Smart Learning: A New Paradigm of Learning in the Smart Age

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Outline

• Background & Literature Review
• Introducing Smart Learning
• Emergence of Smart Learning
• Concept of Smart Learning
• Conclusion
Background & Literature Review

**The Smart Age**

- The presence of ‘intelligence’ in everyday objects (e.g., phones, cars, fridges, lightening systems, etc) (Davy, 2003)
  - Enabled by the proliferation of sensor technologies

- The prominence of mobile technologies
  - Sensor-equipped and programmable smart mobile devices

- Important convergence occurring between
  - Technology,
  - Learning, and
  - Learning needs of learners in an increasingly mobile society
Background & Literature Review

• A paradigm shift is occurring in education
  • Student-centered paradigm to replace the dominant “one size fits all” teaching paradigm (TEAL, 2012)

• Learning under the new paradigm
  • is personalized
  • Learner-centered
  • Extends beyond the classroom walls
  • Occurs in social and collaborative environment (Simonson, Smaldino, Albright & Zvacek, 2000)
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Background & Literature Review

• Technology has also evolved to become personal and mobile
  • Continues to evolve and incorporate advanced capabilities
  • Produces educational affordances to support the new educational paradigm

Capabilities/Features

• context-awareness
• Document Viewer
• Programmability
• social interactivity
• Internet Browsing
• Geolocation
• 3D Display
• Cloud storage
• Portability/Mobility
  …etc

Educational Affordances

• social learning
• contextualized learning
• Location-specific content
• Augmented Reality
• student polling
• Games and simulations
• Podcast/Vodcast
• Note Taking
• Blogs/microblogs
  …etc
Background & Literature Review

• An important convergence occurring between the new conceptions of learning and new mobile technologies (Sharples, Taylor & Vavoula, 2010)
Background & Literature Review

• The learner profile has changed (Handal et al., 2013) making the convergence between learning and technology opportune

• College students working full- or part time (Wilen-Daugenti, 2011)
  • Integrate education into myriad personal and professional responsibilities
  • Must cram learning into the gaps of daily life
  • Mobile technologies can help them juggle these obligations
    • Fortunately, they enjoy these technologies (Wilen-Daugenti, 2011)

• Requires context-relevant content to be able to learn in diverse mobile environments

• Learning must occur in a social technology environment to make learning local and personal (Wilen-Daugenti, 2011)
Introducing Smart Learning

An innovative approach which provide adaptive and personalised learning experiences within a social learning environment leveraging on the capabilities and affordances of smart mobile devices (e.g: smartphones, tablets, etc.).
Emergence of Smart Learning

- Evolution of Technology Enhanced Learning: From e-Learning to Smart Learning

- e-Learning
  - Computers
  - Networks

- m-Learning
  - Mobile devices
  - Wireless Communications

- u-Learning
  - Sensor technologies
  - Mobile devices
  - Wireless Communications

- Smart Learning
  - Social technologies
  - Sensor technologies
  - Mobile devices
  - Wireless Communications
Concept of Smart Learning

Context is Central to Smart Learning

- Learning as a contextual activity
- Adaptive Learning
- Personalized Learning
- Learning as a social activity
- Learning in a social environment
Concept of smart Learning

- **Context**: any information that can be used to characterize the situation of an entity (Dey et al., 2001)
- Modeled as the *learning context* and the *mobile context*

### Learning Context

- **Learning Design**
  - Learning objectives
  - Learning activities
  - Pedagogical models, etc.

- **Learner Profile**
  - Knowledge/skills
  - Learning styles
  - Learning needs/interests, etc.
**Concept of smart Learning**

- **Context**: any information that can be used to characterize the situation of an entity (Dey et al., 2001)
- Modeled as the *learning context* and the *mobile context*

## Mobile Context

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learner</strong></td>
<td>- mood</td>
</tr>
<tr>
<td></td>
<td>- Preferences</td>
</tr>
<tr>
<td></td>
<td>- activity, etc.</td>
</tr>
<tr>
<td><strong>Place</strong></td>
<td>- Location</td>
</tr>
<tr>
<td></td>
<td>- Learning setting</td>
</tr>
<tr>
<td></td>
<td>- Interactive space, etc.</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td>- Profile of social relationships</td>
</tr>
<tr>
<td><strong>Physical Environment</strong></td>
<td>- Illumination level</td>
</tr>
<tr>
<td></td>
<td>- Weather conditions</td>
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<tr>
<td></td>
<td>- Noise level, etc.</td>
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</tbody>
</table>
Conclusion

• **Smart Learning**
  • A supportive learning paradigm for the convergence between *mobile technologies, the educational paradigm centred on the learner need satisfaction*, and *the changing learning needs of learners* in an increasingly mobile society

• **Major Benefits:**
  • *Maximizes learner satisfaction and learning effectiveness through adaptive and personalized learning provision.*
  
  • *Enables learners to acquire diverse personal and social skills, besides knowledge, through social and collaborative learning.*
Thank You!
Reference