

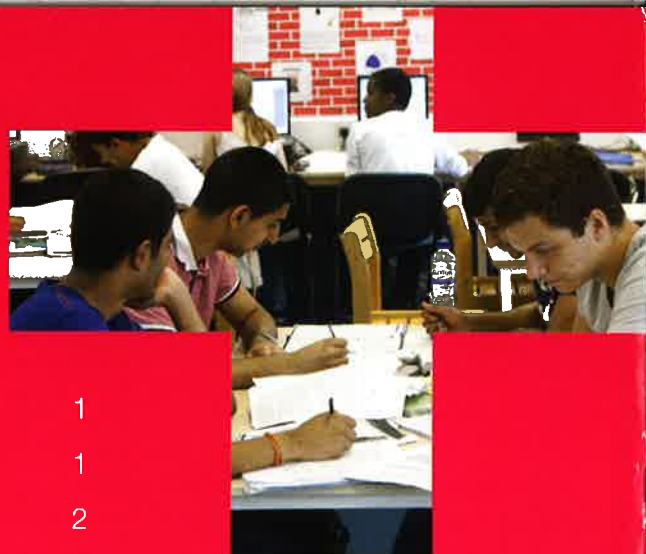
# DESIGNING THE FUTURE CLASSROOM

Issue 1 – October 2013

- \* Evaluating the impact of iTEC Learning Activities in schools
- \* Are schools in the 'futures business'?
- \* Providing the tools for innovation
- \* Mainstreaming the results of the iTEC project

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## About iTEC

iTEC (Innovative Technologies for Engaging Classrooms) is a four-year project in which European Schoolnet is working with education ministries, technology providers and research organisations to transform the way that technology is used in teaching and learning. With 26 project partners, including 14 Ministries of Education, and funding of €9.45 million from the European Commission's FP7 programme, iTEC is the largest project undertaken by European Schoolnet to date, and the largest initiative yet on the design of learning and teaching for the future classroom.

Within iTEC, educational tools and resources have been piloted in over 2,000 classrooms across 19 European countries with the key objective of providing a sustainable model for fundamentally redesigning teaching and learning. iTEC's aim is to bring about systemic change, not through radical technological advances, but through progressive adoption of Innovative Learning Activities that effectively use and exploit both existing and emerging technologies in order to better equip the children of Europe for the challenges of work and society through the 21st century •

## Rethinking the future classroom

Some years ago, I heard an ICT in education expert talking about his experiences of visiting schools and reviewing classes. When asked about the use of technology, the expert reflected that some of the worst classes he had witnessed used technology, while the best lessons made use of technology too. The poor classes used technology as filler, while the best enabled completely new approaches to learning that simply would not have been possible without digital tools, materials and techniques.

So, how can we ensure that use of technology encourages the best of learning experiences?

It is now clear that the answer to this question lies with pedagogy, rather than with hardware. It is also clear that the increased accessibility to information brought about by the Internet means that the dynamic between students and teachers has changed irrevocably. Today, there are quite extraordinary opportunities to move learning from being something which focuses on the needs and agency of an earlier world, to one in which young people are active and engaged in preparing for their future in a rapidly changing world, with new challenges and opportunities in employment or enterprise.

The iTEC project is very much a part of this emerging trend. Since 2010, teachers, education ministries, industry representatives and specialists in the field of education from across Europe have worked together to design the future classroom. iTEC does not just focus on visions; instead, it provides teachers with the necessary learning resources and pedagogical tools to allow them to innovate within their own teaching practice, laying the foundation for the rollout of iTEC Learning Activities across education systems as a whole.

The articles that follow provide an overview of the iTEC project to date: its scenarios, innovative Learning Activities and tools, its mix of vision and practice, its engagement with partners and communities, its outcomes and results, and its remarkable journey towards widespread sharing and adoption •



*GAVIN DYKES*  
General Secretary,  
iTEC High Level Group

## Evaluating the impact of iTEC Learning Activities in schools

The volume of data collected during the evaluation of the iTEC school pilots has provided a unique opportunity to measure the real impact that the project is having in classrooms.

'Evidence of the impact of iTEC on learning and teaching' provides a detailed meta-analysis of all evaluation data relating to the iTEC project, with a particular focus on students' learning outcomes and engagement, and teachers' digital competence and pedagogical use of ICT. The report, carried out by project partner Manchester Metropolitan University, found that both teachers and students responded overwhelmingly positively to the introduction of iTEC's innovative Learning Activities, and that Learning Activities brought a positive and measurable impact to the classroom.

You can see already there has been a change in the culture of learning. The children have changed their interaction with each other

*School Principal, Germany*

### Impact on students' learning and motivation

Four out of five teachers surveyed reported that students had become more deeply engaged in their work, and that the iTEC pilot had positively impacted on students' attitudes to learning. Over 80% of teachers also agreed that the pilot enabled the students to engage in **active and independent learning**, and that the Learning Activities provided students with new ways to express ideas.

**Teachers** also felt that the pilot had a positive impact on their own attitudes and practices relating to ICT; **79%** of the 826 teachers surveyed replied that their **knowledge of ICT was improved** through taking part in the pilot, with 84% indicating that they intended to use ICT more frequently in future. Above all, 87% of participating teachers felt that using iTEC Learning Activities enabled them to incorporate **new pedagogical practices** into their classroom activities.

### Mainstreaming iTEC beyond the school pilots

The teachers and education administrators who took part in the iTEC pilots were confident that Learning Activities, if mainstreamed across education systems as a whole, would lead to innovation in the classroom; **97%** of teachers polled would **recommend the project to other teachers**. Three-quarters of the project's National Pedagogical Coordinators, the representatives from education ministries and agencies tasked with overseeing the project at a national level, agreed that the innovative practices introduced as part of the iTEC project were likely to be transferred throughout the participating school, and beyond to other schools in the country •



CATHY LEWIN  
Senior Research Fellow and Deputy Director of the Centre for Research in Technology, Innovation and Play for Learning, Manchester Metropolitan University

Now I'm way more convinced of the need to push the school practice in this direction, because this enriches the students, offers new learning possibilities, and makes my teaching more interesting

*Teacher, Italy*

# iTEC in focus: Spain

SEK Atlántico can truly be said to be an iTEC success story. Located in Pontevedra, Galicia, along Spain's north-western coast, the school has over 600 students, from infants through to 12th grade. Since its founding in 1989, the school has always sought ways to introduce innovation to its teaching and learning.

SEK Atlántico has been involved in the iTEC project since the launch of the project in 2010, and started off with just one teacher. Since then, 18 pilot classes have taken part in all four of the project's cycles. At SEK Atlántico, the success of iTEC can be traced back to the enthusiasm that students have shown towards the project. Gonzalo Garcia, a mathematics teacher who was the first teacher in the project, says that the more involved in the project the school was, the more motivated the students were. According to Gonzalo, the students' enthusiasm for the project is down to the fact that iTEC Learning Activities take place in a non-traditional classroom dynamic: *"The iTEC activities design gives great importance to teamwork: this meant that the students were involved in an engaging dynamic in which individual work contributes to a common goal, continuously assessed by teammates. It is often the case that students are actually more demanding on their peers than us teachers."*

Students also experienced an improvement of their test results, a higher level of engagement in classroom activities, and a greater awareness of their own learning management. *"Probably the most impacting change in my teaching is that today I share more responsibility with my students",* Gonzalo continues. *"I can be confident and trust in my students' maturity, as I know they'll take that responsibility."*

According to Cristina Márquez, Deputy Head of Learning and Development at SEK Atlántico, the iTEC experience has been very rich for the whole school community. *"iTEC provides an opportunity to explore, innovate, and develop teachers professionally; working together and collaborating between different teams of teachers and students."*

I would never have  
thought that my classmates  
were so creative

She has also seen that iTEC provides opportunities for students to enrich their skills for the future and to be more reflective, active learners and participative students. Exploring, checking facts and theories, developing students' scientific thinking, working together and connecting learning with real life matters and questions are all part of iTEC.

Pablo Martínez, a 10th grade student who was part of one of the pilot classes at the school, also feels that iTEC has benefited his everyday learning. *"What a great project! It has been an incredible experience. The thing I liked most was to work in teams. I would never have thought that my classmates were so creative. I would recommend every teacher in Europe join the project; iTEC is really worth it"*





## Providing the tools for innovation

The iTEC project has been able to produce some impressive results through its work in providing teachers with innovative and inspiring Learning Activities. But the real objective of the project is to bring this change to schools across Europe, not just those involved in pilots. How can this be achieved?

iTEC has established a set of processes to help schools and other key stakeholders in educational reform to create and deliver a viable vision for teaching and learning in the future classroom. These processes have been packaged as a series of toolkits which can be adapted and used in reforming education – from national, policy level, to school and classroom level – taking into consideration the social, political and technical diversity across Europe.

- **Eduvista**  
The Future Classroom Scenario Toolkit
- **Edukata**  
The Innovative Learning Activity Design Toolkit
- **Eduteka**  
Technologies for Advanced Learning Activity Design

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# Eduvista - The Future Classroom Scenario Toolkit

Until recently, the relatively slow pace of change in schools supported an approach to curriculum planning that responded well to the needs of learners. However, the profound economic, social and technological changes of recent years have left few in doubt that the school of the future needs to be different. So how should policymakers and educators respond to these changes?

A key phase of the iTEC project has been the development of Future Classroom Scenarios. These scenarios, which draw on trends and developments in technology and society, have been tested and validated in large-scale pilots in schools across Europe. Over the course of the pilots, a number of key messages emerged:

- Examining data on global trends against issues at a local level can develop insights into the future needs of students.
- While individual schools innovate in their own particular context, it is possible to identify a common set of developmental stages of innovation in the technology-enabled classroom. This 'innovation matrix' allows policymakers and educators to benchmark their level of innovation.
- The process of developing scenarios for the future classroom acts as a powerful form of professional development, particularly if it involves a number of diverse stakeholders working together.

Throughout the pilot phase of the project, a number of pedagogical tools were developed, to facilitate teachers in introducing the use of technology into their teaching practice. With the iTEC project moving towards the mainstreaming phase, Futurelab@NFER have brought these tools together to form **Eduvista**, the Future Classroom Scenarios Toolkit. Eduvista supports a collaborative approach to schools' self-review and transformation. The toolkit will allow partners and other stakeholders to develop scenarios tailored to the needs of schools at a national, regional, or local level.

In January 2013, the toolkit was made ready for testing. European Schoolnet is working to deliver training in the use of the toolkit as part of its Future Classroom Lab project, so that it can be adopted on a wider scale by Ministries of Education and training authorities across Europe.

As we approach the end of the project, our aim is to put in place the necessary partnerships that will sustain the scenario development process in future years. At national level, we are identifying partners who can drive and support the use of the toolkit in individual institutions, and across individual localities. At the same time we are developing the mechanisms that will provide opportunities for Ministries of Education to continue to collaborate on the development of Future Classroom Scenarios at a European level ●



**NIEL MCLEAN**  
Head of Futurelab Research Centre,  
National Foundation for Educational  
Research

# Edukata -

# The Innovative Learning Activity Design Toolkit

There is an abundance of inspiring scenarios about innovative schools and ground-breaking educational practices. However, generic scenarios that may work well in one school will not necessarily take into account the education context of schools across an education system as a whole.

In order to fill the gap between visionary scenarios and classroom practice, we created **Edukata**, a collaborative design process that allows educators to design future classroom activities. Edukata starts with the selection of an inspiring scenario, and provides step-by-step guides for educators to create practical and innovative Learning Activities. The majority of the scenarios are not subject-specific; educators from any subject area could use them in their course planning. These Learning Activities will reflect key aspects of the scenario, the personal interests and needs of students, and the classroom and school context.

The Edukata process consists of four types of sessions: **getting started, design studio, participatory design, and composing Learning Activities**. During the getting started session, a design team of teachers is formed, a scenario is selected, the process planned and a design studio is set up. The core work of developing practical Learning Activities happens during the design studio session, when the design team begins their analysis and refines their work, and during the participatory design

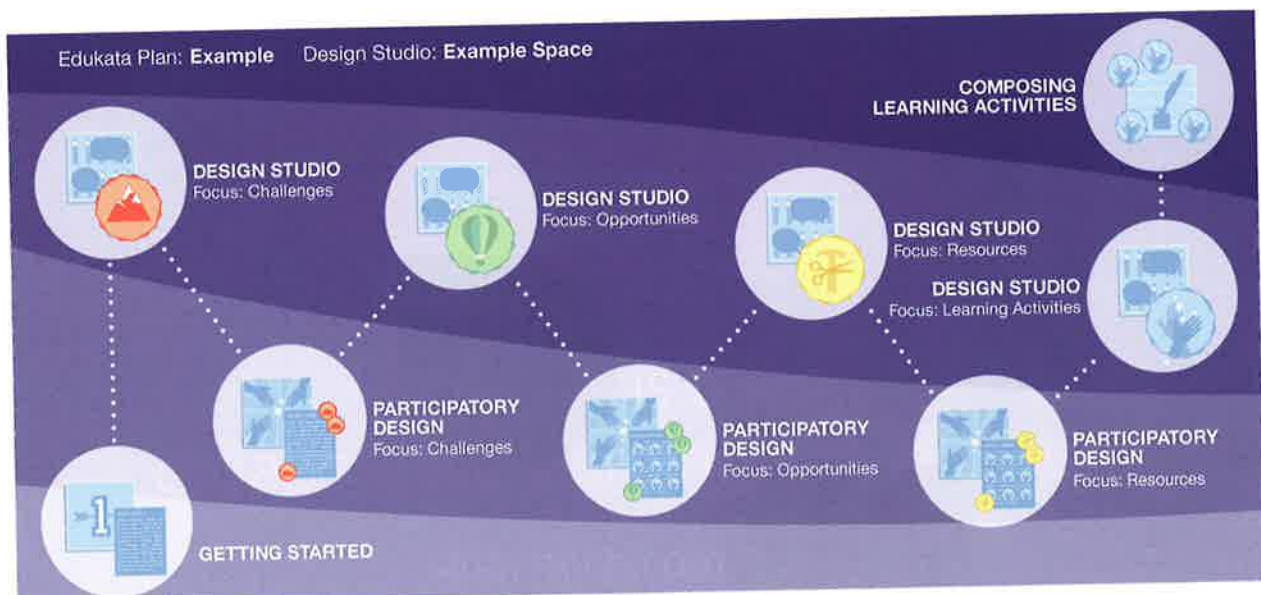
session, when the design team discusses their work with educators who are not part of the design team. The end result of this design process is Learning Activities that can be adapted to the individual teacher's classroom context.

The Edukata process has been developed by the Learning Environments research group, led by Professor Teemu Leinonen, and the Media Lab in the Aalto University School of Arts, Design and Architecture. During the years 2011-2013, Learning Activities designed with the empirically-tested Edukata process have been piloted in over 17 European countries, and in over 2,000 classrooms.

Edukata is a starting point; it provides a glimpse at the possibilities that the successful design of high quality Learning Activities can offer ●



ANNA KEUNE and TARMO TOIKKANEN  
Aalto University School of Arts, Design and Architecture, Department of Media, Media Lab Helsinki



Edukata example design process including three design studio and participatory design iterations



# Eduteka - Technologies for Advanced Learning Activity Design

When we ask teachers, policymakers and other education specialists just what has made the iTEC project so successful, a common theme emerges. What sets iTEC apart from similar projects in the education/technology field is that the pedagogical elements have been given precedence over the technology.

Many of those involved in iTEC have previously participated in educational projects that were overly-reliant on a technological 'magic bullet'; a catch-all solution to every educational woe. However, this approach would often create as many problems as it solved. Anyone experienced in the introduction of technologies into the classroom in the last 10-15 years will also be familiar with an arguably flawed approach, which begins with investing in new technology, and only then, as an afterthought, does the question of effective use and value come into focus, if at all.

The iTEC project has developed and tested new technologies, but these have been developed specifically to support the pedagogical developments. These technical outputs have been brought together as a third toolkit, **Eduteka**. Eduteka has been developed and tested with the involvement of teachers and students involved in the iTEC classroom pilots. The technologies have been used to provide a reference model for tools to support the creation and use of iTEC's innovative Learning Activities.

The **Composer tool** has been created to allow teachers to create, adapt and share their own Learning Activities. The Composer also provides teachers with suggested technologies to use in the delivery of a selected Learning Activity; e.g. teachers who may not have considered using online chat or collaboration systems can discover a number of such technologies, enabling teachers to develop new and engaging approaches to formative assessment and classroom management. The Composer also demonstrates 'intelligent' advice on resources, with the capability to make personalised, informed recommendations, based on the teacher's local context.

The Composer-based technology also provides resource recommendations from the **iTEC Widget Store**. These widgets are tools that support a range of classroom activities. They may be something as basic as a calculator or notepad, or something more sophisticated like the award-winning iTEC TeamUp tool, used to support collaboration and reflection. While the widget store is an

integrated component of the Composer, it is also provided as an independent tool within the Eduteka toolkit, allowing teachers to search for popular widgets, or create their own.

The widget store has been integrated into a number of common educational platforms e.g. Moodle, DotLRN, ActivInspire, SMART Notebook, so that teachers can access the store in an environment they are familiar with, rather than having to negotiate a completely new platform. The ease of access to the tools allows teachers to quickly discover and adopt new technologies to support innovative and advanced pedagogy. The concept of an 'educational apps store' has become increasingly popular since the beginning of the project three years ago. In a world rapidly moving away from complex learning management systems towards greater integration of flexible components, research in this area provides some valuable lessons to technology providers.

A third tool within the Eduteka toolkit, currently being evaluated, is the **People and Events Directory**. This tool supports teacher community development by connecting teachers with similar interests, allowing them to share knowledge and experiences. The community collaboration is driven by the contributions of ambassador teachers from different countries, sharing their experiences of using iTEC Learning Activities, and offering new and innovative approaches and technologies through the medium of short online events.

Beyond the iTEC project, Eduteka will remain to stimulate further research. The technologies are also accompanied by detailed academic research exploring the challenges associated with the development and deployment of such technologies in support of educational reform ●



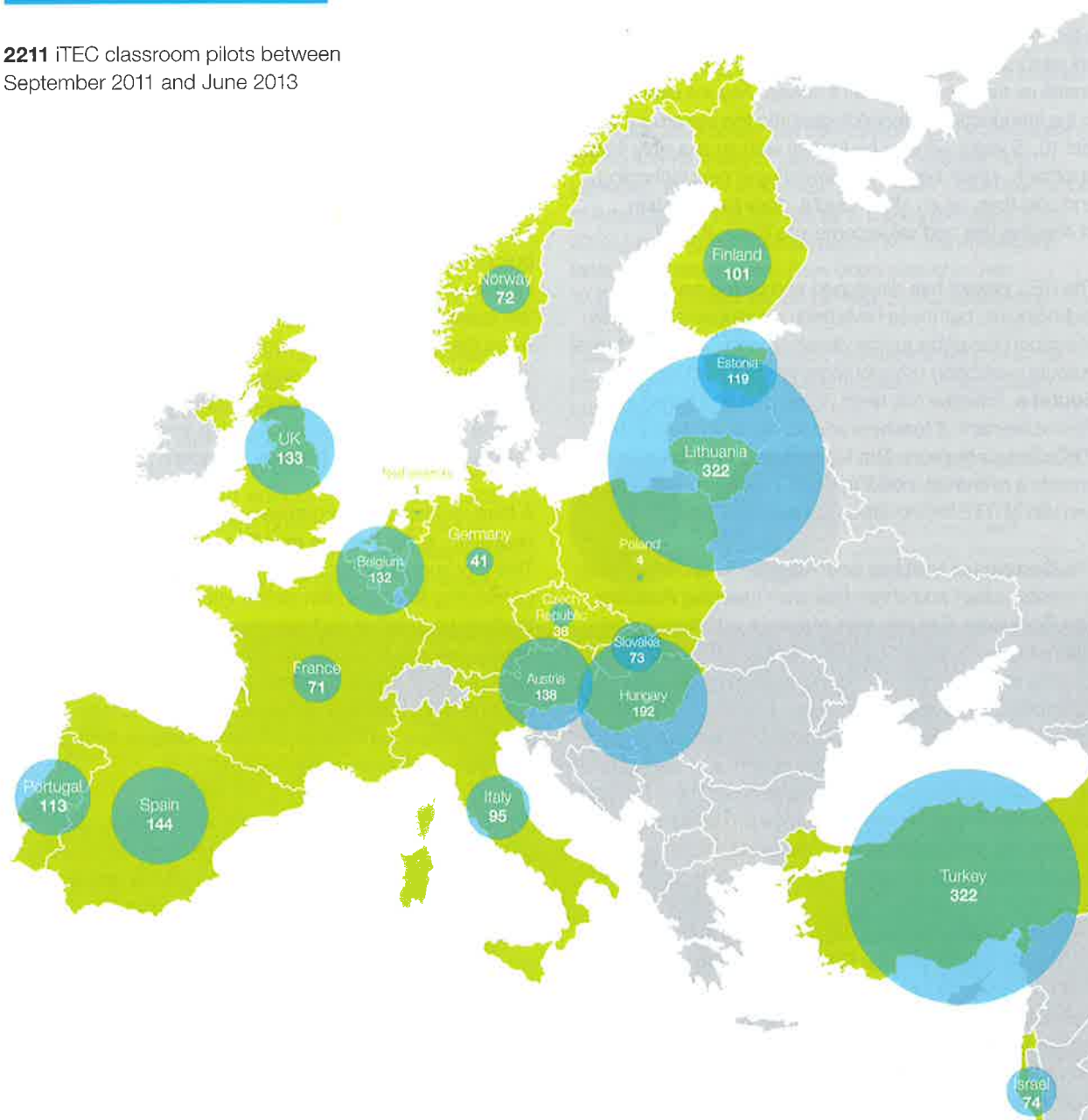
WILL ELLIS  
iTEC Project Manager, European  
Schoolnet

## iTEC in numbers

- From September 2010 to August 2014
- 26 partners (incl. 14 Ministries of Education, 7 universities, 2 ICT providers)
- € 9.45 million EC-funding (FP7)
- 19 pilot countries
- 2211 classrooms engaged in the first 4 cycles over 5 cycles
- Over 135 training sessions in 19 countries

## iTEC in Europe

**2211** iTEC classroom pilots between September 2011 and June 2013

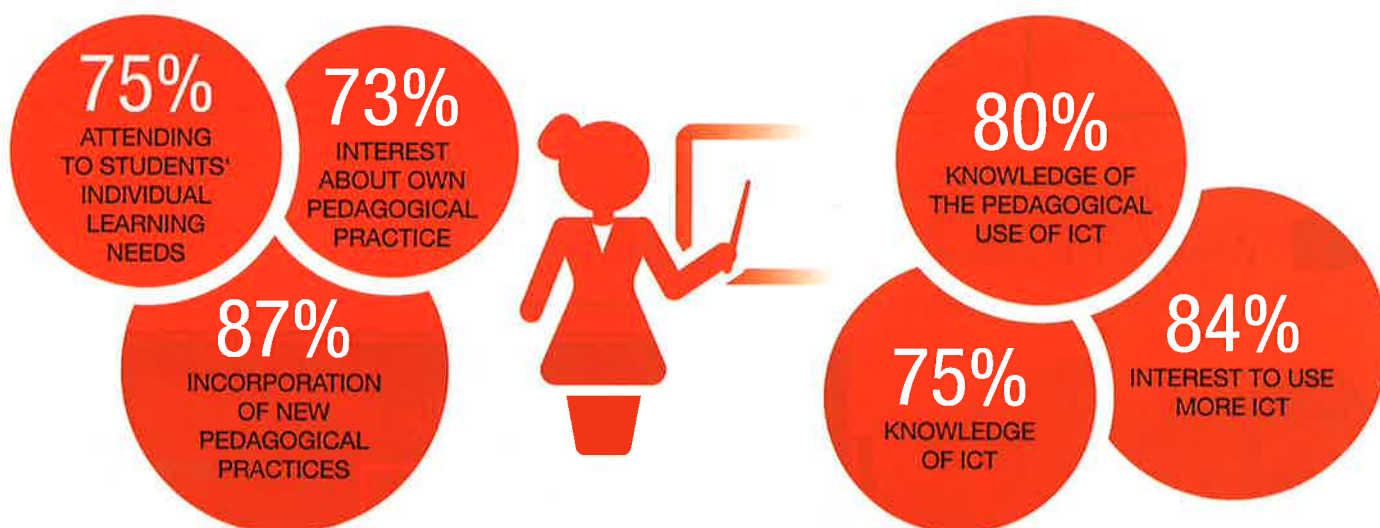


## iTEC in Schools

Carrying out iTEC learning activities had a positive impact on **students'**



Carrying out iTEC learning activities had a positive impact on **teachers'**



Showing the percentage of teachers agreeing, n= 826

## iTEC in Results

### INSPIRING LEARNING ACTIVITIES,

involving advanced pedagogical approaches, supported by effective use of ICT.

The Future Classroom Scenario **TRAINING PROGRAMME**, supporting the adoption and use of the tools and technologies.

### EDUVISTA

The Future Classroom Scenario toolkit: used to create innovative visions of the future classroom, keeping pace with trends in society and technology.

### EDUKATA

The Innovative Learning Activity Design Toolkit: used to create inspiring Learning Activities, based on innovative visions of the future classroom.

### EDUTEKA

Technologies for Advanced Learning Activity Design: including the composer and widget store helping teachers find new learning tools.

# Skilling & Employability

Helping close the IT skills gap in Europe

## FACTS

Adoption of ICT use in classrooms has grown



In 2013 IT spend will grow to **\$1.7 trillion**

**7.7 million** estimated IT jobs unfilled by 2015

Source: IDC



1 in 5 young people in Europe is unemployed

Jobs that require some technology skills:



today more than 50%



by 2020 more than 77%

Source: IDC

## Certification means employability



**91%** of hiring managers consider employee certification as a criterion for hiring

**92%** of IT leaders indicate it is challenging for IT organizations to secure the necessary skills

**60%** of IT certification holders say a certification led to a new job

**58%** of IT certification holders said a certification led to a salary boost or bonus



## Why do Microsoft and Acer matter?

The majority of IT related jobs available today require Microsoft skills

**42%**



of the IT workforce is employed by IT departments running the Microsoft infrastructure



Acer and Microsoft continue to invest in programs that provide access to technology and personal & professional development

## Why aren't jobs filled\*?

**53%** cite lack of relevant certification and lack of appropriate/sufficient training as the problem



Lack of stimulation and interest for IT education

**1,108,782** educators in Europe

vs

**87,331,321** students in Europe



\*Sources: IDC, MCP Program Satisfaction Study 2010; TEKsystems report, Oct 2011; Network World, November 14, 2011; Robert Half Technology Salary Guide, 2011

# iTEC in focus: Italy

Lastra a Signa is a small town on the outskirts of Florence, deep in the heart of Tuscany. The primary school of Francesca Panzica, an English teacher, is quite small – about 420 students – but that does not stop teachers at the school from exploring new developments in teaching and learning.

*"I have often participated in experimentations and projects about new technologies",* said Francesca, outlining how she came to be involved in the iTEC project. *"So, when I was approached about taking part in the iTEC project by Indire, I thought that it might be interesting".* Indire, Italy's national research centre for innovation and documentation in schools, is one of 14 Ministries of Education and training agencies that are partners in the iTEC project, and oversees the day-to-day project activities in iTEC's Italian schools.

Francesca decided to carry out a 'virtual school trip' to London with her students. Francesca first divided her class into groups, using TeamUp, one of the pedagogical tools developed as part of the iTEC project. Students then researched important historical buildings and places

of interest in the city, using Google Drive to record and share their findings. Once their research had been gathered and collated, students then worked together to create multimedia presentations for the assignment, using images, interactive maps, and audio recordings.

According to Francesca, the activity had a very positive affect on the students' level of engagement and working methods. *"There was a change in the students' working methods: they worked in groups and discussed in a new way, and the students started to collaborate with new classmates."*

One student says, *"I have continued to use the learning tools also at home. Now we all have a computer, and at the end of the lesson we meet online"* ☺

There was a change in the students' working methods: they worked in groups and discussed in a new way



## Interview



Interview with Dr. Eduardo Marçal Grilo, Chair of the iTEC High-Level Group, former Portuguese Minister of Education

**What has your role you have played in the iTEC project?**

For the last couple of years I have been Chairman of the iTEC High Level Group.

**From a policymaker point of view, why should the iTEC results be actively mainstreamed?**

As far as I can see, there is already enough evidence that the innovative equipment and methodologies that are being introduced to classrooms by the iTEC project may have an enormous impact on the learning level of the students.

**From a policymaking point of view, what would you say is needed for efficient mainstreaming of innovative classroom practice and in particular the outcomes of a project like iTEC?**

The most important thing is to mobilise teachers and headmasters, as well as politicians, to adopt these innovations in a manner such that more and more schools and classrooms can benefit from them.

**How would you say that top-down strategies and bottom-up practices can be combined to create the best possible impact for iTEC?**

It is absolutely essential that schools and policymakers should establish a dialogue in order to analyse the strategies that can be adopted to increase the impact of iTEC. The top-down approach is condemned to fail in the same way that projects within schools without political support may also not reach their goal ●

Education

Engineering

Public safety

Conservation

Health

City planning

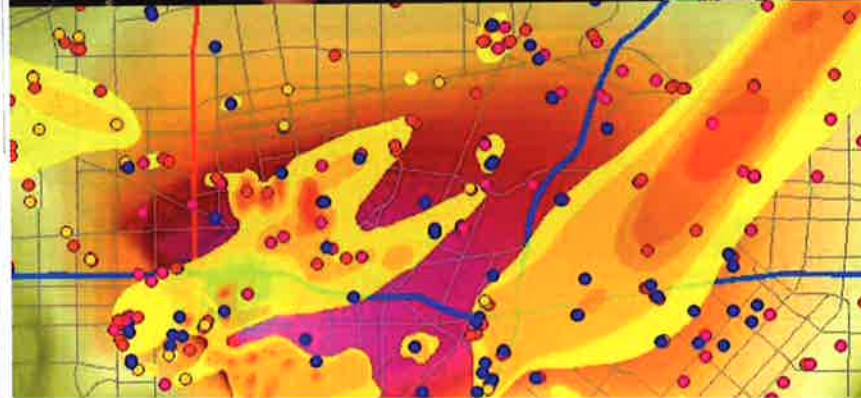
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# Mainstreaming the results of the iTEC project

*“Reaping the benefits of ICT in education is not an easy endeavour. Research confirms broad benefits; however pilots are not scaling up as expected - and “cost” is only part of the problem. Our objective with Call 5 was: to propose meaningful changes in the design of and operations in the future classroom – integrating technologies in teaching, learning and assessment.”* iTEC Kick-off meeting presentation, September 2010

At the project kick-off meeting in September 2010, the European Commission made it clear that iTEC should enable policymakers and practitioners to upscale innovative pedagogical practices that make meaningful use of ICT in schools.

This is not to say that significant progress in this regard had not taken place in recent years. There is a lot to be positive about in terms of improvements in teacher competence and attitudes, infrastructure provision, and change management programmes. For example, the recent large-scale ‘*Survey of Schools: ICT in Education*’<sup>1</sup> highlights that only 3% of teachers now need convincing that the benefits of ICT are unclear, down from 21% in 2006. Teacher confidence in using ICT also continues to grow year on year. However, the survey also shows that over 80% of secondary students are in schools where principals and teachers are of the opinion that radical changes are still needed for ICT to be fully exploited.

But do these ‘radical changes’ require a fundamental change in classroom practice, focused primarily on emerging technologies? iTEC believes that too many previous future classroom designs have been technology-driven, or based on blue-sky visions that has had little visible impact on schools and teachers. A number of technology-enhanced learning scenarios that have been influential at European level have even declared the school to be redundant.

Recent discussions with iTEC’s stakeholders have reconfirmed that Ministries of Education are not calling for more blue-sky visions. On the contrary, the prevailing opinion is that, while radical scenarios for the future classroom may provide useful food for thought, they can also intimidate or even alienate many teachers, and could be counterproductive as regards mainstreaming scenarios across education systems as a whole.

iTEC’s approach to mainstreaming innovative practices is different. A key element of iTEC’s approach is that policymakers, researchers, technology suppliers and teachers work together to develop Future Classroom Scenarios that are more connected to current practice, but still challenge schools to innovate.

Over the past three years, the iTEC consortium has been developing a *new process* that allows schools to rethink how they are currently using ICT. In its final year, the project is now entering a phase where it can provide concrete guidance and toolkits to help schools and Ministries of Education close what is increasingly being termed the ‘mainstreaming gap’ - where technology is not yet fully harnessed as a systemic part of classroom practice, integrating learning both in and out of school.

Together with the Future Classroom toolkits (**Eduvista**, **Edukata** and **Eduteka**), the iTEC project has proposed a number of initiatives that can support change at national and international level. These include the introduction of self-review programmes for schools, teacher training and CPD (Continuing Professional Development) initiatives and advanced teacher ambassadors. All of these approaches have seen success in one or more countries. In the final year of the project, the iTEC exploitation plan will outline a strategy for how these effective models can be spread to other countries and how iTEC tools can support the educational reform process at European level ●



JIM AYRE  
Senior Adviser, European Schoolnet

1. <https://ec.europa.eu/digital-agenda/node/51275>

## Ready to innovate: Self-review frameworks

Schools are complex organisations, which fulfil the needs of a number of different stakeholders. The embedding of technology within the teaching and learning process requires careful implementation in order to truly foster educational change and improvement. In order to fully exploit investments in new technologies, schools should act as learning organisations.

The iTEC High Level Group, the project's advisory group, last year issued its first report. One of the key recommendations from this report was the need for **self-review frameworks** to be developed.

There is no unified definition of what a self-review framework is, but in the context of a project such as iTEC, self-review frameworks could be described as instruments for self-assessment of schools with regard to their readiness in integrating ICT into the teaching and learning process, and their ability to innovate with digital technologies.

One of the current trends in thinking in European education initiatives is that self-review frameworks can allow schools to act more effectively as learning organisations. A practical example of how iTEC has contributed to this field is the **Eduvista** toolkit. The toolkit has drawn on the experiences and resources generated during the four cycles of Future Classroom Scenario development, drawing in TEL experts from across Europe. The toolkit enables practitioners, policymakers and educational leaders to think systematically about the future of education, and to develop scenarios relevant to their local context and current level of innovation maturity.

Eduvista, and iTEC's tools for innovation maturity modelling, expand the scope of existing self-review frameworks. Self-assessment instruments, supporting organisational learning for more sustainable ICT-based innovation, should be developed at the intersection between the existing frameworks and toolkits, as in the case of Eduvista •



Øystein Johannessen  
CEO at Qin, Former Deputy Director  
General, Norwegian Ministry of  
Education and Research





## Every classroom a future classroom

*"Campaigns aimed at school heads and teachers to convince them of the relevance and positive impact of ICT use are no longer of value". Survey of Schools: ICT in Education, 2013<sup>1</sup>*

Experience has shown that the innovative pedagogies and Learning Activities developed during the iTEC school pilots will not be mainstreamed solely as a result of top-down initiatives at a national/regional level. The recent 'Survey of Schools: ICT in Education' report suggests that teachers in most (but not all) countries no longer need to be convinced of the benefits of using ICT; rather, what they need is support to change. Therefore, any top-down dissemination campaign will need to be complemented by a consolidated iTEC exploitation strategy, whereby practitioners, teacher trainers, and CPD organisations are provided with new tools for rethinking teaching and learning, and strategies to support change management.

It is clear that, in order to address the mainstreaming gap, we need teacher-driven, bottom-up strategies, as well as top-down actions, so that each school can innovate and develop its change management strategy at its own pace. A number of iTEC toolkits that facilitate this approach (Eduvista, Edukata, Eduteka) are now being finalised. The toolkits provide schools with a framework to design innovative Learning Activities that encourage both teachers and students to move out of their comfort zones. Crucially, the iTEC process, supported by these toolkits, makes the teacher the agent, not the object, of change. They empower schools by providing a framework for experimentation that allows schools a degree of risk-taking within safe limits, and enables them to exercise a considerable degree of self-determination.

The use of these tools, including the Future Classroom Scenarios and the innovative Learning Activities created by this process, needs to be supported by teacher training. The focus of this training should mark a distinct shift from training which simply covers how to use technology, towards more valuable training in advanced teaching, supported by technology.

Ministries of Education can support schools and other stakeholders using these tools in a number of ways. For example, initial feedback from policymakers within iTEC indicates that many ministries wish to:

- **Translate and localise** existing future classroom scenarios that are particularly relevant for their national context;
- Support a **national community of practice** to help teachers in developing Future Classroom Scenarios and Learning Activities.
- Run **training workshops** at national level for teachers and other stakeholders on the iTEC process; and support future classroom 'ambassador' teachers after the end of the project ●



Jim Ayre  
Senior Adviser, European Schoolnet

The iTEC process allows schools a degree of risk-taking within safe limits

1. <http://www.eun.org/observatory/surveyofschools>

# iTEC in focus: Hungary

As a teacher and ICT coordinator at Saint Emeric Catholic Primary School in Hungary, Krisztina Varga understands better than most the issues involved in integrating the use of technology and new teaching methods into everyday classroom practice.

Teachers can sometimes be intimidated by the prospect of changing their teaching methods. "Many teachers find it embarrassing that children know a lot more about modern technology than the adults", she says; a story that many of us involved in education will find familiar. Providing teachers with new technologies is one thing, but how do we provide them with the necessary resources and support to use these new teaching tools effectively?

According to Krisztina, what is unique about the iTEC project when compared with other education projects is that it provides teachers with a framework to innovate within their teaching in their own way. iTEC Learning Activities can be adapted by teachers to suit their own personal learning outcomes.

*"Thanks to the iTEC activities, I had the opportunity to focus on new areas such as self-assessment, peer feedback and using blogs. It was also great to see that project work offers a bridge to independent learning for students."*

She adds that teachers who have taken part in the project at her school have experienced a marked improvement in their classroom practice, including their use of technology in their teaching, and an increased openness to new teaching methods, such as collaborative projects and self-directed learning: *"They know more about how to build and maintain their personal and professional learning network, figure out where technology actually fits in education, find or create useful resources, manage how and where they appear online, blog correctly, share personal information, or figure out the best way to make social media work for their purposes. These teachers are now ready to take their classroom and digital skills to the next level!"* ●



## Join us in taking iTEC to the next level

The iTEC conference in October 2013 marks the beginning of a new phase for the project. The consortium of iTEC partners is now looking to work with stakeholders that can join the project as Associate Partners to support the project dissemination process by validating and providing additional feedback on the iTEC toolkits. iTEC will also work with the TEL research community and industry partners to develop a number of Future Classroom Scenarios based on emerging technologies and societal trends. Currently, these scenarios may be more difficult to implement at scale, but the intention is to validate some of these in a small number of schools as part of the process of developing a longer-term vision for the future classroom.

At the core of the iTEC exploitation strategy is the **Future Classroom Scenario training programme**. Initially developed for delivery in the European Schoolnet Future Classroom Lab<sup>1</sup> in Brussels, the Future Classroom Scenario course covers all elements of the iTEC toolkits, scenarios, Learning Activities, and technologies. It is also published under a Creative Commons licence, which will allow others to deliver and adapt all or some of the course modules. The full five-day course was run initially in Brussels in July 2013, with teachers from 13 countries taking part. Shorter versions of the course have also been offered to teachers within the European Commission's eTwinning network. An online version of the course (a massive open online course, or MOOC) is currently in development, and will target education managers, advanced practitioners and teacher trainers. Following the October conference, we will also be looking to set up a new mechanism to engage regularly with the teacher training institutions that attended the event, and have already expressed an interest in the iTEC process and toolkits.

At the end of the project in August 2014, the work on mainstreaming iTEC results will be taken forward by all iTEC partners at national level, and by European Schoolnet and its 30 supporting Ministries of Education as part of its **Future Classroom Lab** initiative. Opened in January 2012, the independently-funded Future Classroom Lab (FCL) consists of an interactive learning space, which illustrates how a traditional classroom setting can use technology to enhance interactivity and student participation, plus a large reconfigurable open space equipped with the latest hardware and software from 20 industry partners.

The FCL has already successfully established itself as a facility that showcases iTEC scenarios, and provides professional development courses and workshops. Beyond the end of the project, it will also provide a permanent space where national Ministries of Education, ICT suppliers, TEL researchers and innovative teachers can regularly come together for strategic briefings and to rethink how technologies can support the educational reform process. Earlier this year, European Schoolnet also began a series of initiatives under the Future Classroom Lab umbrella to bring iTEC results to the attention of regional policymakers and education authorities, to enable these decision makers and teachers across Europe to become an active part of a future classroom community that will be a key part of the iTEC legacy ●



## Contribute

If you would like to know more about how join and contribute to iTEC and the Future Classroom Lab, please contact: [itec-contact@eun.org](mailto:itec-contact@eun.org)

1. <http://fcl.eun.org>

## iTEC partners

- **European Schoolnet (EUN)**, Belgium | [www.europeanschoolnet.org](http://www.europeanschoolnet.org)
- **Promethean**, United Kingdom | [www.prometheanworld.com](http://www.prometheanworld.com)
- **University of Namur (FUNDP)**, Belgium | [www.fundp.ac.be](http://www.fundp.ac.be)
- **SMART Technologies**, Germany | [smarttech.de](http://smarttech.de)
- **Institute of Education of University of Lisbon**, Portugal | [www.ie.ul.pt](http://www.ie.ul.pt)
- **Direcção-Geral da Educação (DGE)**, Portugal | [dgidc.min-edu.pt](http://dgidc.min-edu.pt)
- **Bundesministerium für Unterricht, Kunst und Kultur (BM:UKK)**, Austria | [www.bmukk.gv.at](http://www.bmukk.gv.at)
- **Centre of Information Technologies in Education (ITC)**, Lithuania | [www.ipc.lt](http://www.ipc.lt)
- **National Ministry of Education**, Turkey | [www.meb.gov.tr](http://www.meb.gov.tr)
- **Aalto University**, Finland | [www.aalto.fi](http://www.aalto.fi)
- **Istituto Nazionale di Documentazione, Innovazione e Ricerca Educativa (INDIRE)**, Italy | [www.indire.it](http://www.indire.it)
- **Tiger Leap Foundation**, Estonia | [www.tiigrihype.ee](http://www.tiigrihype.ee)
- **UNI•C**, Denmark | [www.uni-c.dk](http://www.uni-c.dk)
- **Norwegian Centre for ICT in Education (NCIE)**, Norway | [iktsenteret.no](http://iktsenteret.no)
- **University of Bolton**, United Kingdom | [www.bolton.ac.uk](http://www.bolton.ac.uk)
- **Katholieke Universiteit Leuven**, Belgium | [www.kuleuven.be](http://www.kuleuven.be)
- **University of Vigo**, Spain | [www.teleco.uvigo.es](http://www.teleco.uvigo.es)
- **Knowledge Markets Consulting**, Austria | [www.knowledgemarkets.com](http://www.knowledgemarkets.com)
- **National Foundation for Educational Research (NFER)**, United Kingdom | [www.nfer.ac.uk](http://www.nfer.ac.uk)
- **Manchester Metropolitan University**, United Kingdom | [www.esri.mmu.ac.uk](http://www.esri.mmu.ac.uk)
- **Swiss Agency for ICT in Education**, Switzerland | [www.sfi.b.ch](http://www.sfi.b.ch)
- **MAKASH Advancing CMC Applications in Education, Culture and Science**, Israel | [www.makash.org.il](http://www.makash.org.il)
- **elfa, s.r.o.**, Slovakia | [www.elfa.sk](http://www.elfa.sk)
- **Centre National de Documentation Pédagogique (CNDP)**, France | [www2.cndp.fr](http://www2.cndp.fr)
- **Educatio Public Services Non-profit LLC**, Hungary | [www.educatio.hu](http://www.educatio.hu)
- **EduBIT.eu**, Belgium | [www.edubit.be](http://www.edubit.be)



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- The initial results from the iTEC project, a flagship initiative that has evaluated innovative scenarios and Learning Activities for the future classroom in over 2,000 classrooms across 18 countries.
- How iTEC's 17 Ministries of Education and its project partners will mainstream the results of the project.
- Scalable processes for the adoption of advanced competences by teachers, 21st century skills for learners, and change management for schools.
- Creating a systematic approach to ensuring that school innovation and advanced teaching practices can be adopted and exploited by all European schools.

With contributions from:

- Patricia Manson, Head of Unit: Inclusion, Skills and Youth, DG Connect, European Commission
- Showkat Badat, Principal, ESSA Academy, UK
- Kristen Weatherby, Lead for OECD's Teaching and Learning International Survey
- Niel McLean, Head of Centre, Futurelab Research at National Foundation for Educational Research, UK
- Lord Knight of Weymouth, Director of Step-A International Ltd
- Xavier Prats Monné, Deputy Director General, Education and Culture, European Commission

And many more.

Follow the conference on Twitter: #iTEC\_eu and watch out for the conference results on <http://itec.eun.org>



## Future Classroom Lab

by European Schoolnet

### Rethinking teaching and learning spaces



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