Foreword

It is our privilege to have this opportunity to introduce to a wide audience this important first effort to present the good work that is being done with the use of the concept mapping tool to facilitate collaborative learning. Patricia Torres and Rita Marriott have solicited and edited chapters from scholars who have been using the concept map tool in their work. The chapters cover work with a wide range of ages, from pre-school to adult education, and for a wide range of subject matter fields. The chapters provide illustrations for the improvement of curriculums, facilitation of learning, new methods of assessment, community learning, metacognitive learning, and enhanced self-concept.

There is a growing worldwide recognition that globalization is placing new demands on individuals and societies. More than ever, we need individuals who are flexible and creative in their thinking and who have the self confidence needed to be creative and competitive. It is also widely recognized, as is well illustrated in these chapters, that we need to move learners from traditional rote learning methods to more effective meaningful learning methods.

Traditionally, most learning has taken place in settings and with methods that are directed toward individual learners. Collaboration in learning in extreme cases had been regarded as “cheating”. The consequence of these methods has not only limited the development of social and cognitive skills but has also lost the important advantages that collaborative learning confers to individual learners in these areas. The dialogue between learners that is encouraged with collaborative learning mirrors more closely the kind of skills that are needed in the real world exchanges for most occupations. Moreover, there is a need for increasing collaboration between individuals in different countries with widely differing cultures. Collaborative learning can help to build the skills needed with this increasing of diversity in work environments.

Another important change that has occurred in the last decade is the explosive development of the World Wide Web and the range of resources available to learners from the WWW. The resources available go beyond those in traditional texts and include various kinds visual media. These resources can enhance work by research groups, as is illustrated in some of the chapters. If we want to build individual and team problem solving skills, the data presented show that collaborative learning using concept maps can be highly effective.

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Alberto J. Cañas, BSc, computer systems engineering (Instituto Tecnológico de Monterrey, México, 1975); master of mathematics in computer science (University of Waterloo, Canada, 1981); PhD management sciences (University of Waterloo, Canada, 1985); founding director, computer science department, (Instituto Tecnológico de Costa Rica, 1976-1979); assistant professor, Department of Computer Science, (Tulane University, 1985-1986); assistant professor, director of the Department of Computer Services and director of the information systems department (Instituto Centroamericano de Administración de Empresas [INCAE], Costa Rica, 1986-1987); visiting professor (Centro de Investigaciones en Computación, Instituto Tecnológico de Costa Rica, 1987-1989); director (IBM Latin America Education Research Center [CLIE], Costa Rica, 1988-1989); director, institutional computing department, University of West Florida (1996-1997); visiting professor; (School of Business, Stellenbosch University, South Africa, 2003); visiting professor (Department of Pedagogy and Psychology, Universidad Pública de Navarra, Spain, 2003-2004); associate professor; (Department of Computer Science, University of West Florida, 1990-2005); co-founder and associate director, (Institute for Human and Machine Cognition [IHMC], Pensacola, FL, 1990). For many years, Dr. Cañas has been involved in the use of computers in education, with particular interest in understanding the pedagogical aspects of using technology, and leveraging on his computer science background to come up with innovative solutions. He is interested not only in the theoretical aspects, but also in the implementation details and scalability of computers in education efforts. He has been a consultant to presidents of Costa Rica and Panama in the large scale introduction of computers into the public school systems, resulting in the creation of the Omar Dengo Foundation in Costa Rica and the Conéctate al Conocimiento Project in Panama. He directed the Quorum Project while at the University of West Florida, a joint effort with IBM Latin America that led to the creation of a computer network that allowed thousand of students in schools throughout seven countries in the Americas to have their own email address and work on collaborative projects before Internet arrived in those countries. At IHMC, with the support of NASA and the US Department of Defense, and the Government of Panama, he has led the development of CmapTools, a software suite to represent, visualize and share knowledge models that is used by students and professionals in over 150 countries.

Joseph D. Novak completed his graduate studies at the University of Minnesota in 1958; after which, Dr. Novak taught biology at Kansas State at Emporia, and Purdue University. From 1967 to 1995, he was professor of education and biological sciences at Cornell University where his research focused on human learning, educational studies and knowledge creation. He is currently Professor Emeritus, Cornell University and senior research scientist at the Florida Institute for Human and Machine Cognition, Pensacola, Florida. He is author or coauthor of 29 books and more than 150 book chapters and papers in professional books and journals. He has consulted with more than 400 schools, universities and corporations, including work with Procter and Gamble, and NSA. His recent book, Learning, Creating, and Using Knowledge: Concept Maps as Facilitative Tools in Schools and Corporations (LEA, 1998) has been translated into 5 foreign languages. Dr. Novak is listed in Who’s Who in America, and other lists, and has received a number of awards and honors including a honorary doctorate from The University of Comahue in 1998 in Nuquen, Argentina, The Public University of Navarra in 2002 in Pamplona, Spain and University of Urbino, Urbino, Italy in 2006. He received the first award for contributions to science education from the Council of Scientific Society Presidents. His current research work includes studies on student’s ideas on learning and epistemology, and methods of applying educational ideas and tools (such as concept mapping for knowledge archiving and utilization) and has developed a new model for education in corporate settings, schools, universities and distance learning. He is married with three children and 2 grandchildren.