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Essay on Technology to Address Distance Education Concern**

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Social isolation is a major contributing factor of students leaving distance education (DE) courses which may be addressed through the use of virtual worlds. Contributing factors related to the attrition rates encountered in distance education programs are first explored. The discussion turns to the capabilities of virtual worlds for educational purposes. Avatars or virtual world residents are described. Communications options that are available to avatars are considered. The types of interaction possible in virtual worlds are examined. Finally, the overall experience of interactivity in virtual worlds is expressed. Virtual worlds create the sense of a learner belonging to a community of classmates using synchronous interactivity in an immersive environment which is important as this ensures students successfully complete a program of study and fulfills the purpose of learning institutions.

**Lack of Community in DE**

Students who participate in distance education face different problems than students in a traditional classroom (Angelino, Williams, & Natvig, 2007; Kanuka, & Jugdev, 2006). The attrition rate for distance education students is higher than for counterparts at bricks-and-mortar institutions (Angelino et al., 2007; Kanuka, & Jugdev, 2006). Two contributing factors are a lack of community feeling and social presence (Angelino et al., 2007; Kanuka, & Jugdev, 2006).

**Virtual Worlds**

Virtual worlds, such as Second Life (http://www.secondlife.com/), can mimic real-world environments and enable the creation of new virtual realities (Han, 2011). Peters (2010) speaks of the “the potential audiovisual land of milk and honey” available in online environments (p. 143). Virtual worlds are an affordance offered in these environments (Peters, 2010). “Everything that can be thought or dreamed in the real world can happen” in virtual worlds (Han, 2011, para. 3). Virtual worlds offer three-dimensional environments that can resemble classrooms (Burgess & Caverly, 2009). It is possible to create environments in virtual worlds which are inaccessible to the learner in the physical world, examples ranging from the Sistine Chapel to the inside of a computer (Mengel, Simonds, & Houck, 2013).

Residents or avatars in virtual worlds are the representatives of their physical users and can take on a variety of forms that can be changed at will (Han, 2011). Each person via a computer controls and is represented by an avatar who is a resident in the virtual world (Burgess & Caverly, 2009; Han, 2011). The appearance of avatars is not limited to just human forms but can also include animals and imaginary characters (Han, 2011). The user can change the appearance of an avatar at any time based solely on their whim (Han, 2011).

Virtual worlds created using Second Life (http://www.secondlife.com/) grant resident avatars the ability to communicate with each other using text, voice, and body language (Burgess & Caverly, 2009; Han, 2011). Text and voice forms of communication have two modes. The first is chatting with a local group in a public setting (Han, 2011). The second is Instant Messaging that is used to share private information between two avatars or members of a group (Han, 2011). To use voice communications, users must also have a microphone and speaker (Burgess & Caverly, 2009; Han, 2011). “Communicating synchronously through avatars provides the opportunity for greater social interactivity" than asynchronous technologies (Burgess & Caverly, 2009, para. 2). Communication in virtual worlds is not just limited to words (Burgess & Caverly, 2009). Body language and actions are another form of communication (Burgess & Caverly, 2009). The use of avatars coupled with these communication capabilities appears to allow students to express a unique social presence (Garrison, Anderson, & Archer, 2000).

The interactions that can take place in an actual classroom are reproduced in a virtual environment (Burgess & Caverly, 2009). In a virtual world, a tutor could use an avatar to show mathematical examples, discuss potential solutions with student avatars, demonstrate methods for the problem’s solution and then ask students to solve new problems (Burgess & Caverly, 2009). Student avatars can participate in simulations, learn from self-paced learning kiosks, refer to previously stored learning objects, and answer assessment questions (Mengel, et al., 2013). In addition, student avatars in virtual worlds can work together to create virtual objects (Mengel, et al., 2013).

Avatars communicating and interacting synchronously in virtual worlds can mirror real-world interactions (Mengel, et al., 2013). “The sense of actually meeting with colleagues is much stronger and immediate in a virtual world than is possible through other communication tools such as blogs or email” (Mengel et al., 2013, minute marks 5:01-5:13). Classmates develop a sense of community and social belonging in virtual worlds (Burgess & Caverly, 2009; Han, 2011). Virtual worlds appear to address the problem of social isolation encountered by DE students (Han, 2011).

**Conclusion**

Students can express their unique personalities and feel a sense of belonging when interacting in virtual worlds (Burgess & Caverly, 2009; Han, 2011). Virtual worlds allow students and teachers to interact in an environment that closely resembles a real world environment (Burgess & Caverly, 2009; Han, 2011). The educational interaction of student-to-teacher, student-to-content, and student-to-student are realistically and synchronously experienced in virtual worlds (Mengel et al., 2013). Written, verbal, and non-verbal communications are possible using a computer and a headset (Burgess & Caverly, 2009; Han, 2011). Avatars, the virtual self-representations of the actual physical user, are the primary vehicle for interaction in the virtual world (Han, 2011). It appears that students can express their social presence using avatars that are synchronously interacting with others (Garrison et al., 2000). Three-dimensional environments can be created in virtual worlds (Burgess & Caverly, 2009; Han, 2011). The use of virtual worlds appears a potential solution to the problem of social isolation encountered by many distance education students (Han, 2011).

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