Connecting digital and physical space in educational practice - Challenges and potentials for future learning design

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- **Four schools:**
  - Education and Social Studies
  - Health Studies
  - Business Studies
  - Technology Studies

- **AP and Bachelor’s Degrees:**
  - Approximately 8,500 students (10% international, 50 nationalities)
  - 16,000 part time students

- **Staff**
  - 800 total
  - 600 academic
Agenda

Setting the scene
- 21st Century skills
- Teaching practice
  - Blended Learning
  - Flipped Classroom
  - MOOC’s

Space
- Learning spaces
  - Maker space
  - Game based Learning
  - Virtual reality (VR) and Augmented reality (AR)

Empirical research
- Learning ecology
  - Case study
  - Physical and digital spaces
- Reflective basis
  - Learning Design
Setting the scene

- 21st Century skills
- Teaching practice
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21st Century skills (students)

Exhibit 1: Students require 16 skills for the 21st century

- Foundational Literacies: How students apply core skills to everyday tasks
  - 1. Literacy
  - 2. Numeracy
  - 3. Scientific literacy
  - 4. ICT literacy
  - 5. Financial literacy
  - 6. Cultural and civic literacy

- Competencies: How students approach complex challenges
  - 7. Critical thinking/problem-solving
  - 8. Creativity
  - 9. Communication
  - 10. Collaboration

- Character Qualities: How students approach their changing environment
  - 11. Curiosity
  - 12. Initiative
  - 13. Persistence/ grit
  - 14. Adaptability
  - 15. Leadership
  - 16. Social and cultural awareness

Note: ICT stands for information and communications technology.

Source: Future of Jobs Report, World Economic Forum

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21st Century skills (teachers)

European Framework for the Digital Competence of Educators (DigCompEdu)

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Teaching practice

- Online/offline?

# Teaching Practice – connecting digital and physical learning?

<table>
<thead>
<tr>
<th>Learning design element</th>
<th>Face-to-face</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collaboration</strong></td>
<td>Physical Situated Embodied Include direct eye contact Include socio emotional Include touch and smell</td>
<td>Virtual Distant Visual or written Flexible Analogue or synchronic</td>
</tr>
<tr>
<td><strong>Project work</strong></td>
<td>Verbal and socio emotional clarification Embodied facilitated communication and discussion Writing, reading, and remediating the content together in the physical setting Collaborative or cooperative commitment</td>
<td>Cooperative Structured by the setup Progression is documented and visible Asynchronous writing and discussion Commitment is weakened</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Interruptive Bodily discharges and language supplementing the content Changeable in situ Direct clarification possible</td>
<td>Precisely Visual afforded interfering in situ elements are offset Online offset is initial present</td>
</tr>
<tr>
<td><strong>Tasks</strong></td>
<td>Peer-to-peer, group or individual in situ Commitment to peers and teacher is given priority Direct clarification possible</td>
<td>Mostly individualized Differentiation possible Mainly written Quality of the work is clear and documented</td>
</tr>
</tbody>
</table>


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Teaching practice

- Blended learning
- Flipped Classroom
- MOOCs
- Learning spaces
- Maker space
- Game based Learning
- Virtual reality (VR)
- and Augmented reality (AR)
Learning spaces – Basho (Ba)
Learning spaces

- Maker space
Learning spaces

- Game based Learning
Learning spaces

- Virtual reality (VR) and Augmented reality (AR)
Empirical research – digital and blended learning

- Learning ecology
  - Case study
  - Physical and digital spaces

- Reflective basis
  - Learning Design

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“...as the accessed set of contexts, comprised of configurations of activities, material resources and relationships, found in co-located physical or virtual spaces that provide opportunities for learning” (Barron, 2004, p. 6).

“...a learning ecology is best conceptualized as a dynamic entity that can be characterized by the diversity and depth of learning resources and activities”. (Barron, 2006, p. 217)
Learning ecology – a case study

- Student´s orientation in Blended Learning environments (spaces)

Methods

Case-study

- Mixed method
  - Focus-group interviews (students N=8, lectures N=2, mentors N=2)
  - Survey: questionnaires (students N=21, 66%)
  - Observations (classroom and public school)

Critical hermeneutical interpretation

- Mimesis 1, mimesis 2, mimesis 3


Educational places and spaces of learning

**Places**
- UCN
- Public schools
- Home

**Spaces**
- Mental - enmined
- Physical - embodied
- Social – engaged
- Digital

Learning design - Challenges and potentials in relation to 21st Century skills

- Prerequisite and conditions vs. demands
- Structure and clarity (mapmaking) vs. autonomy and students initiative
- Unclear navigation online vs. sufficient use of ICT, BL and online study activities (map using)
- Self-direction and leadership vs. teacher-led or collaborative
- Overload of possibilities vs. limited possibilities
- Creativity vs. pre-defined curriculum
- Habits vs. adaptability and mobility
Empirical findings

- Sociality
- Competence and Identity seeking
- Embodied habits and familiarity
- Contextual orientations processes and navigation in peripersonal spaces
- Disruptions and blurred ecotones between leisure, daily life and learning activities
Learning as way-finding is characterized as acquisition and/or development of knowledge, skills and competences through embodied and enmined intrapersonal, interpersonal and extrapersonal actions within peripersonal spaces of individuals, communities and organizations. Learning as way-finding involves development in cognition and/or skills and/or attitudes through movements in peripersonal spaces within physical, online and mental spaces in motions.
Learning both formal and informal can be conceptualized by the metaphor of way-finding; embodied, emotionally and/or cognitive both individually and socially. Way-finding, is argued, to be a contemporary concept for learning processes, knowledge development and identity-shaping, where learning emerges through motions, feeling and thinking within an information rich world in constant change.
Reflective basis

- Learning design

(Daziel et al., 2016)


Thank you for Your attention

- Questions & Comment?