“Ne(x)t Generation Skills and E-learning: A Self-Regulation script applied in Second Life”

Fotini Paraskeva
Sofia Mysirlaki
fparaske@unipi.gr
smyrsila@unipi.gr
University of Piraeus, Department of Technology Education and Digital Systems
Contents at a glance

• Ne(x)t Generation skills

• Self-Regulation (SR)

• A Self - Regulation script applied in Second Life
  • The Script Components
  • Script’s Application in Second Life
Some facts:

- E-learning has profoundly changes many aspects of the society in educational programs, in business, in economical fields etc.
- Self concept, (computer) self-efficacy and self-regulation are important in enhancing human performance.
- These learner characteristics have received little attention in e-learning environments.
- The high dropout rate of e-learning is linked with low rates of self-motivation and self-direction in e-Learning [Martinez, 2003].
Goal of the paper

This paper presents an educational script that was used to design learning activities that aim to develop self-regulation skills, in the Virtual Learning Environment (VLE) of Second Life.
The ne(x)t generation Skills
The ne(x)t generation Skills

• “Ne(x)t-generation”, is a term that is used to describe the people that grew up with Information and Communication Technologies (ICT), having a whole different set of needs and skills than older people had.

• This term stems from the term “Net Generation”, coined by Tapscott (1998), used to describe the generation that grew up immersed in a digital--and Internet--driven world.

• Since then, different terms have been used to describe this group, such as ‘digital natives’ (Prensky, 2001), ‘millennials’ (Howe & Strauss, 2000) or Google generation (JISC, 2008).

• This new generation of people, such as users of online games and Virtual Worlds, are spending thousands of hours rapidly analyzing new situations, interacting with characters they don’t really know, and solving problems quickly and independently (Beck & Wade, 2004), and therefore developing ne(x)t generation skills.
The ne(x)t generation Skills

Dede (2000), has identified three specific abilities that are of growing importance:

- **Collaborate** with diverse teams of people—face-to-face or at a distance—to accomplish a task.

- **Create, share, and master knowledge** by assessing and filtering quasi-accurate Information.

- **Thrive on chaos**, that is, be able to make rapid decisions based on incomplete information in order to resolve novel dilemmas and having the “ability to learn from unforeseen situations and circumstances.”
Educating Ne(x)t generation students...

• We argue that educational environments should aim at developing these needs in order to train 21 century skilled people.

• Nevertheless, it is striking that many people today are not acquiring these skills through structured learning environments that anticipate these needs, but rather through various “cognitively-demanding leisure” activities they choose to engage with, including to a larger and larger extent, videogames (Johnson, 2007) and virtual worlds, such as Second Life.
Educating Ne(x)t generation students...

- Marshal McLuhan once said “Our age of anxiety is largely the result of trying to do today’s job with yesterday’s tools”.

- According to that, innovative tools, such as 3d environments and virtual worlds, are maybe just what we need to teach the new generation 21 century skills.
Self-Regulation Theory

Self-Regulation is an active process, whereby learners set goals for their learning and then attempt to monitor, regulate, and control their behavior in order to guide their goals to their performance in the environment [Christopher et al, 2003].
Question: Self-Regulation and E-Learning: Where is the connection?

• In order for computer-based learning environments to be effective, learners must be self-regulated [Lee, 2004].

• In computer mediated environments learners must have Self-Regulation skills to level the absence of motivating and supporting factors such as group pressure, familiar learning situation, and social factors [Hodges, 2005].

• E-learning environments should provide Self-Regulation strategies in order to maximize learners’ engagement to an e-learning course.
Learner characteristics and Technology

Certain factors, such as students’ beliefs, confidence and integration of instructional strategies, may lead to solid learning enhancing self-regulated and computer self-efficacy skills through technology [Zimmerman, Bandura &Martinez-Pons,1992; Pajares: In M. Maehr & P. Pintrich, 1997].
Self-Regulation and Collaborative E-learning Environments

- Collaborative learning seems to support self-regulation “because peers model and discuss their own learning and motivation strategies, which are then “distributed” across the group for individuals to pick up and modify to suit their own needs” [Makri-Botsari et al, 2004].

- We believe that in order for students to be truly “self-regulated”, e-learning environments should include collaboration tools “to activate SRL efforts, mediating rather than short-circuiting or supplanting students’ own learning” [Salomon, 1983].
Second Life
A Self - Regulation script applied in Second Life

• Second Life as an online virtual world environment is tapping with the issues of social, behavioural, economic science. All of these issues are also respectively treated in computer science.

• Second Life, as a communicative environment, has multiple potential uses in learning and teaching. In this environment people can work and interact in a realistic manner, moving as participants from a passive to more active roles (Bainbridge, 2007).
A Self - Regulation script applied in Second Life

• The potential role of Second Life could assist an educational setting, but this role is still being constructed under solid and interdisciplinary theoretical backgrounds.

• We argue that the instructors could use Second Life as a space to meet with students, creating educational content, in which they could develop skills and other capabilities. Students' engagement with the content and the sense of community within the environment could be enhanced using interactions, collaborations and regulations within Second Life.
A Template for Self-Regulation Scenarios

- Based on the main features of the Self-Regulation theory [Zimmerman 1989;1998], we propose a framework which can be used as a template for developing self-regulation teaching scenarios.

<table>
<thead>
<tr>
<th>TABLE III. SELF REGULATION PHASES AND LEARNING STRATEGIES</th>
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<tbody>
<tr>
<td><strong>Self Regulation Phase</strong></td>
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| Forethought Phase | - Intrinsic interest  
- Goal Setting  
- Modelling  
- Keeping records and monitoring  
- Planning  
- Task analysis  
- Strategic planning  
- Rehearsing and memorizing  
- Self motivation  
- Discuss outcome expectations  
- Self-efficacy beliefs |
| Performance Phase | - Rehearsing and memorizing  
- Self-control  
- Keeping records and monitoring  
- Self-instruction  
- Self – observation  
- Self-recording  
- Seeking social assistance |
| Self-reflection Phase | - Self-Evaluation  
- Self-monitoring  
- Self-Judgment  
- Self – Reaction  
- Strategic planning  
- Reflective Thinking |
Self-Regulation Scenarios Template

Forethought Phase
- Intrinsic Interest
- Team Division
- Goal Setting
- Problem Definition
  - Keeping records and monitoring
  - Modelling
- Describing the solution
  - Self motivation
- Present a - similar to the model - problem
  - Modelling
  - Practice
  - Team Work
  - Peer Exchange
  - Solving the problems
  - Solve a test
  - Self-Judgment
  - Self-monitoring
  - Reflective Thinking

Performance Phase
- Intrinsic interest
  - Initialize the problem by presenting something (video, picture, story) that students can relate with
  - Discuss
  - Generalize the concept
  - Present something that relates to the problem
  - Discuss the problem

Self motivation
  - Discuss outcome expectations
  - Enhance students’ Self-efficacy beliefs

Team Work
  - Seeking social assistance
  - Creating problems

Reflective Thinking
  - Reflect on the lesson procedure
  - Relate the problem and its solution with the real-world

Describing the solution
  - Strategic planning
  - Keeping records and monitoring
  - Rehearsing and memorizing
Applying the Educational Script in Second Life
Some Indicative Activities…

Team Division
Some Indicative Activities…

Problem Definition
Some Indicative Activities…

Modeling a procedure with PowerPoint presentations
Some Indicative Activities…

Team work - Solving the problems
Some Indicative Activities...

Practicing Role playing activities in Second Life
Some Indicative Activities…

Self-monitoring
Some Indicative Activities…

Self-judgment by using rubrics
Some Indicative Activities...

Self-judgment by using SLOODLE project
Conclusions

• For future studies we stress the need for explaining how customization issues based on interdisciplinary approaches of computer science, educational and learning psychology and instructional design are essential and effective in educational practice.

• Ad hoc we propose this framework for further implementation and evaluation.
References

References

- Second Life, www.secondlife.com