EDUCATION IN THE 21st CENTURY: WHAT TO EXPECT FROM TEACHERS

International Workshop

Re-designing Institutional Policies and Practices to Enhance the Quality of Education through Innovative Use of Digital Technologies

United Nations
Educational, Scientific and
Cultural Organization

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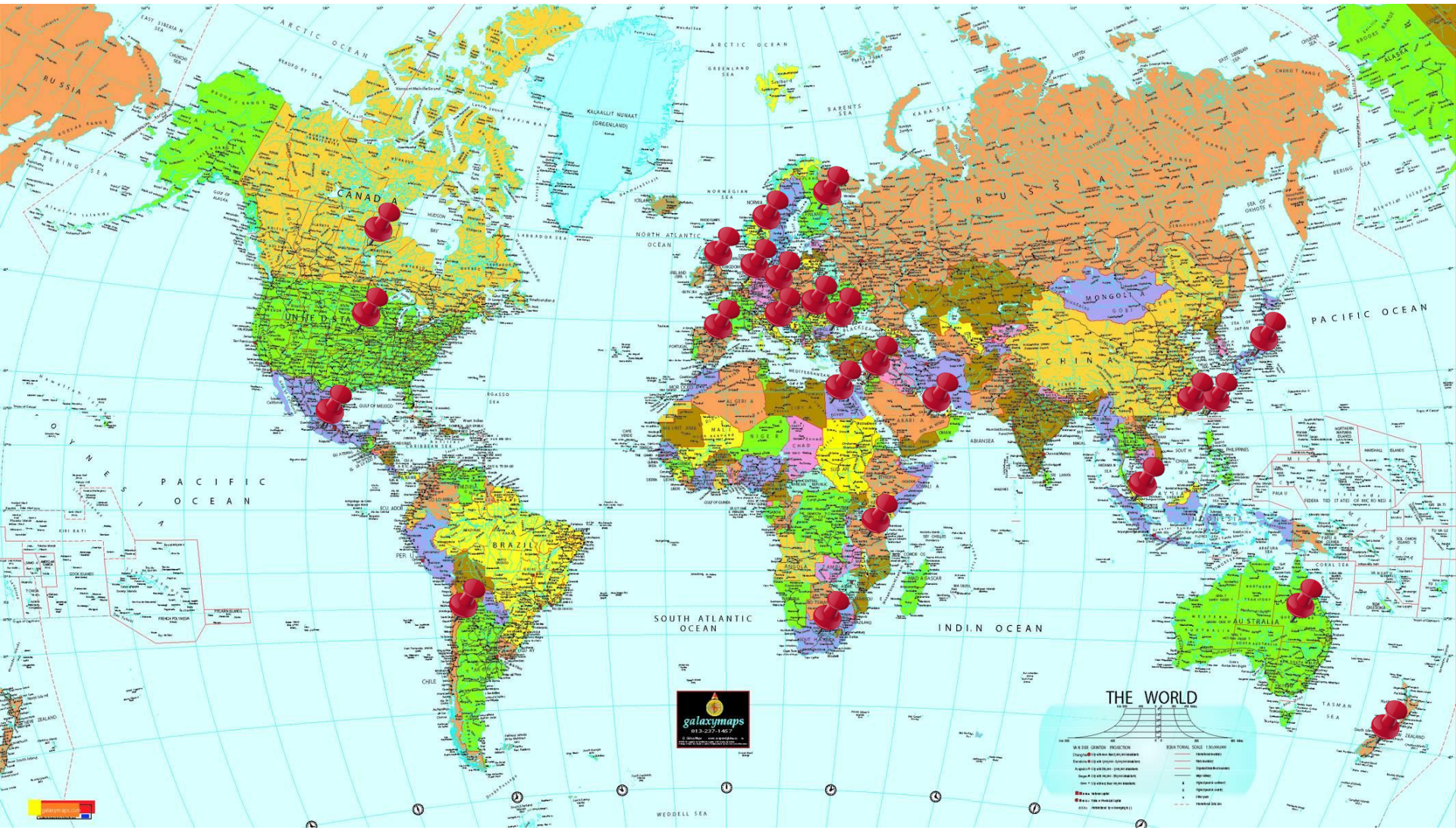
International Handbook of Information Technology in Primary & Secondary Education (Voogt & Knezek, 2008)

Synthesis of research on ICT in education from a broad international perspective

Start – UNESCO, Paris, 2006



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What research has demonstrated

- ICT can enhance teaching and learning
- Under which conditions ICT works (at system, school and teacher level)

But

- ICT scarcely finds its way in teaching and learning practice

International Summit of 70 scholars, leadership and policy makers to go beyond the findings of the Handbook

EDUsummIT 2009: The Hague 2009

CALL TO ACTION EDUSUMMIT 2009

- To establish a clear view on the role of ICT in 21st century learning and its implications for formal and informal learning
- To radically restructure schools to be able to use multiple technology-enhanced pedagogies to address individual needs of students
- To better understand student technology experiences in informal learning environments, in order to inform learning in formal settings
- To develop new assessments designed to measure outcomes from technology enriched learning experiences
- To develop and use distributed leadership models for technology use in schools and teacher education programs
- To develop and use models for teacher learning on technology use in schools and classrooms at the pre- and in-service levels
- To develop ideas on international opportunities relating to new and emerging technologies in order to address the needs of developing countries and promote global social awareness and responsibilities
- To develop and disseminate a list of essential conditions that need to be in place to ensure benefit from technology investments
- To actively study both research on and development of ICT applications in classrooms
- To use findings presented in the Handbook to inform research, policy and leadership for ICT in schools
- To develop mechanisms for sharing and distributing research, promising policies and practices on ICT in education
- To nurture an international community of ICT scholars, policy makers and leaders who continually build upon our knowledge base to inform policy and practice.
- To disseminate and discuss the recommendation in this Call to Action to other national and international ICT initiatives.

Kennisnet

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Building a Global Community of Policy-Makers, Educators & Researchers to Move Education into the Digital Age

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Themes based on the Call to Action

- Restructuring Educational Systems
- Student Technology Experiences
- **Teacher Professional Development**
- Global Awareness
- Assessment
- **21st Century Learning**
- Barriers/Essential Conditions
- Research on IT in Education

21st CENTURY LEARNING
To establish a clear view on the role of ICT in 21st century learning and its implications for formal and informal learning

TEACHER PROFESSIONAL DEVELOPMENT
To develop and use models for teacher learning on technology use in schools and classrooms at the pre- and in-service levels

Teaching and Learning in the Knowledge Society

'What do students need to learn: 21st century skills

'Skills' encompass: To know, to do and to value

Broad consensus on what 21st century 'skills' are,

but local reconceptualization is needed

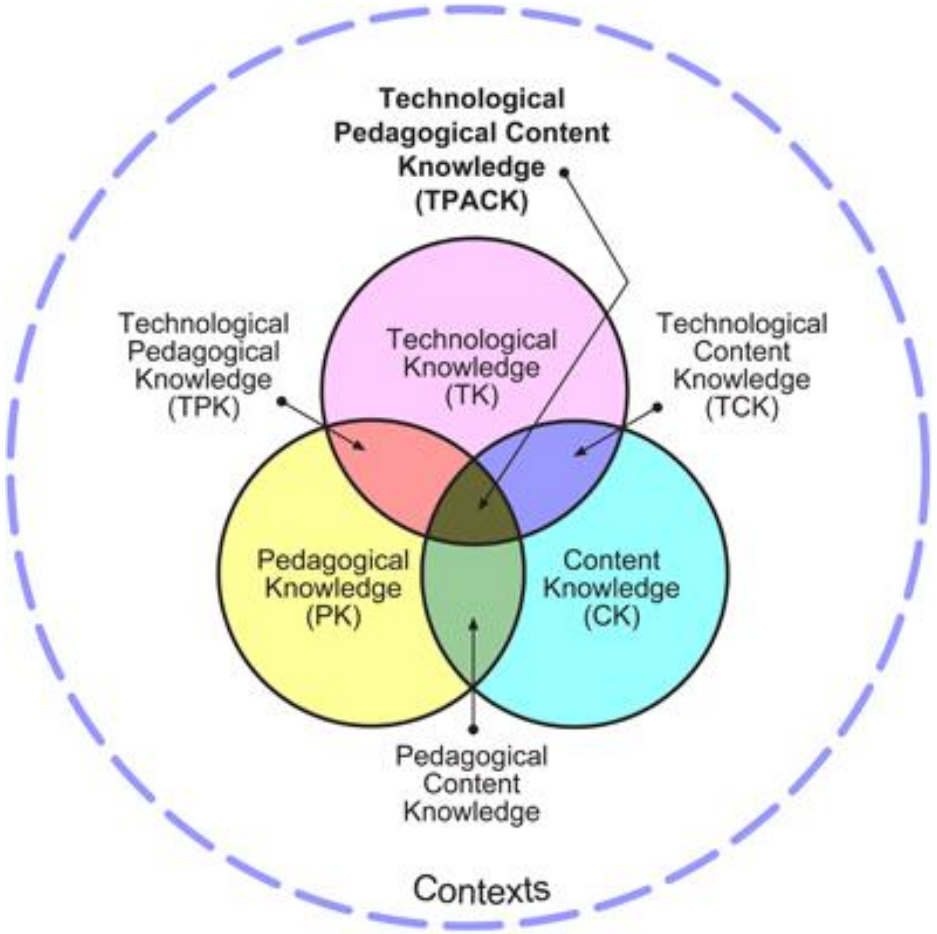
Teaching and Learning in the Knowledge Society

How do teachers need to teach?

- Towards a pedagogy for the 21st century

Aspect	Less ('traditional pedagogy')	More ('emerging pedagogy' for the knowledge society)
Active	- Little variation in activities	- Much variation in activities
Collaborative	- Individual	- Working in teams
Creative	- Reproductive learning	- Productive learning
Integrative	- No link between theory and practice	- Integrating theory and practice
Evaluative	- Summative	- Diagnostic

Technological Pedagogical Content Knowledge



- Koehler & Mishra (2006):

  * The integration of ICT in education benefits from a careful alignment between content, pedagogy and the affordances of the technology

  * Teachers who want to integrate technology need to be competent in all three domains

Competencies are not enough!

Christensen & Knezek, 2008

- Enhancing an educator's Will (Attitude), Skill (Competencies), and Access to technology tools will in turn lead to higher stages of classroom technology integration.
- Access and Skill is necessary to develop low levels of technology integration;
- But **positive Attitudes ('will')** is necessary to make **creative use** of technology

Riel &Becker, 2008; Drent & Meelissen, 2008; Voogt, 2010

- Teachers who use ICT innovatively are more **professionally engaged** (Voogt, 2010), are **entrepreneurs** *(Drent & Meelissen, 2008)* or **'teacher leaders'** *(Riel & Becker, 2008)*

Some preliminary conclusions from the EDUsummIT

- Teachers (and learners) need to be owners of the concept of 21st century learning
- Lack of understanding of ICT prevents teachers to better prepare students for their future
- Teachers need to understand how to integrate content, pedagogy a and technology
- Teachers are afraid they loose control over the learning process that takes place ‘inside’ students

Preliminary Recommendations

- Document a shared vision for education and the role of ICT & PD which engages all stakeholders to encourage ownership

- Allocation of funding for Teacher Professional Development as a part of any new ICT initiative

- A career-long PD continuum to prepare for emerging roles and practices of teachers is needed

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