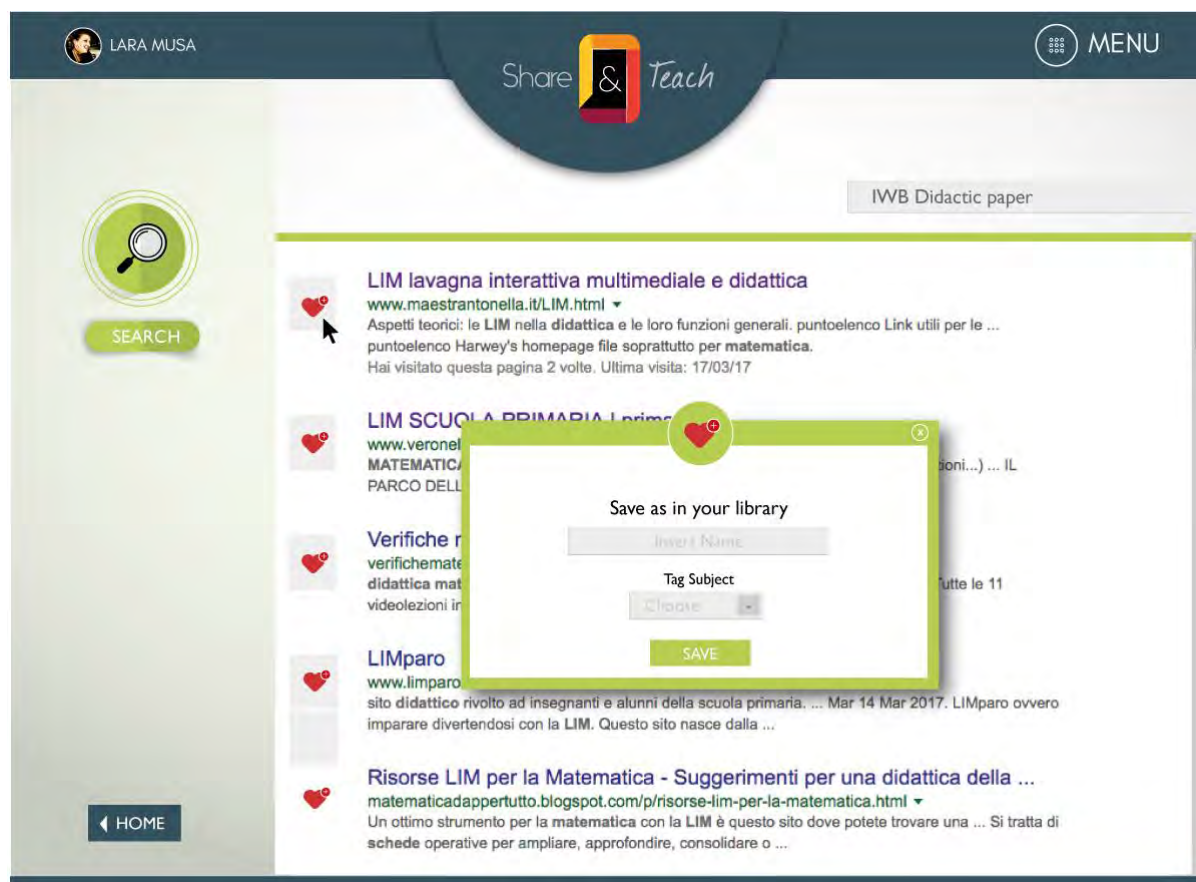

Fig. 9 My Library

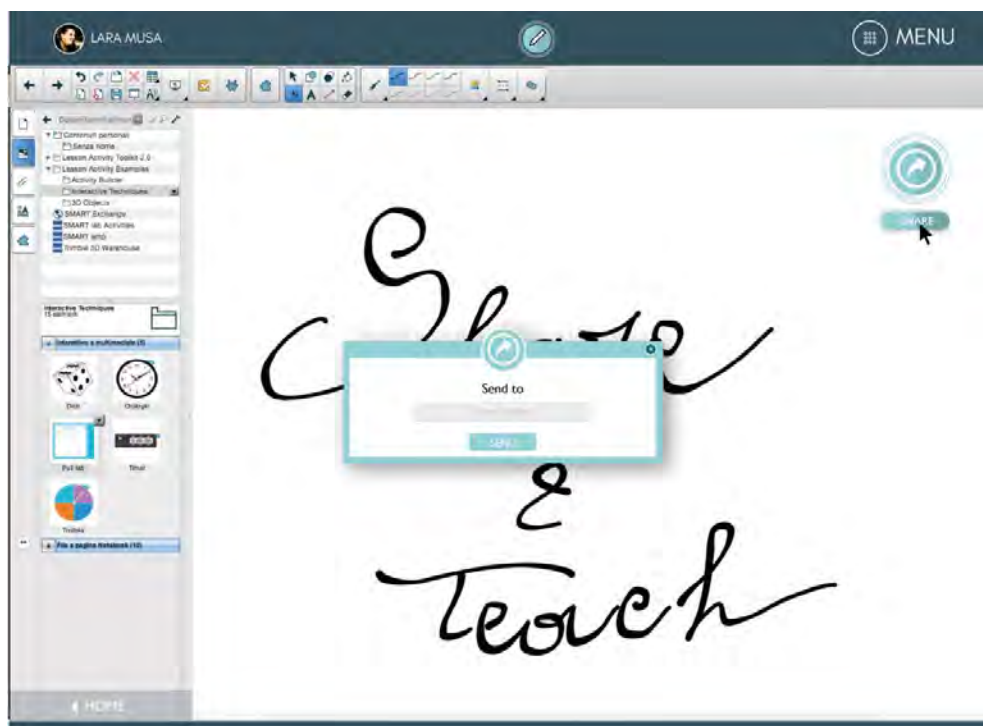Fig.10 Timetable

Fig.11 Search page

Fig. 12 Create with IWB

CONCLUSION AND PROPOSAL FOR THE FUTURE

The present work therefore aim to improve the overall quality of teaching research, to explore new challenges comparing different culture and sources of knowledge adapting the school community to the imminent changing of today society.

The tool, which works as a didactic social network, could be tested territorially, inside a small group of beta testers, in order to improve and evaluate the UX and the functionality of the tool itself.

This project, if developed inside an institutional framework, as the European Community, could provide an instrument to compare different didactic methodologies, to highlight their peculiarities, leading to an instantaneous development process, based on upgrades and improvements straight from beta-testing.

Outside the institutional context, the will to compare and sharing teaching methods is remarkable, although these are small scale projects, as internet forum or personal websites/blogs, in which teachers share their experiences, or in a smaller percentage, platforms involving also students from different countries.

In spite of its dimension, this phenomenon well demonstrates how a will to confront, share and improve is spreading inside school and education fields.

Share and Teach could represent a challenge for teaching and learning systems. its development and the online archive full of sharing different didactic materials from all over the world could become a sort of digital heritage.

To achieve an optimal use of these technologies, it's important to have a more conscientious approach and to reach a better understanding of technologies-educations relationship.

Nowadays technologies are an important part of day life, even in the field of education but digital natives are experiencing lack of proper instruments to mediate between their perception of reality and the educational standards offered by the school system. From this point of view, Italian teaching staff is behaving in a very innovative way, driven by the desire of educating children as adults of the future, facing every day new challenges and testing educative skills. Spreading technologies inside teaching mean to deal with many barriers, from logistic to intrinsic issue, like the natural obsolescence of every technological device.

It is therefore desirable to increase research efforts in educational technology field, to explore new approaches and generate new push to instruction.

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