

Chapter 1

Benefits of CSCL for Learners with Disabilities

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ABSTRACT

Perhaps contrary to expectations, computer-supported collaborative learning (CSCL), particularly asynchronous text discussion, has characteristics that may be beneficial to learners with disabilities. CSCL seeks to bring the benefits of classroom-based collaborative and cooperative learning to the on-line environment. Collaborative and cooperative learning, and particularly its online form, CSCL, is a learning methodology with characteristics that may mask or compensate for specific disabilities. For example, in addition to the generally improved access offered by online learning, the slowed pace and anonymity of asynchronous text discussion has shown to improve social interaction for learners with communication and learning disabilities. This chapter suggests how learners with specific disabilities may benefit from CSCL discussion in postsecondary courses.

INTRODUCTION

Computer-supported collaborative learning (CSCL) is the use of networked computers to deliver collaborative learning activities. Collaborative learning methods involve increased student participation and exploration in learning activities, including reliance on peer-to-peer interaction for learning. CSCL seeks to bring the benefits of classroom-based collaborative and

cooperative learning to the online environment. CSCL is frequently employed in online training and postsecondary education, but the techniques of CSCL may be increasingly applied to other educational levels in the future.

Collaborative and cooperative learning results from a theoretical learning perspective asserting that students sharing their understanding provide opportunities for individual students to increase their knowledge and also that conflict among students' ideas and knowledge provide a stimulus for increased knowledge. A body of research shows

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that collaborative learning activities can foster shared understanding and retention of learned material (Johnson & Johnson, 1994; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Slavin, 1987, 1992; Yeager, Johnson & Johnson, 1985). Other research asserts that collaborative learning methods can promote higher-order learning such as critical thinking (e.g., Anderson, Howe, Soden, Halliday & Lowe, 2001; Gokhale, 1995; Meyer, 2003; Webb, 1989). CSCL often uses online peer-to-peer discussion to support achievement of higher-order learning objectives. Hammond (2005) surveyed online discussion studies and found several that cite evidence of higher-order knowledge construction and learning advantages of group discussion.

Supporters of online learning generally assert that online learning provides increased access to postsecondary education for students with disabilities, but there is minimal research on if and how online learning environments affect postsecondary students (Kinash, Crichton & Kim-Rupnow, 2004). Schenker and Scadden (2002) suggest that the research on educational technology and the disabled tends to focus on accessibility, but that pedagogy and instructional design may also affect disabled students. Schenker and Scadden (2002) further suggest that assessing the effects of instructional approaches is more difficult and therefore has been the subject of less research. Collaborative and cooperative learning, and particularly its online form, CSCL, is a learning methodology with characteristics that in some ways mask or compensate for specific disabilities. Confirming research of these characteristics, however, is not yet available, so at this time we speak mainly of potential benefits of CSCL characteristics.

CSCL provides opportunities for students to interact with other students so they can practice and improve their social skills and experience group dynamics (Tennyson, 2005). This characteristic may be particularly useful to students with disabilities that limit access to social interaction. While collaboration is beneficial to all students,

the characteristics of online environments may present better learning opportunities for learners with specific disabilities than traditional classroom collaboration. Online collaborative environments may also present some unique problems for learners with specific disabilities.

Cook and Gladhart (2002) posit that learning via the Internet has analogues of most instructional methods used in higher education classrooms. Online instruction thus has few or no pedagogic limitations compared to classroom instruction, except that the instructor or facilitator is not physically present. The physical absence of an instructor places an additional burden on online instruction to provide clear class procedures to students. Cook and Gladhart (2002) assert that such additional guidance is especially important for students with learning disabilities, who then have more difficulty generalizing information than other students.

ADAPTIVE AND ASSISTIVE TECHNOLOGY FOR COMPUTER USE

The first factor to be considered in examining CSCL for learners with disabilities is their ability to use computers access to the World Wide Web of the Internet. For some learners with disabilities, adaptive technology is required to enable Internet use. For example, learners with visual disabilities may require “screen reader” software that uses synthetic speech to read text on computer screens. (See Cook and Gladhart [2002] for a list of examples of such assistive hardware and software.) This discussion will not address the various technologies that provide Internet access to learners with disabilities, but rather will focus on how CSCL can benefit such learners once they have Internet access and can use a computer to participate in typical CSCL learning activities. In general, technology is available that enables learners with disabilities to take postsecondary classes online

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