Multimedia Learning

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Technological advancements have brought revolutionary changes in the ways of communication. It has enabled the process of meaning-making with multimodality i.e. the use of several modes (media) in a single artefact or instance or communicative event. Multimodality is not entirely a new phenomenon as images in addition to linguistic symbols have been used since time immemorial. However, developments in electronics, information and communication technology (ICT) transformed the traditional modalities of communication into what Bob Goldstein (1966) termed as multimedia. Multimedia is an evolutionary concept, and generically it may refer to the integrated combination of text, still images, video, animation, sound and also interactivity, however, the primary implication of multimedia entails electronic media. The potential of multimedia can be leveraged in every domain of human endeavour involving communication and thereby; in principle, multimedia has become a pervasive phenomenon.

Multimedia learning is a new-age phenomenon where multimedia is used to impart learning of any kind. By definition, multimedia learning is a form of computer-aided instruction that uses two modalities concurrently (Mayer, 2002). The two modalities render two types of learning, visual (through pictures, written text, animations, and videos) and verbal (through spoken narration). Multimedia learning is growing as a popular alternative to classroom-based instruction. With the recent developments in the field of ICT, multimedia learning is not only enriched but also explored for its potential and sustainable implications for instruction and learning.

The volume in review is the third edition of MULTIMEDIA LEARNING by Richard F. Mayer. It is a seminal work on multimedia learning. The first edition of the present book appeared in 2001 and subsequently with the second edition in 2009 and a third edition in 2021. The book is also available as an eBook along with a hard/paperback edition. The book is rightly designated by the author himself as an outcome of labour of love which is evident from the content, coverage and comprehensiveness of the volume.

The book is divided into twenty-two chapters and organised into five sections. The aim of the book is to provide an up-to-date and systematic summary of research studies on multimedia learning, supplemented with complementary evidence from around the globe. The subject matter of the book concerns serving the needs of the professionals working in the fields of psychology, education, computer science, communication, instructional design, and game design. The volume claims to inform two interdisciplinary areas namely learning theory and

education practice.

The Section 1 entitled Introduction to Multimedia Learning divided into five chapters lays the background and foundational principles of multimedia learning. Each chapter is presented with a summary and outline of the contents. The section offers basic details like definitions, key-terms, along with research summaries, multimedia instruction cum assessment, and multimedia design principles.

Section 2 enters into the core of the volume and describes the Principles for Reducing Extraneous Processing in Multimedia Learning. Divided into five chapters, each chapter deals with one principle. Thus, five principles for reducing extraneous processing in multimedia learning namely coherence, signalling, redundancy, spatial contiguity, and temporal contiguity principles have been discussed in detail with appropriate examples. The section primarily addresses the problem of extraneous processing overload.

Section 3 continues with the core principles pertaining to multimedia learning. It deals with the Principles for Managing Essential Processing in Multimedia Learning in three chapters. Essential processing refers to cognitive processing i.e. cognitive aspects of multimedia learning. The three principles of essential processing that help to manage multimedia learning are segmenting, pre-training and modality.

Section 4 entitled Principles for Fostering Generative Processing in Multimedia Learning is spread across 6 chapters, each devoted to one principle. For fostering generative processing after essential processing, four principles namely personalisation, voice, embodiment, and generative activity have been found working while two others i.e. image and immersion principles have not been found working for multimedia instruction-based learning.

The volume ends with Section 5 offering a Conclusion of the present treatise and summarises the fifteen principles of multimedia instruction that are based on empirical evidence and grounded in theory. It also summarises different types of boundary conditions of these principles such as individual difference conditions, instructional content conditions, and instructional context conditions. Further, the chapter briefly recounts the progress in the past and also looks forward to the way ahead where the author refers to two possible directions in the field based on emotional design and motivational design. The book ends with the comments and suggestions related to future research for improving multimedia learning.

The volume entitled Multimedia Learning by Richard E. Mayer, as mentioned earlier, is truly an outcome of labour of love! It is a concise and compact yet comprehensive resource on the subject for students, professionals and researchers alike. Besides the treatment of the subject matter, the book is designed well with a learner-friendly approach. Each chapter carries a list of suggested readings followed by a list of references. The book also contains an author index as well as a subject index easing access to information at a glance.