Learning Island: The Development of a Virtual reality System for the Experiential Training of Stress Management

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Abstract. Psychological Stress occurs when an individual perceives that environmental demands tax or exceed his or her adaptive capacity. Following this view, that underlines the role of the situated experience of the patient in experiencing a stressor, the European Union funded Interstress project (http://www.interstress.eu) is exploring the possible use of the virtual simulation technology offered by SecondLife (http://www.secondlife.com) to administer a stress management experiential training. The structure of the environment and the contents of the course are described and discussed.

Keywords: Stress-Management, SecondLife, Experiential training

1. Introduction

According to Cohen and colleagues [1], “Psychological Stress” occurs when an individual perceives that environmental demands tax or exceed his or her adaptive capacity. In this view, stressful experiences depend a great deal on how the person experiencing a stressor is put together — psychologically and physically. So the focus for assessment, prediction and treatment has to be the situated experience of the patient.

2. The Interstress project

To reach this goal, the European project Interstress (http://www.interstress.eu) is using a totally new paradigm for stress management — “interreality” — that integrates training, assessment and treatment within a hybrid environment, bridging physical and virtual world [2, 3]. Within this paradigm, a critical role is played by the “Learning Island”, a shared online virtual world, used for the experiential training of stress coping skills (Figure 1; see this YouTube video for a walkthrough of the Island: http://www.youtube.com/watch?v=5Yo2D-X8xe4).
3. Developing the Learning Island

Second Life (SL) is a virtual three-dimensional platform that has been used for medical education [4]. In the Interstress project we are exploring the potential of using SL virtual simulation technology through the development of an interactive course to administer experiential training of stress management. Specifically, we plan to use the motivation and the engagement provided by a shared virtual experience to teach the users about how to improve their stress knowledge and management skills.

The Learning Island is organized around different learning areas both without and with teachers (classes). In this island the users:

- Learn the main causes of stress and how to recognize stress symptoms.
- Learn stressor-focused strategies (e.g., resource optimization and better planning)
- Learn some stress relieving exercises (e.g., relaxation training or diaphragmatic breathing, use of emotional support)
- Get the information needed to succeed, with daily tips and expert ideas.

Following a constructivist approach we organized the Learning Island around different learning areas both without and with supervision (see Figure 2):

1) Area 1: Discover the causes of stress (individual, unsupervised)
2) Area 2: Discover the emotional and physical symptoms of stress (individual and shared, unsupervised)
3) Area 3: Interact with different stress resources (individual, unsupervised)
4) Area 4: Experience different challenges (individual, supervised by the therapist)
5) Area 5: Coping skills training (individual and shared, supervised by the therapist)
6) Area 6: Discuss with the therapist and other patients.

4. Future steps

Future goals of this study are to:
1) explore the potential of the virtual world, Second Life, stress management training (SMT);
determine possible instructional design approaches for using SL for SMT; 
3) understand the limitations of SL for SMT activities; and 
4) measure participant learning outcomes and feedback.

![Figure 2. The structure of the training environment](image)

5. Acknowledgements

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6. References