



TEACHING & LEARNING WITH DIGITAL STORYTELLING & DIGITAL PEN



JOINT STUDY OF TEACHING AND LEARNING IN FUTURE SCHOOLS IN CHINA AND FINLAND

Supporting student learning towards 21st century
skills through digital storytelling with digital pens

Dr Hannele Niemi*, Dr Marianna Vivitsou**, Dr Jenny Niu **
Professor*, Postdoctoral researcher**



60° 10 1.2 N, 24° 57 18 E





BEIJING NORMAL & HELSINKI UNIVERSITY JOINT STUDY THE OBJECTIVES

A general study on learning and teaching in Finland and in China
with the focus of 21st century skills

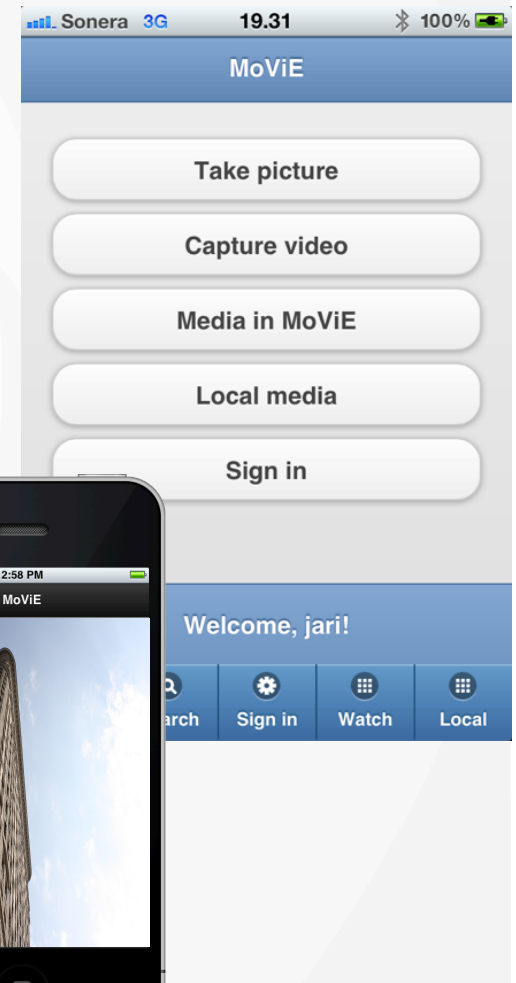
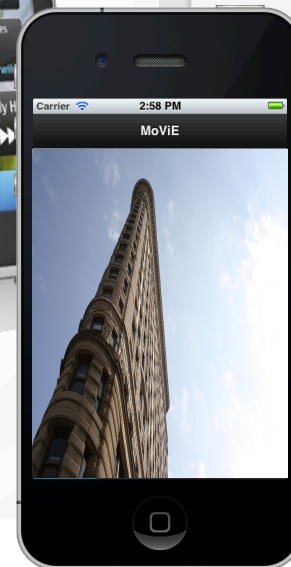
Experimental study: how digital story-telling and digital pens
change students' learning processes and teachers' pedagogy

To provide suggestions and recommendations
for future schools with the focus of 21st century skills and

To publish peer-reviewed articles in the international journals

DIGITAL STORYTELLING IS....

- A learner-centered approach
- Student-driven knowledge creation through collaborative work and reflection and sharing these experiences with others
- Watching other students' stories





DIGITAL STORYTELLING AS 21C PEDAGOGY

Our empirical studies on the use of technologies for teaching and learning and findings (Niemi et al, 2014; Niemi & Multisilta 2015) indicate that digital storytelling...

- Strengthens student engagement and commitment to hard work
- Allows students to enjoy learning
- Promotes student-driven subject-matter knowledge creation
- Allows for communication skills to develop
- Student practice of networking and internet skills
- Through individual and collaborative work, and
- Self reflection and peer evaluation

DIGITAL PEN IS....

- Equipped with a pressure sensor and HD camera.
- Pressure sensor allows the HD camera to take 100 photos per second.
- Pressure data and speed are transferred to processor inside.
- All information can be outputted by Bluetooth or USB.





RESEARCH QUESTIONS

- What are the main elements of teaching and learning for future school with 21st century skills when moving towards student-driven knowledge creation?
- How does digital story telling with digital pens support students' learning?
- How does digital story telling with digital pens change teachers' pedagogy?
- How can learning analytics be integrated with learning processes and products when using digital story telling with digital pens as learning tools?

WAYS OF INVESTIGATION

- A study in 6 phases
- Process & product evaluation
- Student self & peer evaluation
- Before, during and after project activities





ACTION PLAN

PARTICIPANTS & MEASUREMENTS

- 2 Primary schools
- 2 teachers & 2 classrooms in Helsinki & in Beijing
- Math learning (between 5-10 teaching hours)
- 11-year-old students

Pre-test & post-test questionnaire (content & skill-based evaluation, self-efficacy, engagement, motivation)

Lesson-based evaluation with digital pen (e.g., engagement, problem-solving)

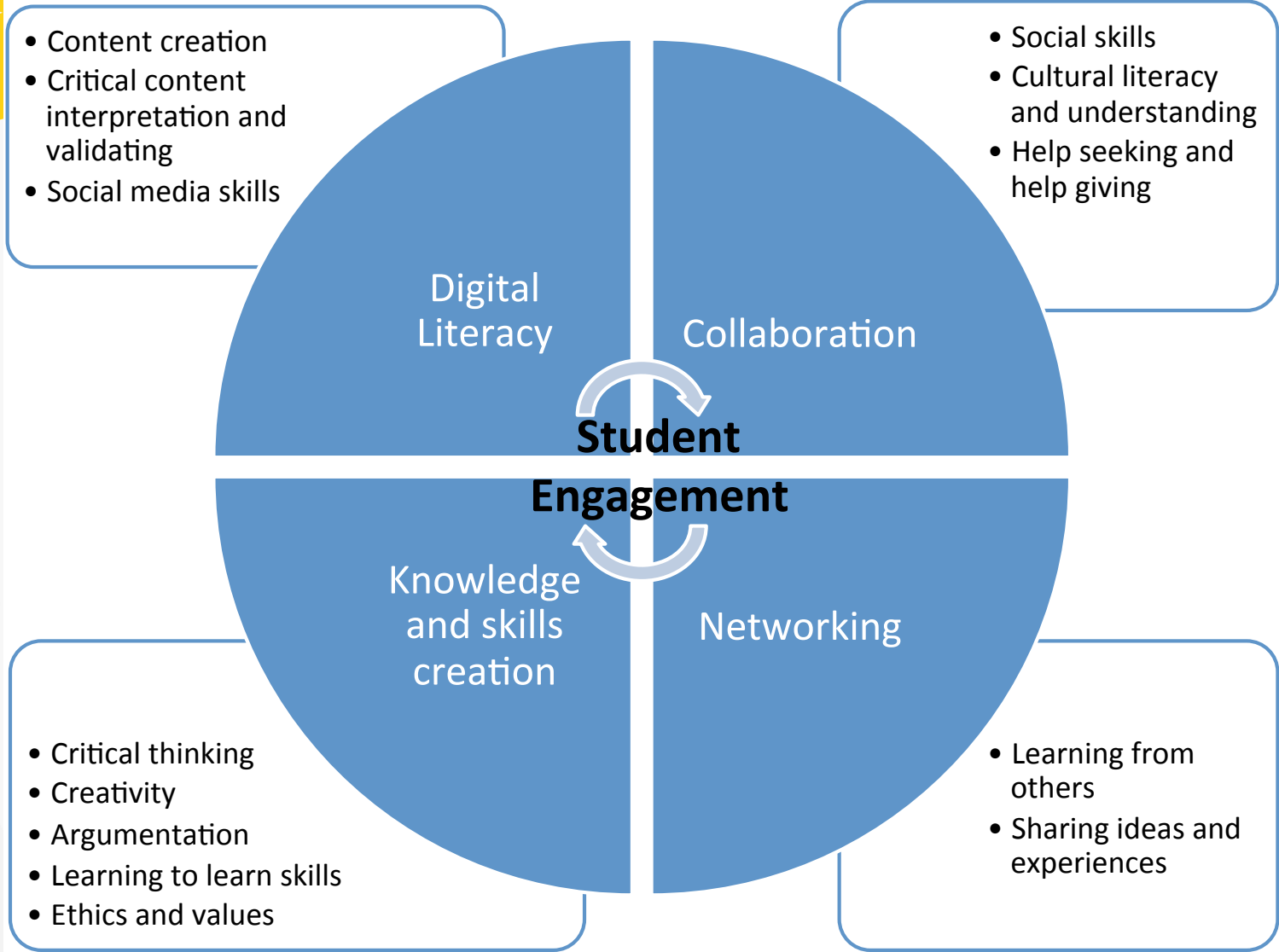
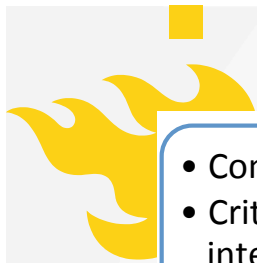
Post-project interviews

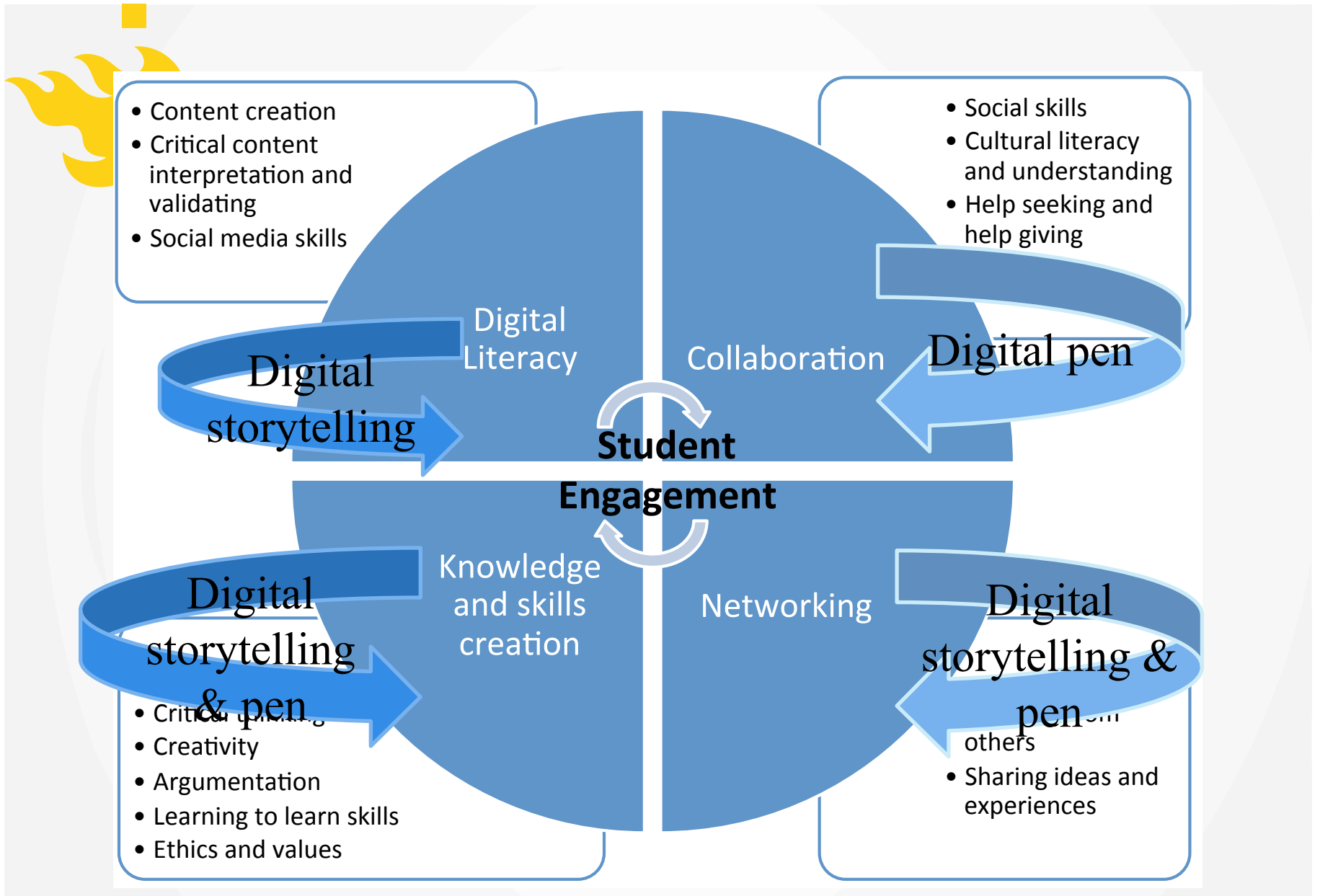
Learning analytics tools & evaluation of student performance



6 PROJECT PHASES

- Students work in small groups in order to respond to the task set by the teacher, explore the new phenomenon etc.
- Students design their digital stories with the digital pen in small groups.
- Students work in small groups and use tablets and/or smartphones in order to shoot their digital stories.
- Students upload and edit their stories in groups and/or individually.
- The groups present the digital stories to their peers.
- Students offer feedback to peers' work.







FUTURE PEDAGOGIES

- Teachers need to introduce interdisciplinary approaches into the classroom
- Teachers need to facilitate learning rather than transmit knowledge





NEW PRACTICES

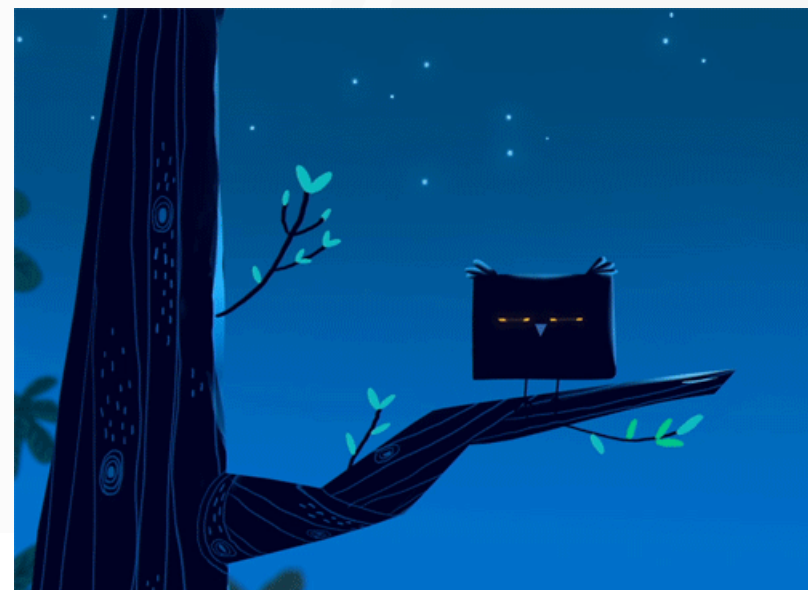
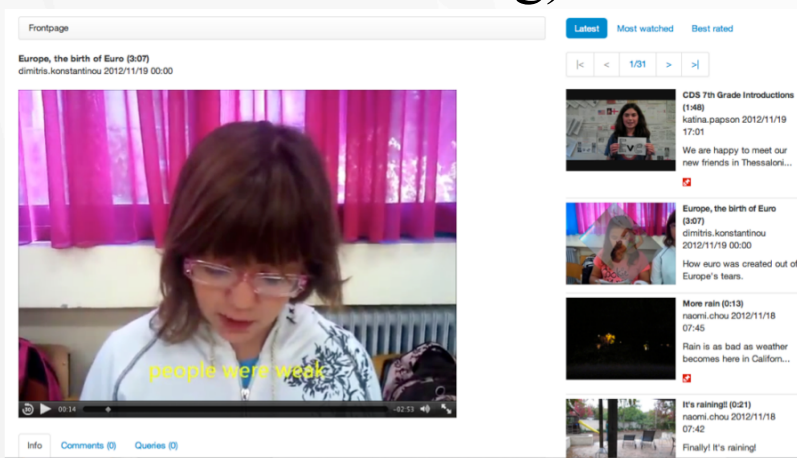
- Through active student participation & engagement
- By authoring own stories & sharing online
- By building knowledge together, with peers





- In natural environments for contextualized knowledge (e.g., in science learning)
- In Web-based environments (e.g., for connected and interactive learning)

NEW TOOLS





THE ROLE OF TECHNOLOGY IN THIS JOINT PROJECT

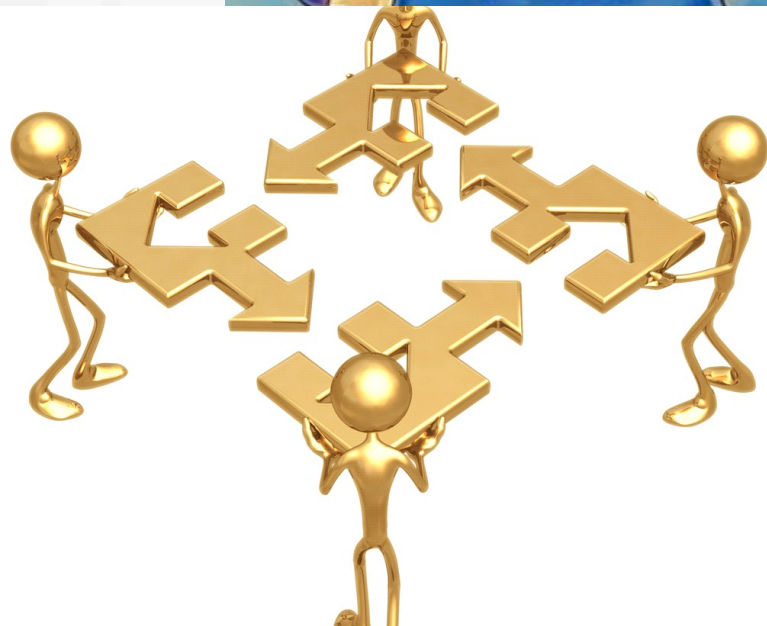
- Tool as learning mediator
- Tool for communication
- Tool for evaluation



TEACHER ROLE CHANGES



Expand, Connect, Adapt, Support, Facilitate

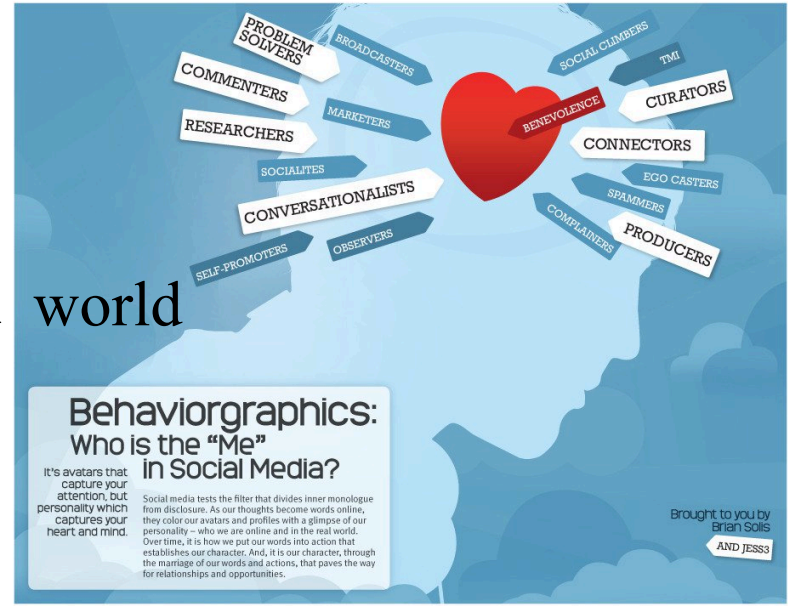
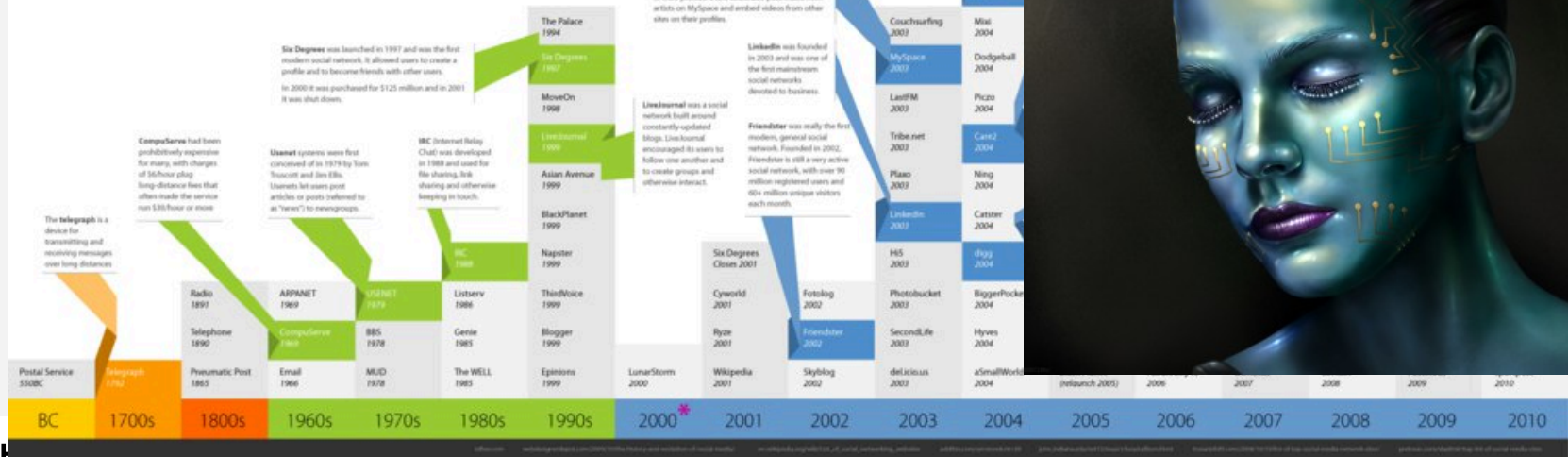


21+ THE FUTURE IS NOW

Teaching & Learning In an increasingly technology-mediated world

History of Social Media

Social media has become an integral part of modern society. There are general social networks with user bases larger than the population of most countries. There are niche sites for virtually every special interest out there. There are sites to share photos, videos, status updates, sites for meeting new people and sites to connect with old friends. There are social solutions to just about every need.





LET'S CREATE THE FUTURE NOW!!!

■ THANK YOU FOR YOUR ATTENTION!

