This special issue is from the third in the annual conference series, Interactive Technologies and Games: Education, Health and Disability (ITAG 2010), held in Nottingham and in association with the ‘GameCity’ Festival.

The aim of the conference is to bring together academics and practitioners to showcase practice and to mainstream research ideas and outcomes. It aims to introduce a wider audience to key findings and products from research and illustrates how practice feeds back into and informs research. Joint academic-practitioner papers are welcomed; the conference creates a forum for two-way communication between the academic and practitioner communities.

The papers selected here for this special issue represent a small sample of the papers delivered at the conference in 2010, but collectively illustrate some of the current and exciting themes in games based learning and therapy in the fields of formal education, health and disability.

The selected papers include original studies and review of:

• The contribution of mobile games technologies and games based learning to improvements in teaching practice and learning experiences of post 14 year old students. The authors conclude that the use of the mobile devices needs to be embedded into lesson plans together with a well designed framework and educational context.

• The challenges faced in working with adult offenders within the probation service to design games to teach work sustainability skills. The study showed that learners benefited from both the process of producing the games based learning materials, as well as producing an end product which is of potential benefit to other offenders entering more formal educational settings.

• The motivational theories and research findings regarding the usage of digital games in the educational experience of users with intellectual disabilities. From a comprehensive review of current games based learning projects for people with special educational needs it was concluded that the motivational qualities and friendly environment offered by such learning environments might be able to help students with intellectual disabilities prepare for social integration, vocational and safety training.

• The positive aspects of social interactions in Massively Multiplayer Online Role Playing Games (MMORPGs) as a result of five studies. Results, amongst a range,
show that MMORPGs offer a place where teamwork, encouragement, and fun can be experienced, all having implications for future learning environments.

- Utilizing Wii™ technology and thermal and visual tracking cameras to produce games based rehabilitation systems for use by patients post stroke to relearn and regain functional usage of their impaired upper limb.
- The accessibility of off the shelf games (Wii Tennis) for blind players. The authors conclude that improving the accessibility of all games (including serious games and games based learning) for people with visual impairments would contribute greatly to their inclusion in society through the development of skills including route learning and employment skills.

These applications and studies are diverse and illustrate the energy currently being invested in the research and development of games based learning in the educational and rehabilitation fields.

A consistent theme from the complete ITAG series (2008-2010) is the use of games based learning and games technologies with students with intellectual disabilities. In the UK today around twenty five people in every thousand have a mild or moderate learning disability, and four to five per thousand have a severe learning disability. Many also have additional impairments (Department of Health, 2001). The Tomlinson report highlights the need to teach independent living and communication skills and computer based instruction can make a valuable contribution (Tomlinson, 1997).

The value of games based learning as a particular form of computer based instruction has begun to be recognised. The majority of early studies focussed on the negative aspects of computer and video game playing (Elgi & Meyers, 1984), or how it was potentially viewed as being unserious in nature in more formal educational settings (Pivec, 2007). More recently researchers in the ITAG conference series have begun to describe the positive effects that computer and video game playing can have, and in particular on people with an intellectual disability.

These include:

- Developing basic, personal development and work based skills for offenders with learning disabilities and sensory impairments (Brown et al., 2008).
- The effect of game playing on decision making skills in people with intellectual disability (Standen, Rees, & Brown, 2009).
- A study to show that micro-switch operated computer games can improve the choice reaction time of people with intellectual disability (Standen et al., 2009).
- An evaluation of the Wii Nunchuk as an alternative assistive device for people with intellectual and physical disabilities using switch controlled software (Standen et al., 2010).
- Involving End User Disability Groups to Promote Inclusive Design in the Development of Serious Games (Lewis, 2009).
- A pilot study to examine the effects of games based learning on the self-esteem, motivation and learning effectiveness of adults with general learning and cognitive disabilities (Kalaitzaki et al., 2009).
- Moving games based learning onto mobile platforms for people with Intellectual Disability (Lewis et al., 2010).
- Examining the motivational aspects of games based learning for students with Intellectual disabilities (Sardaki, 2010).
- Redesigning a location based route learning system with games based learning components for users with intellectual, sensory and physical disabilities (Standen et al., 2010; Grantham et al., 2010).
- Schools and universities working collaboratively to develop games based learning for students with intellectual disabilities and additional physical and sensory impairments (Pople et al., 2010).

These research projects show just how effective games based learning and gaming technologies can be in addressing the de-
velopment needs of people with intellectual disabilities (choice reaction time, independent decision making), in developing skills (basic, personal development, route learning and employment related skills), engaging learners with intellectual disabilities in participatory design, providing alternatives to more traditional assistive technologies which suffer high abandonment rates and in motivating students with intellectual disabilities.

One of the keynote lectures at ITAG 2010 picked up this theme concerning the use of games based learning with students with intellectual disabilities. Rather than designing expensive assistive technology that marks people with intellectual disabilities as different or separate, we should strive to design applications that use popular technologies already in widespread use and design them inclusively. This includes the gaming platforms we choose to develop our learning applications on, and the approaches we take to development—participatory design and modding the best games to produce highly immersive and acceptable learning environments for a savvy target audience. Combining games based learning with location based services will also provide unique context aware learning opportunities for people with ID. Their participation in Massively Multiplayer Online Games and Virtual Worlds also demonstrates remarkable digital literacies but these activities can lead to vulnerability and safeguarding is vital.

REFERENCES


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