Highlight: ICT for Teacher Education

Innovative Teaching and Learning (ITL) research: A global look at pedagogies for 21st century skills

This three-year Innovative Teaching and Learning research project was designed to study teaching practices that support students’ learning of 21st century skills and the system of supports that can help teachers to adopt those practices. It also addresses a gap between how ICT in teaching and learning is described in policy documents and the pedagogy that most students experience.

Teachers learning about and with ICT as collaborative design

The author of this article reflects how the participatory nature of the web has changed the way we work, learn and play and how a professional learning community that has started from learning about ICT is now moving to learning with ICT.

News & Events

Celebrating over 25 years of leadership in technology and teacher education

SITE 2014 is the 25th annual conference of the Society for Information Technology and Teacher Education. The conference will be held March 17 - 21, 2014 in Jacksonville, Florida (USA).

How to use social media in the classroom? SMILE project can guide you :-)

European Schoolnet published recently the outcomes of the Social Media in Learning and Education (SMILE) Action Research Project. The project was designed as a one-year ‘learning laboratory’, composed of a group of European teachers, to improve our understanding of the major challenges and opportunities that arise out of the pervasive world of social media for teachers, for schools, and for education generally.

Call for papers - Towards 21st century learning: an analysis of top performing Asian education systems’ reforms

The Asia-Pacific Education Researcher Journal is calling for papers for a special issue. This edition aims to discuss how top Asian education systems continue to reform themselves and align towards 21st century learning, yet maintaining academic excellence as depicted by recent TIMSS and PISA scores.

Programmes & Projects

ICT in Education and how a Philippine non-profit does it via the OLPC programme

EKindling, a Philippine social enterprise start-up, provides a teacher training programme that dynamically blends presentations, interactions, hands-on activities, and teaching methodologies to prepare teachers to creatively conduct technology-integrated classes.

Measures of effective teaching project

This project was designed to help teachers and school systems close the gap between their expectations for effective teaching and what is actually happening in classrooms.
Resources

ICT and initial teacher education: National policies
This working paper aims to give an overview of the national policies that exist in the field of ICT and initial teacher education. Information on this topic was initially gathered via a survey, in the form of a country questionnaire, which was conducted as part of the analytical strand of the OECD study entitled “ICT and Initial Teacher Education”.

NMC Horizon Report > 2013 K-12 Education Edition
This fifth edition in the annual K-12 series of the NMC Horizon Project examines emerging technologies for their potential impact on and use in teaching, learning, and creative inquiry within the environment of pre-college education.

11 steps of effective project-based learning in a blended classroom
This article examines student-to-material interactions as part of the blended learning model, specifically the process of project-based learning in a blended classroom.

Wonders of learning
Wonderopolis is a free website that can help learners of all ages to discover their wonders and their curiosity. This website includes a variety of topics that especially young people are interested in, ranging from “What causes ear infections”, “Why do dogs have wet noses” to “Why don’t humans have tails”.

Highlight: ICT for Teacher Education

Innovative Teaching and Learning (ITL) research: A global look at pedagogies for 21st century skills
Around the world, policymakers and educators have high hopes for ICT in the classroom as a springboard to students’ “21st century skills”—that combination of competencies in solving problems, collaborating, thinking critically, and managing their own learning that we know is needed for success in the global workplace. But again and again, we see a gap between how this type of teaching and learning is described in policy documents and the pedagogy that most students experience. Often, teachers want to teach in these new ways but are missing the supports they most need to make it happen.

To address this gap, the 3-year ITL (Innovative Teaching and Learning) Research project was designed to study teaching practices that support students’ learning of 21st century skills and the system of supports that can help teachers to adopt those practices. The research was carried out in a uniquely diverse set of seven countries: Australia, Indonesia, Russia, Finland, Senegal, England, and Mexico. The project was sponsored by Microsoft Partners in Learning and in-country sponsors, with rigorous research methods designed by SRI International and carried
out by leading research organizations within each country. While the participating countries have very different education systems and histories of innovation, the research was able to look across them: what do the necessary supports for innovative teaching in Indonesia and Finland have in common?

Key findings include:

- **The learning activities make a difference.** Across countries and classrooms, the characteristics of assigned classroom activities strongly predicted the 21st century skills that students exhibited in their work. Students are much more likely to learn to solve real-world problems and collaborate productively with their peers, for example, if their learning activities are carefully designed to offer opportunities for them to do these things. This finding suggests that professional development for innovative teaching might begin with lesson design.

- **ICT has great potential for supporting innovative pedagogies, but it is not a magic ingredient.** In classrooms visited in this research, when students were using ICT they were most likely to be using it to support traditional instructional activities like looking up information and learning procedures. Activities like these are often the easiest places to start when teachers integrate ICT into instruction, but they are unlikely to help students learn more deeply, in contrast to activities like using ICT to access and analyze multiple data sources, explore visualizations of complex phenomena that are difficult to see with the naked eye, or collaborate in new ways with peers. This finding suggests that when considering ICT it is important to focus not on flash but on the student learning and 21st century skills that ICT can enable.

- **Important school-level supports tend to be present in schools with higher concentrations of innovative teaching.** Based on survey data, in schools where teachers reported higher average levels of innovative teaching practices, they also tended to report:
  - a higher frequency of teacher collaboration around teaching;
  - professional development opportunities that were sustained and hands-on (such as practicing teaching methods or conducting research) rather than one-time and passive (such as attending a lecture-based workshop or observing a demonstration);
  - access to technology within the classroom, rather than solely in stand-alone lab settings; and
  - a professional culture aligned to support innovation, reflection, and meaningful discourse about new teaching practices.

- **Coherent systemic support is also essential.** Disconnects between policy mandates/supports and desired practice were found in most of the schools and all of the systems in our sample. For example, teachers were often being asked to innovate while
being incented and judged solely by measures of the facts that students had acquired through traditional means, or given ICT to use without related curricular materials and models for ways to use it powerfully and effectively in subject matter learning. It was rare that teachers experienced standards, curriculum, professional development, assessments, and incentives that all aligned to support the development of students’ 21st century skills.
Learning activity design makes a difference

Source: ITL 2010-11 Learning Activities and Student Work, across 6 countries; based on analysis by SRI International

Researchers collected samples of teachers’ learning activities and the work that students completed in response to each activity. Learning activities were assigned a score from 1-4 on the depth of the learning opportunities they offered students to build each of several 21st century skills. The student work was scored from 1-4 on the degree to which those skills were exhibited. On this chart, each bubble represents the mean scores for a learning activity and its student work, and the size of the bubble represents the density of the data points.

This chart shows two things:

- There is a strong correlation between the learning activity scores (opportunities for students to build these skills that are built into the design of the learning activity) and the skills demonstrated by the corresponding student work. Students are much more likely to learn and exercise these skills if their learning opportunities give them the chance.
- Among the learning activities collected in this research, by far the highest number scored a (1,1): they did not provide opportunities for students to build these skills, and students did not show the skills in their work. While innovative teaching is an important goal, many students are not yet experiencing it.
The methods and findings from this research have resulted in a new professional development program called 21CLD (21st Century Learning Design). This hands-on program offers an accessible set of research-grounded definitions, rubrics and examples to help teachers recognize and strengthen the 21st century learning opportunities that their lessons offer to students. For each skill, the program expands the depth of these opportunities – not just can students work together, but are they really building the skills they need to collaborate substantively and successfully with other people? 21CLD also helps build a common language among teachers within a school, and provides a framework for the collaboration and other supports that can begin to bridge the gap between the rhetoric of 21st century learning and the real skills students will need for success in this changing world.

By Linda Shear, Director of International Studies and Ann House, Senior Research Social Scientist, Center for Technology in Learning, SRI International.

For more information, please email the authors at 21CLD@sri.com

Further information:

- SRI International

Related links:

- Teachers learning about and with ICT as collaborative design
- Evaluation meeting on the Facilitating Effective ICT-Pedagogy Integration Project
- Technology for development: Why training trumps technology
- Teachers share innovative practices at UNESCO seminar

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and share your views
Teachers learning about and with ICT as collaborative design

Twenty years ago already “CERN announced that the World Wide Web would be free to anyone, with no fees due” (Wikipedia) and since then I, as many educators and educational researchers, have been observing and participating in the phenomenal changes that occurred in the way we work, learn, and play. Perhaps now is a good time to reflect on what has changed so far, and what we are prepared to make happen next in term of digital literacy for teachers.

The participatory nature of the web is the first feature that comes to mind, at least in my case. Already in 1994 I developed with Marco Silva the idea that participatory design could be a productive way of engaging teachers and researchers in the use of the Internet in classrooms. Since then, I have been involved with colleagues in North-America and Northern Europe in the collaborative design of interventions to implement and investigate ICT-supported learning in elementary classrooms. More recently with support from UNESCO Bangkok I have participated in international collaborations involving schools in South-East Asia and Canada.

The key concept in all these initiatives is collaborative design. Collaboration and design have been increasingly promoted and explored in the years following the emergence of the WWW mostly because of the alignment of network technologies, a growing interest for the socially situated and communal nature of work and learning, and the development of design-based research as a promising approach to foster innovations in education. The notion of “communities of practice” has certainly provided useful conceptual tools to understand teaching as composed of a joint enterprise, a shared repertoire of knowledge and artifacts, and mutual engagement in community activities, roles, and relationships.

More recently I have started using the term practice shift to describe the gradual change (as opposed to radical) that can be observed as teachers appropriate digital tools in support of learning, both their own learning and that of their students. I find the term practice shift respectful of the existing expertise of teachers, and it also reflects the adaptive nature of this expertise as new circumstances such as pedagogical innovations and digital tools become meaningful to them. Meaning-making is key: teachers, like any professionals, adopt resources that make sense to them.

From this perspective that combines network technologies, situated learning, communities of practice, and design-based research, the notion of “teacher training” is replaced by “professional learning communities”, putting more emphases on teachers’ ownership and leadership in setting up the goals and methods of their learning. The advantage of making practice shifts as an outcome of professional learning communities is that the shifts are scalable
and sustainable. Teachers who understand why and how their practice shifts will not stop after
the initiators of an innovation leave their school. Teachers who share with others the
conjectures, dilemmas, challenges and success involved in their practice have a much stronger
sense of efficacy and more positive beliefs about change.

What I see happening in the professional learning communities I have worked with is a process
of populating a communal space of visible, emerging practices. Here is how it works. Teachers
with expertise and leadership in their community start exploring new ways of teaching and
learning with ICT. Thanks to their expertise and leadership, they are confident in sharing their
explorations with their peers. And because they have legitimacy within their community of
practice, others view their exploration as meaningful and potentially relevant to them. What is
key is to overcome the private and isolated nature of teaching as a practice. That is why the
notion of publicly visible practice is important: others need to be able to witness the emerging
practice in its integrity: what are the goals, the tools, the different roles, the outcomes, and the
relations between these different dimensions of the activity. And that is where the collaborative,
network technologies of the Web become a central asset: by using tools such as multimedia
datasets, digital videos, discussion forums, and social media, it becomes possible to make the
emerging practice visible and understandable by a wider circle of peers. Technology, then, is no
longer simply an object of learning for the professional community but it becomes also a very
powerful tool to support any professional learning. In one project that we are launching now in
Canada, with support from the Social Science and Humanities Research Council, this expansion
is at the center of our participatory design research: a professional learning community that has
started with a focus on learning about ICT is now moving to learning with ICT.

Thinking of the 20th anniversary of the web as a free platform also reminds me of the challenges
we face today to make learning an equitable opportunity for all. I hope that the successful
learning I see happening in the professional learning communities around me will also happen
in other regions of the world. As we navigate today on the web or on the planet, we must
pursue the noble objective of bringing equity to the forefront of our global reality.

By Alain Breuleux, PhD, Associate Professor, Associate Dean – Infrastructure, Faculty of Education,
McGill University
Contact: alain.breuleux@mcgill.ca

Further information:

- Faculty of Education, McGill University
Related links:

- Technology for development: Why training trumps technology
- ICT in schools survey – many children not getting what they need; teachers need more training and support
- Vision, Scenarios, Insights and Recommendations (VISIR) on how ICT may help making lifelong learning a reality for all
- Teachers share innovative practices at UNESCO seminar

Previous issues of the e-newsletter:

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News & Events

SITE 2014: Celebrating over 25 Years of Leadership in Technology and Teacher Education!

Jacksonville, Florida: March 17 - 21, 2014

SITE 2014 is the 25th annual conference of the Society for Information Technology and Teacher Education. This society represents individual teacher educators and affiliated organizations of teacher educators in all disciplines, who are interested in the creation and dissemination of knowledge about the use of information technology in teacher education and faculty/staff development. SITE is a society of the Association for the Advancement of Computing in Education (AACE).

SITE is unique as the only organization which has as its sole focus the integration of instructional technologies into teacher education programs. SITE promotes the development and dissemination of theoretical knowledge, conceptual research, and professional practice knowledge through conferences, books, projects, and the Journal of Technology and Teacher Education (JTATE).

You are invited to attend and participate in this annual international forum which offer numerous opportunities to share your ideas, explore the research, development, and
applications, and to network with the leaders in this important field of teacher education and technology.

*The SITE Conference is designed for:*

- Teacher educators in ALL disciplines
- Computer technology coordinators
- K-12 administrators
- Teachers
- Curriculum developers
- Principals
- All interested in improving education through technology

**Scope**

The Conference invites proposals from the introductory through advanced level on all topics related to:

1. the use of information technology in teacher education, and
2. instruction about information technology in
   - Preservice
   - Inservice
   - Graduate Teacher Education
   - Faculty & Staff Development

Proposals which address the theory, research and applications as well as describe innovative projects are encouraged.

For more information, please refer to the website of the Conference.

**How to use social media in the classroom? SMILE project can guide you :-)***

European Schoolnet published recently the outcomes of the Social Media in Learning and Education (SMILE) Action Research Project. The project, funded by a Digital Citizenship Research Grant from Facebook, was designed as a one-year ‘learning laboratory’, composed of a group of European teachers, to improve our understanding of the major challenges and opportunities that arise out of the pervasive world of social media for teachers, for schools, and for education generally.

The main purpose of this SMILE digital publication ‘Challenges and opportunities for schools and teachers in a digital word - Lessons learned from the 2012 SMILE action research project’ is to provide guidelines and examples to teachers on how to adopt social media in a school...
environment. “We believe that the SMILE report truly provides manageable steps on how to exploit the potential of these tools for the benefit of learners, both at classroom and institutional levels, in a pedagogically sound manner,” says Janice Richardson, Senior Advisor at European Schoolnet.

The SMILE ‘learning laboratory’ was organised around a number of Communities of Practice that allowed more than 100 teachers from across Europe and beyond to study some critical aspects of the use of social media in learning and education:

- Social media - what is it?
- Social media - school policies
- Social media - pedagogical principles
- Social media - professional development (CPD)
- Social media - internet safety and responsible use
- Social media - challenges to adoption

“This publication closely mirrors the collaborative nature of the project: it blends the pedagogical materials and resources from the learning laboratory with the many valuable reflections and suggestions made by SMILE teachers during their work in their respective Communities of Practice”, continues Janice Richardson. “In this way, we hope to inspire teachers worldwide by showcasing the most valuable social media resources and practices which emerged from our collaborative efforts. The SMILE project has shown how valuable, indeed how essential, social media will be to the education of our young people - and just as valuable and essential for the professional development of teachers.”

The report also advocates a response to the important issue of online safety that seeks to move beyond a ‘lock and block’ mentality, to a mindset that prefers to use education itself to give young people (and teachers) the skills, the knowledge and the insight needed to be able to use the bewildering variety of tools on offer in ways that minimise risk.

“Nothing is more important to Facebook than the safety of the people that use our site. We think that online safety is a responsibility shared amongst parents, teachers, teens, policy makers and companies like Facebook. Because today’s kids are growing up in a new and different world, we believe that working with partners like these researchers is critical to learning more about ways that we can continue to improve our product. We strive to be as innovative when it comes to safety as we are in every other part of our business, and the Digital Citizenship Research Grants program is just one small part of our overall safety program. We will continue to create new safety programs to emphasise our ongoing commitment,” says Joe Sullivan, Chief Security Officer at Facebook, speaking of the research grants.
“Participating in the SMILE journey was a challenging experience during which I had the opportunity to learn a lot. I believe social media are a fantastic way to communicate, share and interact with others. We have to keep track with the present and near future which will inevitably rely on social media and learning beyond the classroom,” affirms Susana Branco (from Portugal, 24 years of teaching experience), one of the participating teachers.

For further information, please contact: Valentina Garoia, Communications and Press Officer, European Schoolnet, +32 (0)488 495246, valentina.garoia@eun.org

Further information:

- SMILE webpage
- SMILE report *Challenges and opportunities for schools and teachers in a digital word – Lessons learned from the 2012 SMILE action research project* (pdf)
- Ollie Bray's video tutorials
- Case study from Donal O’Mahony, a SMILE teacher: SMILE – a journey of engagement
- Press release (pdf)

Related links:

- Safer Internet Day 2013 – for a safer and better internet for children
- Child safety online: Global challenges and strategies
- Youth and digital media: From credibility to information quality
- SimAULA: Training our teachers through innovative methodologies based in serious games
- Moral education enhanced by internet in IT courses

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and share your views
Call for papers - Towards 21st century learning: an analysis of top performing Asian education systems' reforms

Aims and Scope for the Special Issue

The special issue aims to discuss how top Asian education systems continue to reform themselves and align towards 21st century learning, yet maintaining academic excellence as depicted by recent TIMSS and PISA scores. The education systems of interests include: Korea, Taiwan, Hong Kong, Singapore, and Shanghai. This special issue seeks to understand the historical and cultural contexts of these Asian education systems from an ecological perspective where student learning and teacher teaching are situated within the interrelating contexts of school, society, and history, and discuss how they manage the tension between 21st century learning and the “tried and tested” teacher-driven instructional approaches.

This special issue hopes to generate academic dialogue that recognizes no two systems are identical, and any proposed recommendations to move a system forward must take cognizant of the local realities so that there are mechanisms and time to sustain the reforms. The special issue invites original contributions that focus on the following issues:

- Unpacking the uniqueness of Asian systems (such as Hong Kong, Shanghai, Taiwan, Korea, and Singapore) from an ecological and evolutionary perspective and examine how the respective education systems are impacted by its broader context,
- Cross-national studies that seek to compare and contrast specific educational experiences and processes in at least two countries in Asia,
- Identifying factors associated with high quality learning and teaching, understanding, and improving educational experiences, processes, and outcomes of Asian systems at the students, teachers, classrooms, schools, and systemic levels of analysis,
- Understanding how enacted reforms can and have aligned the respective education systems to 21st century learning and the exposed education goals, and
- Reforms and/or attempts to nurture a new learning culture towards 21st century learning including the imposition of structure, processes, and teacher learning to enforce change.

Submissions

Authors should prepare manuscripts using instructions for authors and submissions should be done via Editorial Manager available on the right side bar of this page.

Manuscripts should not exceed 6,000 words. All papers will be peer reviewed based on quality, original, organization and clarify of writing, and evidence provided for assertions and
conclusion. Papers submitted for this special issue must not be submitted or are under consideration for publication anywhere.

Important Dates

- Full paper submission deadline: 30 June 2013
- Review decision: September 2013
- Final version submission: November 2013

For more information, please access the website of the Asia-Pacific Education Researcher Journal.

Further information:

- Asia-Pacific Education Researcher Journal

Related links:

- Global Education & Skills Forum: The potential of partnerships for education
- How can we use ICT to promote Lifelong Learning?: Central Asia Symposium on ICT in Education
- Teachers share innovative practices at UNESCO seminar
- Policy makers share their experiences on ICT in Education during Ministerial Forum in Bangkok

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Programmes & Projects
ICT in Education and how a Philippine non-profit does it via the OLPC programme

OLPC and Teacher Training
ICT in in Education means different things to different stakeholders. It can be about infrastructure, resources, training, support, management, and/or sustainability.

For EKindling, (http://ekindling.org), a Philippine social enterprise start-up, its ICT in Education programme design for schools is anchored on providing training programmes with a keen eye for support and sustainability. After 3 years of supporting OLPC in the Philippines, the jury is still out as to whether the programme has made an impact on the children, classrooms, and communities. Suffice it to say that 1,710 laptops in the hands of the schoolchildren have provided them with access to information, technology and connectivity that perhaps would otherwise mainly be available via Internet cafes.

One of the components of EKindling is its teacher training programme that dynamically blends presentations, interactions, hands-on activities, and teaching methodologies to prepare teachers to creatively conduct technology-integrated classes. The programme is customized according to the training needs of the teachers, learning feedback from previous participants, and best global practices in ICT in Education. The teachers undergo three phases of collaborative training-the-trainers sessions that moved from hardware, software and related ICT in Education tools and software applications. Learner-centred pedagogical approaches and lesson planning, incorporated with a flavour of creativity and communication skills building, were also injected to expand the teachers’ skill set. The programme also included demonstration of exemplars of teaching and learning sessions to model from as well as hand-holding sessions where facilitators observe trainees’ class sessions and provide feedback on how to improve teaching methodologies and classroom management.

An interested reader might wonder: Did EKindling’s teacher training programme leave an impact on the teachers trained? This brings us to another level of the training programme.

Empowering Educators 24/7
It had been observed that there exists a "sustainability gap" in teacher training – that is, after about one day’s afterglow of newly acquired knowledge and skills, the "actual skill set" gets superseded by business-as-usual, whatever homework is promised by the participating teacher moves to the back burner. This is because habits take 30 days of practice in order to form. So how do we implement such a programme with limited public education resources?

To address this sustainability gap, EKindling is exploring ways to move past the time and space limitations of continuous professional development that is demanded of teachers and mentors in education for the 21st century. Through EKindling’s Empowering Educators 24/7 program, the project team is developing an online eLearning support service using a Facebook-inspired learning management system that is quick to deploy and maintain online. Conveniently, edu2.0, a basically free LMS seems to fit the current needs of teachers in a country geographically
fragmented into thousands of islands. Through the online community, participating teachers will gain access to useful resources and tips on lesson planning, instructional strategies, class management, career development, subject areas, and sector updates. They can interact with trainers and peers to share experiences, queries, and areas of interest. They would also be encouraged to post and share learning activities and student work.

Based on the experience of eKindling and JeepNeed (another education-centric initiative), however, it turns out that teachers need quick access to smart teaching tips, classroom strategies and techniques, and related materials on a more regular basis. In particular, whenever an online community page is created on the edu2.0 community for the purpose of providing continuing support, teachers’ participation usually revolve around requests for this type of materials. Further, it had been observed that teachers tend to communicate more when they are using mobile phones since these gadgets are more accessible and pervasive to them than computers.

In this regard, eKindling is currently working with possible partners to deploy a prototype a mobile-phone teacher support system that would allow qualified volunteer professionals to provide just-in-time follow-up and support to public school teachers. The system will likewise provide teacher training programs with a means to collect and disseminate data after point of contact.

Check back on http://empoweringed.weebly.com within the next six months for developments.

By Joel Yuvienco, EKindling, Philippines
Contact: joel.yuvienco@gmail.com

Further information:

- eKindling

Related links:
Measures of Effective Teaching (MET) Project
What factors make teaching effective? How important is class size, technology, and school funding in helping students to learn? Research shows that a teacher’s contribution is the most important factor in making teaching effective. However, the current evaluation system fails to capture the complexity of teaching when evaluating the teacher’s impact. Hence, these evaluations do not provide teachers and schools a comprehensive roadmap to improve their teaching techniques to help students learn.

In order to address this question, Melinda and Gates Foundation initiated the Measures of Effective Teaching Project (MET) project in 2009. This project was conducted under a partnership between 3,000 teacher volunteers and dozens of independent research teams from various schools, universities, and research institutions. This project identified measures that give the best and most accurate information about how well a teacher helps his or her students to learn – and how these measures should be used together to see the whole picture of a teacher’s effectiveness. By building and testing measures of effective teaching, this project ultimately aims to find out how evaluation methods could be used best to tell teachers more about the skills that make them most effective to improve student achievement.

Progress and Results
The data set, reports, analysis, practical insights and tools that were developed throughout the course of the project has been shared to research and practitioner community as well as policy makers. The easy access to data and practical insights provided through this project are helping to support teachers and students in classrooms today.
Following are the list of main activities implemented under this project:

- Reported the project’s progress in its research and analysis through progress reports
- Published the first preliminary findings (December 2010) which showed that surveying students about their perceptions of their classroom environment provides important information about teaching effectiveness, as well as concrete feedback that can help teachers improve.
- Published the second preliminary findings (January 2012) which examined classroom observations and offered key considerations for creating high-quality observations systems.
- Published the final analysis (January 2013) which showed, though a large-scale study that randomly assigned teacher to classrooms of students, that it is indeed possible for measures that account for students’ different starting points to identify teaching that better helps students learn.
- Released set of principles for effective evaluation systems based on lessons learned over the three years of the study.
- Developed tools, resources and implementation guides to support schools and districts to design or refine evaluation system that accurately and reliably identify great teaching.
- Engaged in the ongoing national, state and district-level conversations among educators about the latest findings and advances in this field.

*How has the use of ICT enhanced this project?*

Another notable aspect of the MET project is the incorporation of ICT in its tools, resources and implementation guides which have been developed to support schools and districts to design or refine evaluation systems that accurately and reliably identify effective teaching. The resources that employ ICT include online software for validating if the tools they use for classroom observations are valid and reliable, small panoramic camera for taping classroom practice, and online video library of practice with collection of lessons that can help improve effective teaching. These uses of technology enable a more accurate classroom observation, more valid and reliable rating of classroom observations and easier access to information that facilitates the learning of effective teaching techniques. The resources and tools developed under this project illustrate how the effective use of ICT can make these tools and resources more accurate, applicable and user-friendly.

More detailed information of the MET project and its publications are available on: [http://www.metproject.org/](http://www.metproject.org/)

*Further information:*

- [Measures of Effective Teaching (MET) Project](http://www.metproject.org/)
Related links:

- Evaluation meeting on the Facilitating Effective ICT-Pedagogy Integration Project
- A monitoring and evaluation scheme for an ICT-supported education programme in schools
- Technology for development: Why training trumps technology

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and share your views

Resources

**ICT and initial teacher education: National policies**

This working paper aims to give an overview of the national policies that exist in the field of ICT and initial teacher education. Information on this topic was initially gathered via a survey, in the form of a country questionnaire, which was conducted as part of the analytical strand of the OECD study entitled “ICT and Initial Teacher Education”.

In addition to the survey, desk research was conducted for 31 OECD countries, including Australia, New Zealand, Japan and RO Korea from the Asia and Pacific region. Special attention was given to the dates and to the last revisions of the documents in order to ensure the relevance of the information collected.

Official country reports, work plans, official texts and articles constitute the main material of this study. Multiple sources have been used: databases, official government websites and key stakeholders.

On the basis of these documents, three categories are proposed for understanding the extent to which countries have addressed the issue of ICT and initial teacher education:

- Category 1: Lack of relevant information concerning ICT and initial teacher education (Canada, Greece, Mexico etc.).
• Category 2: Developing awareness of the stakes of ICT and initial teacher education (Australia, New Zealand, Ireland etc.).
• Category 3: Inclusion of ICT in initial teacher education at several levels (Japan, Korea, Germany).

Read the publication:
• [ICT and initial teacher education: National policies](#)

Related links:
• [ICT in schools survey – many children not getting what they need; teachers need more training and support](#)
• [Evaluation meeting on the Facilitating Effective ICT-Pedagogy Integration Project](#)
• [New, open source database helps track country progress in education](#)
• [Analysis of recent 1:1 learning initiatives in primary and secondary schools in Europe](#)

Previous issues of the e-newsletter:
• [UNESCO "ICT in Education" Announcement e-newsletter](#)

What do you think about this topic?
• [Visit our on-line forum and share your views](#)

**NMC Horizon Report > 2013 K-12 Education Edition**
The New Media Consortium, the Consortium for School Networking (CoSN), and the International Society for Technology in Education (ISTE), with the support of HP, produced the NMC Horizon Report > 2013 K-12 Edition.

This fifth edition in the annual K-12 series of the NMC Horizon Project examines emerging technologies for their potential impact on and use in teaching, learning, and creative inquiry within the environment of pre-college education.
Six emerging technologies (Cloud computing, mobile learning, learning analytics, open content, 3D printing, virtual and remote laboratories) are identified across three adoption horizons over the next one to five years, as well as key trends and challenges expected to continue over the same period, giving educators, school administrators, and practitioners a valuable guide for strategic technology planning.

Read the report:

- NMC Horizon Report > 2013 K-12 Education Edition

Related links:


Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

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11 steps of effective project-based learning in a blended classroom

In this article, Thomas Stanley examines Student-to-material interactions as part of the blended learning model, specifically the process of project-based learning in a blended classroom.

Read the article:

- 11 steps of effective project-based learning in a blended classroom
Related links:

- ICT-Supported Project-based Learning: the Myths and Truths
- Evaluation meeting on the Facilitating Effective ICT-Pedagogy Integration Project
- Engaging primary students in project-based learning
- East speaks west, west speaks east: Two continents, one classroom
- Project-based learning: Success start to finish
- Collaborative Learning 2.0 for Pakistan

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Wonders of learning

Wonderopolis is a free website that can help learners of all ages to discover their wonders and their curiosity. This website includes a variety of topics that especially young people are interested in, ranging from “What causes ear infections”, “Why do dogs have wet noses” to “Why don’t humans have tails”.

Wonderopolis can be used by teachers, students and parents to assist their learning and studying. Every day a new “wonder” will be shared, that is being introduced with a short video clip and an article explaining the wonder.

What’s more, complicated vocabulary from the article is highlighted for easy revision by the students. There are also entertaining quizzes to recapulate the knowledge learned. Furthermore, you can search the huge database for answers for your own questions or you may suggest new “wonders” that haven’t been presented yet.
By exploring Wonderopolis, teachers can find useful supplemental material for classroom teaching while students can find the answers for their blizzard ideas and parents can use this website to do co-learning and co-playing with their children at home.

Further information:

- Wonderopolis

Related links:

- Muuvit: Move to learn, Learn to move
- Children activities in Asia-Pacific
- Explore interactive biology
- Kindersite Project – Where children play and teachers learn

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