

Research and Development based on Four-Component Instructional Design

Professor Jeroen van Merriënboer

AERA Fellow

School of Health Professions Education
Maastricht University, The Netherlands

November 16, 2017 (Thursday)

10:45 – 12:00

Room 204, Runme Shaw Building, HKU
Chair: Dr Maggie Wang

Abstract:

A common complaint of students is that they experience their curriculum as a disconnected set of topics and courses, with implicit relationships between them and unclear relevance to their future work. This complaint prompted the initial interest in complex learning, which refers to forms of learning aimed at integrative goals, for example, when professional competencies or complex skills are taught. Complex learning takes a holistic rather than atomistic perspective on learning and teaching processes. First, complex contents and tasks are not reduced into simpler elements up to a level where the single elements can be transferred to learners through presentation and/or practice, but they are taught from simple-to-complex wholes in such a way that relationships between elements are retained. Second, complex contents and tasks are not divided over different domains of learning, but knowledge, skills and attitudes are developed simultaneously. Four-component instructional design (4C/ID; van Merriënboer & Kirschner, 2018) is an instructional design approach for complex learning, aimed at the teaching of complex skills and professional competencies. It provides guidelines for the analysis of real-life tasks and the transition into a blueprint for an educational program. Its basic assumption is that blueprints for complex learning can always be described by four basic components, namely (a) learning tasks, (b) supportive information, (c) procedural information, and (d) part-task practice. Learning tasks provide the backbone of the educational program; they provide learning from varied experiences and explicitly aim at transfer of learning. The three other components are connected to this backbone. In this presentation, I will describe the 4C/ID model as well as current research and development projects based on it.

Van Merriënboer, J. J. G., & Kirschner, P. A. (2018). Ten steps to complex learning (3rd Rev. Ed.). New York: Routledge.

About the speaker:



Professor Jeroen J. G. van Merriënboer is holding a chair in Learning and Instruction. He is research program director of the Graduate School of Health Professions Education at Maastricht University. He was trained as an experimental psychologist at the VU University Amsterdam and he obtained his PhD from the University of Twente in Enschede, the Netherlands. He is now full professor of Learning and Instruction at Maastricht University and Research Director of the School of Health Professions Education. His research focuses on the design of education, mainly based on his four-component instructional design (4C/ID) model, and the design of digital media, mainly based on cognitive load theory (CLT). Currently, most of his educational research takes place in the health professions domain. He received numerous awards for his research, such as an Outstanding Book-of-the-Year Award for his book *Training Complex Cognitive Skills*, the International Contributions Award of the Association for Educational Communications and Technology, and the Award for World Leader in Educational Technology of *Training Magazine*. He published over 300 articles and book chapters and his books *Training Complex Cognitive Skills* and *Ten Steps to Complex Learning* have been translated in

Korean, Chinese, Spanish and Dutch. More than 35 PhD projects were completed under his supervision. His 4C/ID model is taught in educational science programs around the world and a growing number of educational institutions is using it to design their education.

ALL ARE WELCOME

For enquiries, please contact the Office of Research at 3917 8254.