

The Psychology Of Learning Mathematics Expanded American Edition

This open access book, inspired by the ICME 13 topic study group “Affect, beliefs and identity in mathematics education”, presents the latest trends in research in the area. Following an introduction and a survey chapter providing a concise overview of the state-of-art in the field of mathematics-related affect, the book is divided into three main sections: motivation and values, engagement, and identity in mathematics education. Each section comprises several independent chapters based on original research, as well as a reflective commentary by an expert in the area. Collectively, the chapters present a rich methodological spectrum, from narrative analysis to structural equation modelling. In the final chapter, the editors look ahead to future directions in the area of mathematics-education-related affect. It is a timely resource for all those interested in the interaction between affect and mathematics education.

Leo Tolstoy embodies the most extraordinary contradictions. He was a wealthy aristocrat who preached the virtues of poverty and the peasant life, a misogynist who wrote Anna Karenina, and a supreme writer who declared, "Literature is

Download File PDF The Psychology Of Learning Mathematics Expanded American Edition

rubbish." From Tolstoy's famously bad marriage to his enormously successful career, Troyat presents a brilliant portrait that reads like an epic novel written by Tolstoy himself.

During the last decade there were significant advances in the study of students' learning and problem solving in mathematics, and in the study of classroom instruction. Because these two research programs usually have been conducted individually, it is generally agreed now that there is an increasing need for an integrated research program. This book represents initial discussions and development of a unified paradigm for studying teaching in mathematics that builds upon both cognitive as well as instructional research.

This book overviews concepts, theories and research in the psychology of learning mathematics, including research methodologies. The organising framework is the classification of the central learning outcomes of school mathematics into facts, skills, conceptual structures, general strategies and appreciation. Each component is treated in one or two dedicated chapters. There is a chapter on theoretical and practical aspects of constructivist learning theory, and another on the mathematical processes, strategies, and thinking involved in mathematical problem solving, including meta-cognition. A further chapter treats attitudes to and the appreciation of mathematics. The last two chapters explore a theme that has emerged as important in the psychology of mathematics education in recent years, the impact of context, both task and social context. This concerns the cognitive and psychological significance of both the external representations and situated embodiments of mathematical ideas and tasks, and also their internal, mental representations. It also concerns the links

Download File PDF The Psychology Of Learning Mathematics Expanded American Edition

between these two domains including theories of transfer of learning.

The Psychology of Learning Mathematics Psychology Press

Mathematics holds an essential, ubiquitous presence in the education sector, as do ongoing explorations of its effective teaching and learning. Written by leading experts on mathematics and mathematics education, this book situates issues of student thinking and learning about mathematics within the broader context of educational psychology research and theory and brings them to a wider audience. With chapters on knowing and understanding mathematics, mathematical habits, early mathematical thinking, and learning mathematics, this concise volume is designed for any educational psychology, mathematics education, or general education course that includes student learning in the curriculum. It will be indispensable for student researchers and both pre- and in-service teachers alike.

The authors of this volume, which is newly available in paperback, all hold the view that mathematics is a form of intelligent problem solving which plays an important part in children's lives outside the classroom as well as in it. Learning and Teaching Mathematics provides an exciting account of recent and radically different research on teaching and learning mathematics which will have a far reaching effect on views about mathematical education. This book offers a unique perspective on ways in which mathematicians: perceive their students' learning; teach; reflect on their teaching practice. Elena Nardi achieves this by

Download File PDF The Psychology Of Learning Mathematics Expanded American Edition

employing two fictional, yet entirely data-grounded, characters to create a conversation on these important issues. The construction of these characters is based on large bodies of data including intense focused group interviews with mathematicians and extensive analyses of students' written work, collected and analyzed over a substantial period.

This classic text presents problems of learning and teaching mathematics from both a psychological and mathematical perspective. The Psychology of Learning Mathematics, already translated into six languages (including Chinese and Japanese), has been revised for this American Edition to include the author's most recent findings on the formation of mathematical concepts, different kinds of imagery, interpersonal and emotional factors, and a new model of intelligence. The author contends that progress in the areas of learning and teaching mathematics can only be made when such factors as the abstract and hierarchical nature of mathematics, the relation to mathematical symbolism and the distinction between intelligent learning and rote memorization are taken into account and instituted in the classroom.

Published in 1981, Psychology of Mathematics for Instruction is a valuable contribution to the field of Education.

[Copyright: d0ecfe7baf786fa4ca1f4f92449f446e](https://www.pdfdrive.com/the-psychology-of-learning-mathematics-expanded-american-edition-pdf/download)