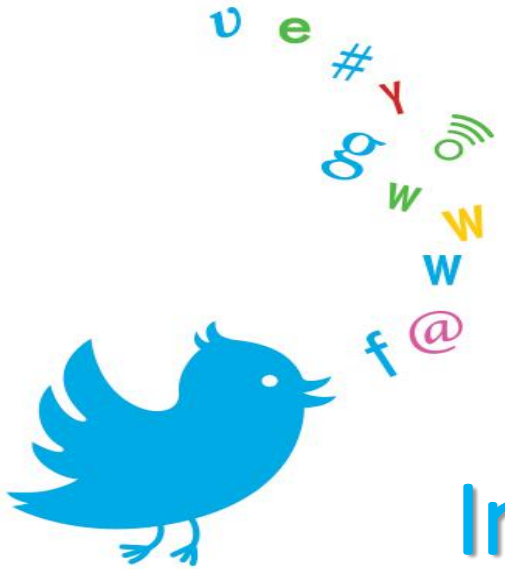
MIND THE GAP
Between digital natives and educational practices



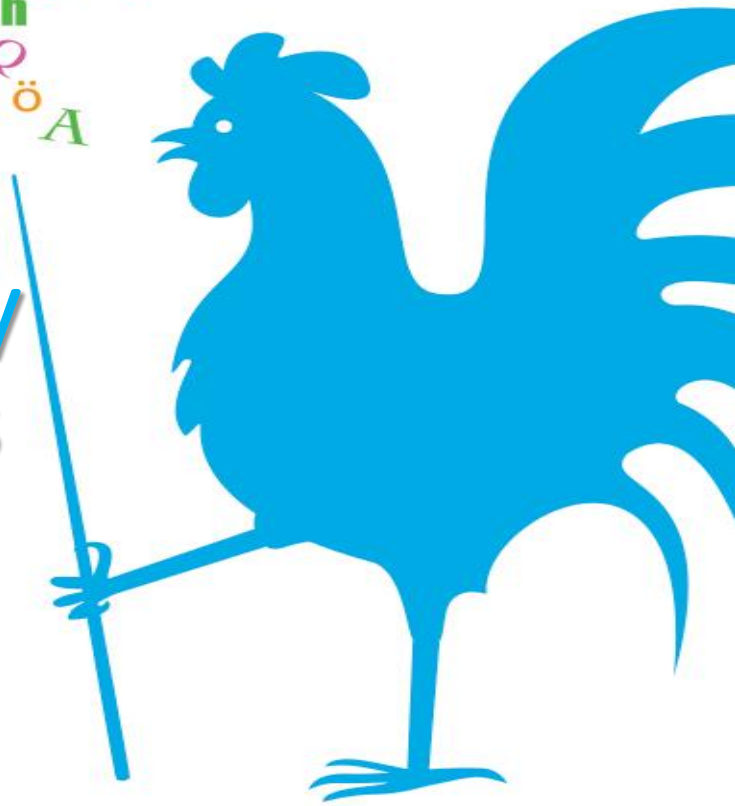
Innovative interdisciplinary design for learning spaces

Professor Kirsti Lonka

& Mind The Gap and Ed Psych (RYM) Research Group

University of Helsinki, Finland

Twitter @kirstilonka



SUOMEN AKATEMIA

HELSINGIN YLIOPISTO

Turun yliopisto
University of Turku

JYVÄSKYLÄN YLIOPISTO

http://www.helsinki.fi/opettajienakatemia/eng/index.html

TEACHERS' ACADEMY

provides opportunities to earn merit and reward members of the academic community for their teaching qualifications and expertise

In 2013, the 30 founding members were elected from all 12 faculties

In 2014, new 20 members were elected

UNIVERSITY OF HELSINKI

In general, we aim to

- **promote the quality of teaching** and improve its status in the academic community
- **improve the quality of learning** and learning results among students
- be an **important step** in an excellent teacher's career
- **improve the status of teaching qualifications** and create more comparable documentation
- **provide a multidisciplinary community for teachers**, that provides collegial support in the development of teaching and learning and promotes good practices at the University

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TEACHERS' ACADEMY

We have an executive board that covers all the four campuses:

President

Kirsti Lonka,
Professor of
Educational
Psychology

Vice Presidents

City Centre Campus

Kumpula Campus

Viikki Campus

Meilahti Campus

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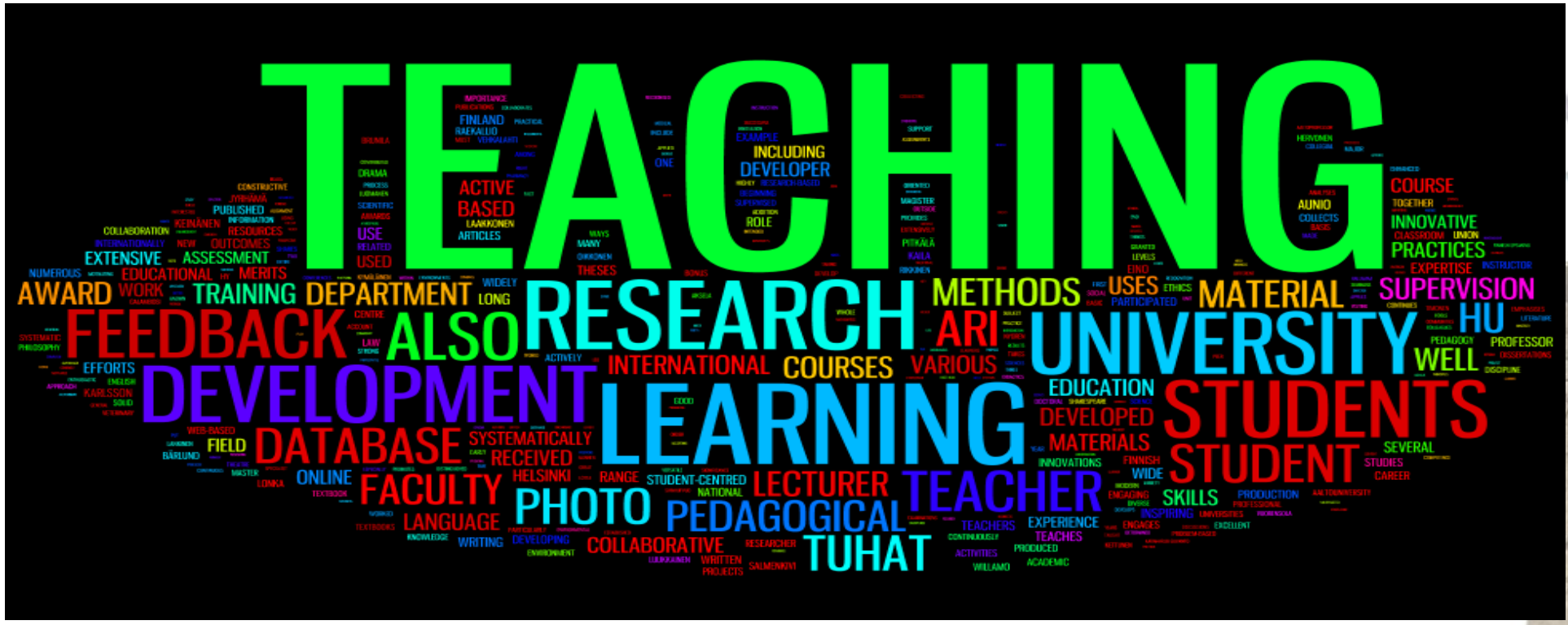
TEACHERS' ACADEMY

We obviously share at least ONE COMMON PASSION:



Wordle.net – text source: **http://www.helsinki.fi/opettajienakatemia/eng/academy_members.html**

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TEACHERS' ACADEMY

Mind the Gap Research Network funded by Academy of Finland Mind Program 2013-2016

Professor Kirsti Lonka (PI) & Co.
Educational psychology,
University of Helsinki

Professor Katariina Salmela-Aro & Co.
Development and well being
University of Jyväskylä

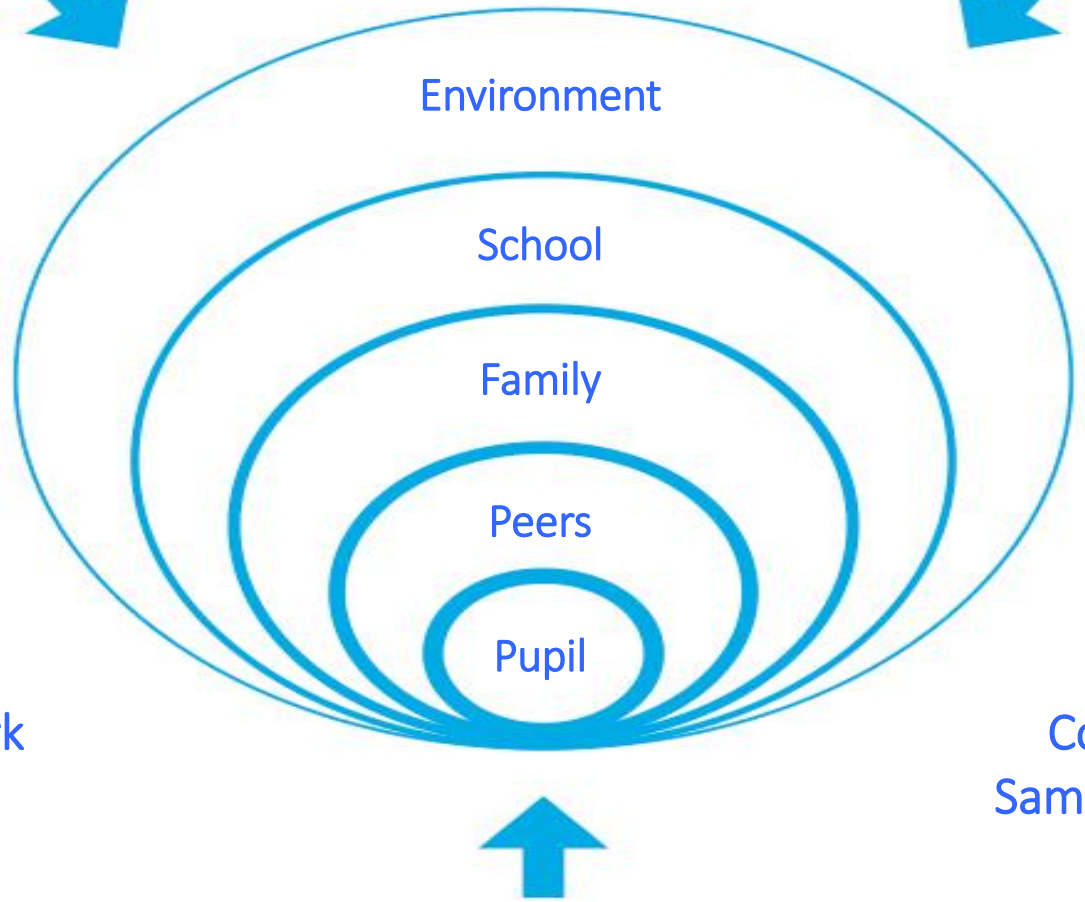
Professor Kimmo Alho
Brain, attention and memory
University of Helsinki

Professor Kai Hakkarainen
Technology-mediated collaborative learning
University of Turku

Questionnaires

Brain Research

Qualitative methods



Social network analysis

Contextual Activity Sampling System (CASS)

Project work calls for creative collaboration

- Workplace learning increasingly project-based
- and socially distributed
- Physical spaces and external tools regulate our activities
- Our knowledge practices can either hinder or promote our intellectual activities
- Knowledge practices are personal, social or institutional routines that are related to knowledge

Digital natives are assumed to have thorougly intellectually socialized to use ICTs

Digital immigrants,
in contrast, use ICTs
as weakly integrated external too

The knowledge practices of digital natives

- **The generation of young people, who were born around 1990s, may be called ”digital natives”, since they were born together with Internet and mobile technologies (Prensky, 2005; 2012).**
- **Typical knowledge practices for this generation are multi-tasking, reading from the screen, being fond of computer games, using social media extensively, and chatting.**
- **Young people outsource many cognitive functions to different technological tools – this may unload your memory**
- Digital natives (baby reading): http://www.youtube.com/watch?v=aXV-yaFmQNk
- Digital immigrants (medieval helpdesk): http://www.youtube.com/watch?v=pQHX-SjgQvQ

Technology-mediated collaborative learning

(Kai Hakkarainen, 2009)

Knowledge Building approach

Putting students ideas in the centre

The "copernican revolution" that puts pupils' ideas and products into the centre of educational activity.

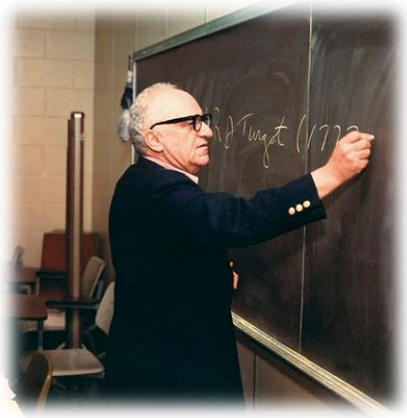
Knowledge-practice Approach

Putting social practices to the centre

Technology enhances learning only through changed social practices

Active learning presupposes new knowledge practices

What is the knowledge practice here?



vs.

What is the nature of interaction here?

vs.

Gap between diginatives' and educational practices

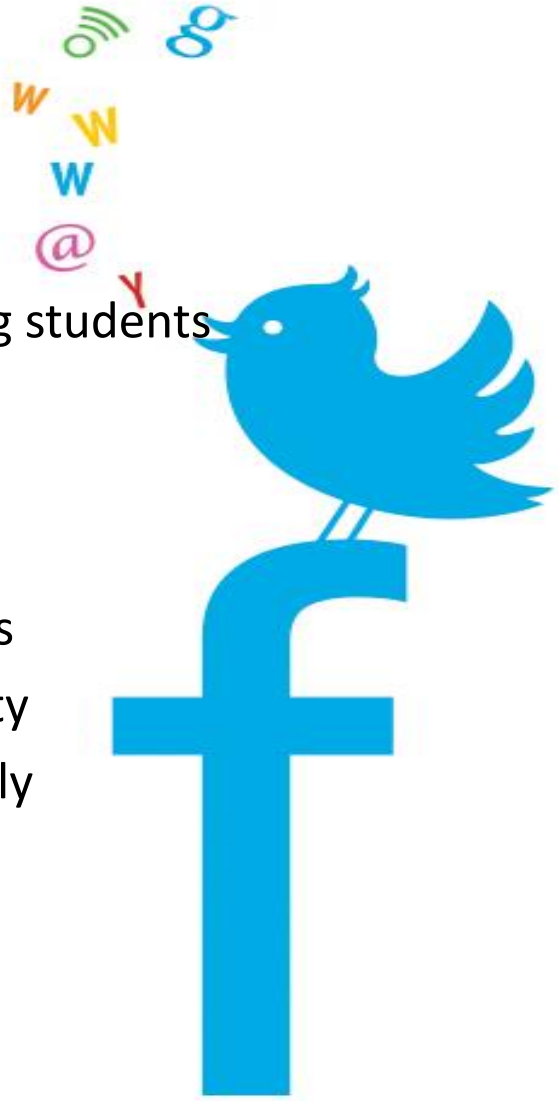
Diginatives' practices

- Flexible use of digimedia
- Multi tasking
- Intellectual ICT protheses
- Internet searches
- Working on screen
- Making and sharing in groups
- Extended networks
- Knowledge creation

Educational practices

- Traditional media
- Linear and sequential
- Pure mental performance
- Limited textbook content
- Paper and pencil
- Individual performance
- Closed classroom community
- Knowledge transmission

Are there digital natives in Finland?



- Yes, but only small part of the population.
- Real readiness for advanced use of technology appears to be quite rare among students
- Our preliminary results from Finnish 6th graders in 2013 (n = 687)
  - Basic users (44 %), below mean in all aspects
  - Social media users (23 %), mostly only social media
  - Basic gamers (20 %), typically mainly gaming, but less than active gamers
  - Active gamers (5%), mostly activity games, part of the gaming community
  - Creative participants (6%), advanced group in using technology, especially in creative activities

(by Lauri Hietajärvi, doctoral dissertation in progress)

Who liked school the most?

- Can you guess?
  - Basic users had little knowledge of technology – they liked school the most
  - Social media users expressed fears of failure
  - Basic gamers , active gamers and creative participants were the most advanced in using technology - they did not like school as much, also often expressed a cynical attitude
  - Social media users and creative participants reported fatigue – did they get enough sleep?



RYM OY SY Sisäympäristö Indoor Environment

INDOOR ENVIRONMENT – *Science-based solutions for indoor life quality*

Also university students are now digital natives – what about them?

www.indoorenvironment.org rym.fi

New solutions for designing university spaces

Prof Kirsti Lonka et al. 2011-2015
WP4 Task 1.1 Learning Environments
UH, Aalto, HYKOY, SYKOY

Tekes

DESIGNING SOCIETY THROUGH THINKING

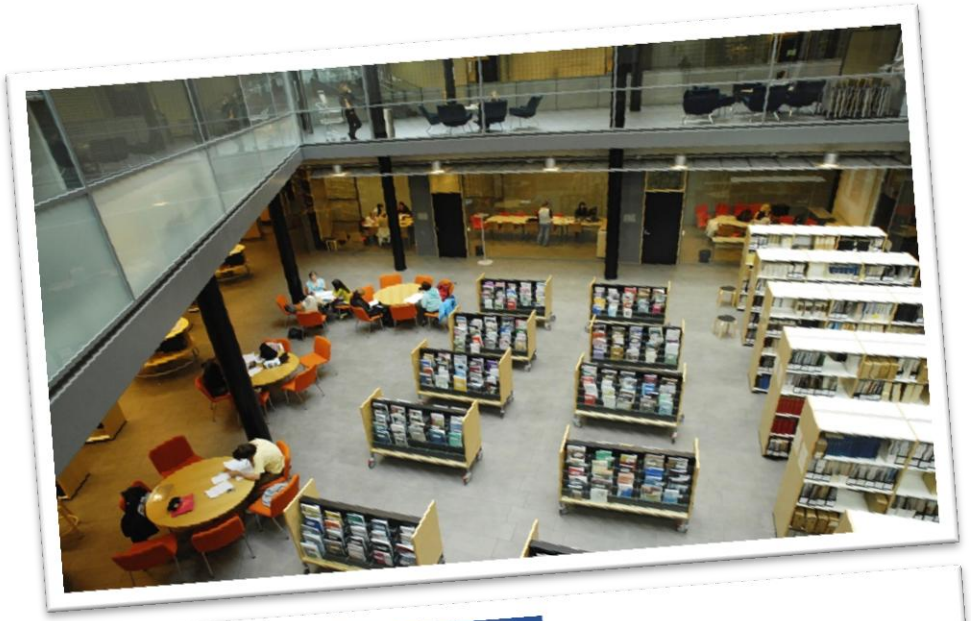
WORLD DESIGN CAPITAL HELSINKI 2012

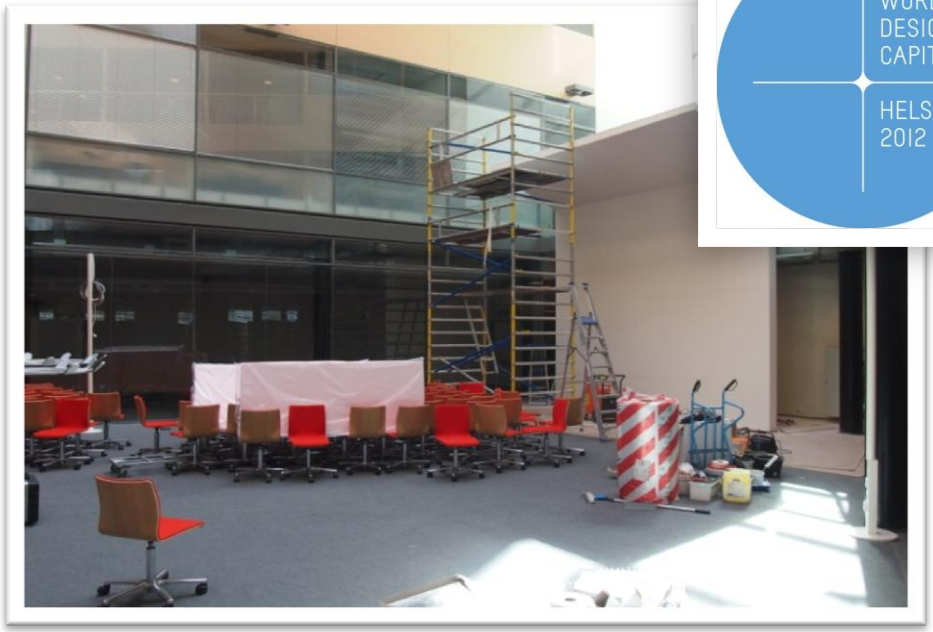
PASSION TO LEARN

Adapting new ways of collective learning for better results.

UNIVERSITY OF HELSINKI

The History of Minerva Plaza in a nutshell





WORLD DESIGN CAPITAL HELSINKI 2012

Combining pedagogy and technology in Finnish teacher training

Collaborative knowledge construction by using Flinga.fi

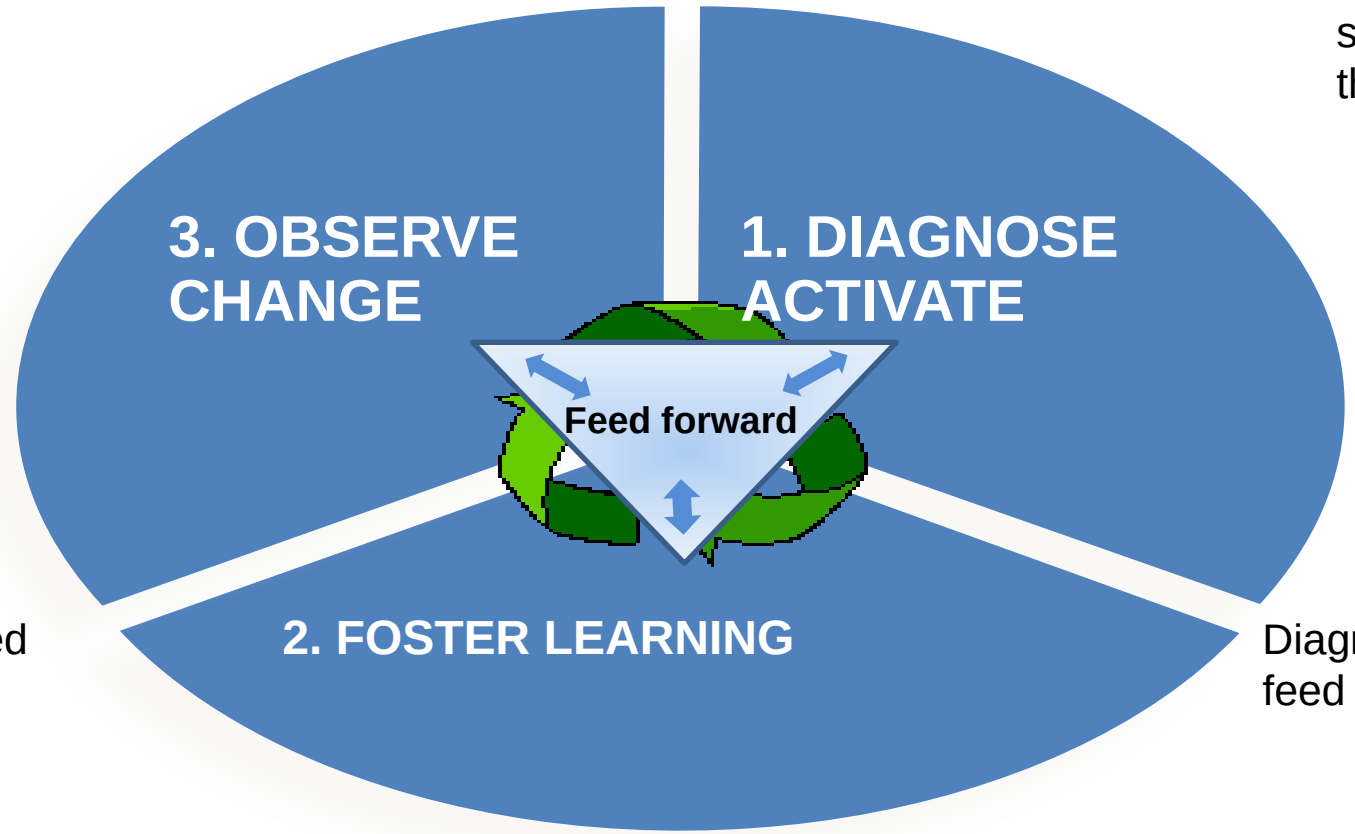
Blended learning environments combine physical, virtual, social, mobile and mental spaces of learning
- beyond classroom!

Developing new pedagogical models

(Lonka & Ahola, 1995; Lonka & Ketonen, 2012; Lonka, 2012)

Assessing change, deepening interest
– what new was created?
– what should be developed?

Activating and diagnosing, **catching interest,**
setting context and goals, starting the process.

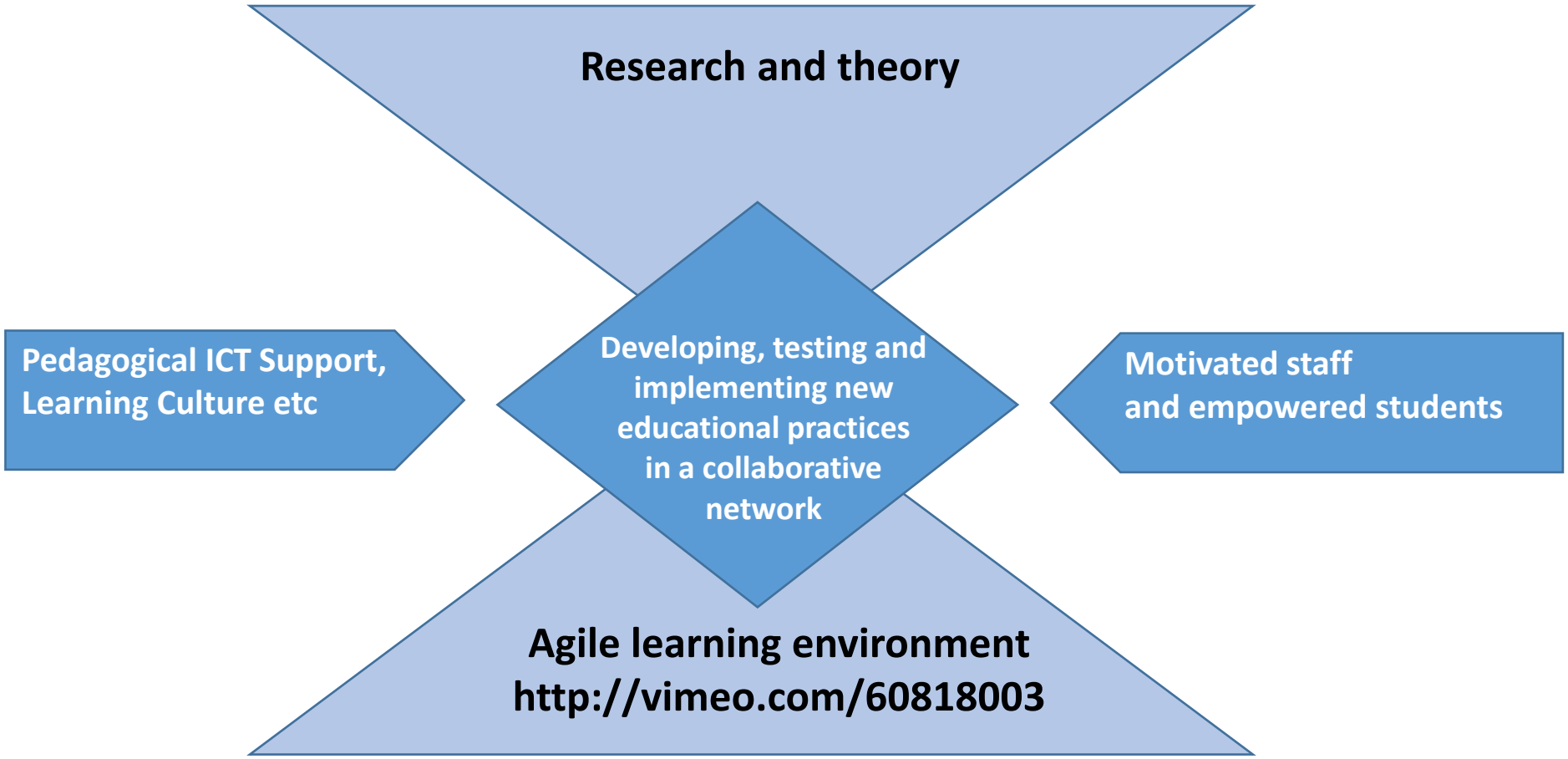


Diagnostic evaluation, feed forward

Diagnostic evaluation, feed forward

Fostering the learning process and reflective thinking, **maintaining interest**, (face to face, P2P, virtually etc.), creating new knowledge or new practices

Pedagogical Models and Blended Learning Environments?



References

- Hakkarainen, K. (2009). A knowledge-practice perspective on technology-mediated learning. International Journal of Computer Supported Collaborative Learning, 4, 213-231.
- Litmanen, T., Lonka, K., Inkinen, M., Lipponen, L. & Hakkarainen, K. (2012). Capturing teacher students' emotional experiences in context: does inquiry-based learning make a difference? *Instructional Science, 40*, 1083–1101.
- Lonka, K. (2011) In S. Tierney (Ed.) Innovate! Collective wisdom for innovative schools (pp. 32-35) USA: Partners in Learning School Program. Worldwide Public Sector Education, Microsoft.
- Lonka, K. (2012) Engaging Learning Environments for the Future. The 2012 Elizabeth W. Stone Lecture. In R. Gwyer, R. Stubbiftgs,& Graham Walton (Eds.) *The road to information literacy. Librarians as facilitators of learning.* IFLA (The International Federation of Library Associations and Institutions). (p. 15-30.) Publications 157. De Gruyter Saur.
- http://www.ifla.org/news/new-publication-the-road-to-information-literacy-librarians-as-facilitators-of-learning
- Lonka, K., Hakkarainen, K., & Sintonen, M. (2000). Progressive inquiry learning for children--experiences, possibilities, limitations. *European Early Childhood Education Research Journal, 8*(1), 7–23.
- Lonka, K., Joram, E. & Bryson, M. (1996) Conceptions of learning and knowledge - does training make a difference? *Contemporary Educational Psychology, 21*, 240-260.
- Lonka, K. & Ketonen, E. (2012). How to make a lecture course an engaging learning experience? *Studies for the Learning Society, 2*, 63–74. **http://versita.metapress.com/content/6604263706320662/fulltext.pdf**
- Muukkonen- van der Meer, H. (2011). Perspective on knowledge creating inquiry in higher education. Doctoral dissertation. Institute of Behavioural Sciences. University of Helsinki, Finland. http://www.e-thesis.helsinki.fi
- Muukkonen, H., Hakkarainen, K., Inkinen, M., Lonka, K., Salmela-Aro, K. (2008). CASS-methods and tools for investigating higher education knowledge practices. In G. Kanselaar, V. Jonker, P. Kirschner & F. Prins (Eds.), *International Perspectives in the Learning Sciences: Cre8ing a Learning World, Proceedings of the Eight International Conference for the Learning Sciences* (ICLS 2008), Vol. 2 (pp. 107-115). Utrecht, The Netherlands: ICLS.
- Muukkonen, H., Hakkarainen, K., Jalonen, S., Kosonen, K., Heikkilä, A.,
  Lonka, K., Inkinen, M., Salmela-Aro, K., Linnanen, J., & Salo, K. (2007). Process-and context-sensitive research on academic knowledge practices: Developing CASS-tools and methods. *Proceedings of the Computer Supported Collaborative Learning Conference,* Rutgers University, New Jersey, USA, July 16-21, 2007.
- Nieminen, J., Sauri, P. & Lonka, K. (2006). On the relationship between group functioning and study success in PBL. Medical Education, 40, 64-71.
- Paavola, S., Lipponen, L. & Hakkarainen, K. (2004). Modeling innovative knowledge communities: A knowledge-creation approach to learning. *Review of Educational Research, 74*, 557-576.
- Pekrun, R. (2005). Progress and open problems in educational emotion research. *Learning and Instruction, 15*(5), 497-506.
- Prensky, M. (2005). Listen to the natives. Learning in the digital age. *Educational Leadership, 63 (4),* 8-13.
- Prensky, M. (2008). Backup Education? Too many teachers see education as preparing kids for the past, not the future. *Educational Technology, 48*, 1-3.
- Prensky, M. (2012). From digital natives to digital wisdom. Hopeful essays for 21st century learning. Thousand Oaks, CA: SAGE.
- Scardamalia, M. (2002). Collective cognitive responsibility for the advancement of knowledge. In B. Smith (Ed.), *Liberal Education in a Knowledge Society* (pp. 67-98). Chicago: Open Court.
- Scardamalia, M., & Bereiter, C. (2003). Knowledge building environments: Extending the limits of the possible in education and knowledge work. In A. DiStefano, K.E. Rudestam, & R. Silverman (Eds.), *Encyclopedia of distributed learning.* Thousand Oaks, CA: Sage Publications.
- Tsai, Y.-M., Kunter, M., Ludtke, O., Trautwein, U., & Ryan, R.M. (2008). What makes lessons interesting? The role of situational and individual factors in three school subjects. *Journal of Educational Psychology, 100*(2), 460-472
- Tolvanen, A., Kiuru, N., Hakkarainen, K. Lonka, K.,Inkinen, M & Salmela-Aro,K. (2011) Estimation of nonlinear growth component in multilevel modeling: A research application in the daily dynamics of competence, challenge and affects. *International Journal of Behavioral Development, 35*(4), 370-379.
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