Singing in the Lower Secondary School

This study sought to identify whether targeted interventions produce a statistically significant reduction in student math anxiety, which methods are most effective in reducing student math anxiety, and whether effective methods differ according to academic achievement level. The interventions applied, consisting of curricular design, classroom practices, and instructor behaviors, were as follows: (1) use of unit outlines, (2) incorporating review work, (3) collaborative groupwork, (4) perceived instructor empathy, (5) concepts explained in various ways, (6) out-of-class 1:1 aid, (7) content made relevant, (8) positive reinforcement from instructor/peers. The research was performed in an Algebra 1 classroom of a public high school, containing 64 students, over the course of 1 semester (18 weeks). A presurvey and postsurvey measured students' math anxiety levels, while all 8 interventions were applied continuously throughout the semester. Pre- and post anxiety levels, semester grades, and supplementary post-survey questions regarding students' opinions on intervention effectiveness produced the statistically significant result that targeted interventions do reduce math anxiety. However, when grouped according to achievement level, this result only holds for those students defined by high academic achievement. Overall, the most effective intervention methods were a caring instructor, an encouraging learning environment, and mixing in review work throughout the semester. Keywords: math anxiety, intervention, academic achievement, remediation.

Mathematics Anxiety as a Variable in the Constructivist Approach to the Teaching of Secondary School Mathematics

Mathematics Anxiety, Locus of Control and Mathematics Achievement of Secondary School Students

Inclusive Mathematics Education

The detrimental consequences of mathematics anxiety have repeatedly been evidenced empirically, yet little is known of its influence on secondary school students in Asia. This study thus examined its origins and impact on 294 secondary students in Singapore through interviews and surveys. Results revealed an average anxiety level of 44% and a negative correlation with achievement. Of the top 5 situations that worried students, 4 were test-related. Nonetheless, highly anxious students continued to persevere and enjoy the subject.

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Differences in Personality Traits and Mathematics Anxiety Among Secondary School Girls and Boys

Researchers from different disciplines (e.g., physiological, psychological, philosophical) have investigated motivation using multiple approaches. For example, in physiology (the scientific study of the normal function in living systems such as biology), researchers may use “electrical and chemical stimulation of the brain, the recording of electrical brain-wave activity with the electroencephalograph, and lesion techniques, where a portion of the brain (usually of a laboratory animal) is destroyed and subsequent changes in motivation are noted” (Petri & Cofer, 2017).

Physiological studies mainly conducted with animals, other than humans, have revealed the significance of particular brain structures in the control of fundamental motives such as hunger, thirst, sex, aggression, and fear. In psychology, researchers may study the individuals' behaviors to understand their actions. In sociology, researchers may examine how individuals' interactions influence their behavior. For instance, in the classroom students and teachers behave in expected ways, which may differ when they are outside the classroom. Saracho (2003) examined the students' academic achievement when they matched or mismatched their teachers' way of thinking. She identified both titles for the students and students' individual and students defined consistencies in their cognitive processes. In philosophy, researchers can study the individual's theoretical position such as supporting Maslow's (1943) concept that motivation can create behaviors that augments motivation in the future. Abraham H. Maslow's theory of self-actualization supports this theoretical position (Petri & Cofer, 2017). These areas and others are represented in this volume. This volume is devoted to understanding mutual and contemporary themes in the individual's motivation and its relationship to cognition. The current literature covers several methods to the multifaceted relationships between motivational and cognitive processes. Comprehensive reviews of the literature focus on prominent cognitive perspectives on motivation with young children, which includes...
Read Book Mathematics Anxiety In Secondary School Students

ages from birth to eight years of age. The chapters in this special volume review and critically analyze the literature on several aspects of the relationships between motivational and cognitive processes and demonstrates the breadth and theoretical effectiveness of this domain. This brief introduction acknowledges the valuable contributions of these chapters to the study of human motivation. This volume can be a valuable tool to researchers who are conducting studies in the motivation field. It focuses on important contemporary issues on motivation in early childhood education (ages 0 to 8) to provide the information necessary to make judgments about these issues. It also motivates and guides researchers to explore gaps in the motivation literature.

Resources in Education

Cross-curricular approaches have much to offer the modern mathematics classroom. They can help teachers to present mathematics as a growing, relevant discipline that is central to much of modern life, and help learners to make sense of what they are doing and why.

Contextual Factors Associated with Mathematics Anxiety

Feelings of apprehension and fear brought on by mathematical performance can affect correct mathematical application and can influence the achievement and future paths of individuals affected by it. In recent years, mathematics anxiety has become a subject of increasing interest both in educational and clinical settings. This ground-breaking collection presents theoretical, educational and psychophysiological perspectives on the widespread phenomenon of mathematics anxiety. Featuring contributions from leading international researchers, Mathematics Anxiety challenges preconceptions and clarifies several crucial areas of research, such as the distinction between mathematics anxiety from other forms of anxiety (i.e., general or test anxiety); the ways in which mathematics anxiety has been assessed (e.g., throughout self-report questionnaires or psychophysiological measures); the need to clarify the direction of the relationship between math anxiety and mathematics achievement (which causes which). Offering a revaluation of the negative connotations usually associated with mathematics anxiety and prompting avenues for future research, this book will be invaluable to academics and students in the field psychological and educational sciences, as well as teachers working with students who are struggling with mathematics anxiety

Learning Under the Lens

This book provides teacher educators with an understanding of the issues around mathematics anxiety and a framework of teaching strategies to support undergraduates, trainee teachers and established professionals in primary settings in developing confidence in learning and teaching mathematics. The existence of mathematics anxiety in adults is both prevalent and well documented, and there is a real concern that adults who are anxious or lacking in confidence in their own mathematical ability may affect the quality of teaching and learning for those in their care. Research has identified that there are lower levels of mathematical confidence in adults working with children in primary rather than secondary schools, and that where adults are anxious this can be passed on to the pupils with whom they work. This book addresses issues related to the effect that mathematics anxiety has on those teaching and working with primary aged children and supports teacher educators to develop confidence in both trainee teachers and established professionals.

Cross-Curricular Teaching and Learning in the Secondary School Mathematics

This volume covers social, physiological, musical, and pedagogical aspects of young adolescent singing, with the focus on Key Stage 3 and the progression from primary school. It uses case studies to illustrate best practice and introduces the Cambiata approach.

Contemporary Perspectives on Research in Motivation in Early Childhood Education


The 21st Century Mathematics Education in China

This dissertation, “Mathematics Anxiety Among High and Low Achievers in a Hong Kong Secondary School” by Wai-ping, Leung, 梁慧萍, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. Abstract: Abstract This study examined the mathematics anxiety level of two hundred and nineteen secondary two students (aged 13-14) using the Mathematics Anxiety Scale for Children (MASC). The average anxiety level of the participants was not very high under the four-point scale (mean = 1.77, ranged from 1.00 to 4.00). However, the score of the sub-scale labeled as mathematics evaluation anxiety (mean = 2.06) was significantly higher than the other three sub-scales, the learning of mathematics (mean = 1.54), solving mathematics problems (mean = 1.80) and the mathematics teacher (mean = 1.50). The results of this sample showed that the overall mathematics anxiety had a strong positive relationship with all four sub-scales. In addition, all anxiety levels of the four sub-scales and the overall anxiety of girls were found to be slightly higher than those of the boys except for the learning of mathematics. On the other hand, it was found that high mathematics anxiety showed no significant relationship with low achievement (r = 0.094, p > .05). With reference to the results obtained from the MASC, five students were invited to have an individual interview. These students had obtained high average score ranged from 2.68 to 3.45 and they had shown some interesting results in their questionnaires. The possible sources of the negative attitudes and the mathematics anxiety of these interviewees were observed. ii DOI: 10.5333/hb.p3567197 Subjects: Mathematics - Psychological aspects - China - Hong Kong Junior high school students - China - Hong Kong - Psychology Mathematics - study and teaching (Secondary) - China - Hong Kong

International Handbook of Mathematical Learning Difficulties

The purpose of the study was to investigate relationship between mathematics anxiety and attitude towards mathematics among secondary
Mathematics Anxiety In Secondary School Students

school students in South India. Data were collected from 112 secondary school students in a private school. Demographic information such as gender and age of the students were also collected. Structural equation modelling was used to test the hypothesised relationships between mathematics anxiety and attitude to mathematics variables. Independent-samples t-tests were used to examine the differences in the measured variables based on gender and age.

The Language of Mathematics Education

Doctoral Thesis / Dissertation from the year 2010 in the subject Sociology - Knowledge and Information, grade: A, Atlantic International University (School of Social and Human Studies), course: Doctorate in Education, language: English. Abstract: The primary purpose of this research was to investigate the effects of individual student affective factors and educational background on mathematics achievement among higher education students as measured by semester grades in the core mathematics courses. Student Locus of Control, Self-Efficacy, and Mathematics Anxiety were the specific individual student affective factors that were examined in the study. Educational backgrounds of the students were examined as an attempt to explain the differences in mathematics performance at the higher education level. To achieve this, high school teacher characteristics and instructional practices in influencing students' affective factors were examined. All of the analyses presented were performed on data collected for the study from two institutions of higher education in Cameroon for the student participants and from high school mathematics teachers of the English-Speaking and the French-Speaking subsystems of education. The results of the study show that student internal locus of control, high mathematics self-efficacy, and Mathematics Anxiety were associated with performance in mathematics at the higher education level. The results also revealed a high significant difference in the performance of the students in mathematics from the two educational backgrounds, the English-Speaking and French-Speaking. The results of the study revealed that the English-Speaking subsystem of education is suffering from an acute shortage of qualified high school mathematics teachers. The results show that only 10.5% of the high school mathematics teachers who participated in the study had postgraduate qualifications as against 56.9% for mathematics teachers of the French-Speaking subsystem. The study recommends the need to replace the present GCE Advanced Level Further Mathematics syllabus with one that reflects the view that Further Mathematics is a subject studied mainly by potential mathematics graduates. The syllabus should have, as one of its objectives, the provision of a link between High School Mathematics and University Mathematics. While improving on the syllabus and the examination system, due consideration should also be given to the problem of acute shortage of qualified high school mathematics teachers for the English-Speaking subsystem of education in Cameroon.

Effects of Intervention on Reduction of Math Anxiety of Secondary School Students

The purpose of this study was to examine the differences between age, gender and school types in terms of math anxiety at the junior secondary school level. A total of 1,679 students with age ranges from 10-16 years from four junior secondary schools selected through stratified sampling participated in the survey. Two schools were selected each from the public and private schools. A modified and adapted version of the MARS-E survey was used for data collection. Data collected were analyzed using both the Pearson Correlation Coefficient and One-Way ANOVA. Findings from the study indicated that there is a significant relationship between math anxiety and the participants’ age disregarding the type of schools they attend. There is no significant difference between the participants’ gender on their level of math anxiety. Other results indicated that there is a significant relationship between school type and math anxiety. Junior Secondary School 3 students have the most level of math anxiety, though the differences are not statistically significant from junior secondary school 2 and junior secondary school 1 students. Lastly, public school students have greater math anxiety than private school students, though the differences are not statistically significant. Recommendations for future research include (1) a replicate quantitative or qualitative study with more schools consisting of different demographic makeup participating either within or outside the same Local Government Area; (2) investigating self-reported accounts of other stakeholders like teachers and parents; (3) further study at the Senior Secondary School grade levels to conduct comparison between the two educational subsystems and (4) further study focused on participants that are mainly from the other two major ethnicities (Igbo and Hausa) in Nigeria. These additional efforts should be carried out to ascertain the similarities and differences with the present study.

Tackling Anxiety in Primary Mathematics Teachers

Bridging the Transition from Primary to Secondary School offers an insight into children's development, building a framework for the creation of appropriate and relevant educational experiences of children between the ages of 10-12.

A Study of Mathematics Anxiety Among Middle School Mathematics Teachers and Secondary School Mathematics Teachers

The only comprehensive reference devoted to special education The highly acclaimed Encyclopedia of Special Education addresses issues of importance ranging from theory to practice and is a critical reference for researchers as well as those working in the special education field. This completely updated and comprehensive A-Z reference includes about 200 new entries, with increased attention given to those topics that have grown in importance since the publication of the third edition, such as technology, service delivery policies, international issues, neuropsychology, and RTI. The latest editions of assessment instruments frequently administered in special education settings are discussed. Only encyclopedia or comprehensive reference devoted to special education Edited and written by leading researchers and scholars in the field New edition includes over 200 more entries than previous edition, with increased attention given to those topics that have grown in importance since the publication of the third edition—such as technology, service delivery policies, international issues, neuropsychology, and Response to Intervention, Positive Behavioral Interventions and Supports (PBIS), Autism and Applied Behavior Analysis Entries will be updated to cover the latest editions of the assessment instruments frequently administered in special education settings Includes an international list of authors and descriptions of special education in 35 countries Includes technology and legal updates to reflect a rapidly changing environment Comprehensive and thoroughly up to date, this is the essential, A-Z compilation of authoritative information on the education of those with special needs.

Effect of Block Scheduling on Mathematics Anxiety Among Secondary School Students

Mathematical anxiety is a feeling of tension, apprehension or fear which arises when a person is faced with mathematical content. The negative consequences of mathematical anxiety are well-documented. Students with high levels of mathematical anxiety might underperform in important test situations, they tend to hold negative attitudes towards mathematics, and they are likely to opt out of elective mathematics courses, which also affects their career opportunities. Although at the university level many students do not continue to study mathematics, social science students are confronted with the fact that their disciplines involve learning about statistics - another potential source of anxiety for students who are uncomfortable with dealing with numerical content. Research on mathematical anxiety is a truly interdisciplinary field with contributions from educational, developmental, cognitive, social and neuroscience researchers. The current collection of papers demonstrates the diversity of the field, offering both new empirical contributions and reviews of existing studies. The contributors also outline future directions for this line of research.
Mathematical and Statistics Anxiety: Educational, Social, Developmental and Cognitive Perspectives

Relationship Between Mathematics Anxiety and Attitude Towards Mathematics Among Indian Students

Learning to Teach Mathematics in the Secondary School combines theory and practice to present a broad introduction to the opportunities and challenges of teaching mathematics in the secondary school classroom. This fourth edition has been fully updated to reflect the latest changes to the curriculum and research in the field, taking into account key developments in teacher training and education, including examinations and assessment. Written specifically with the new and student teacher in mind, the book covers a wide range of issues related to the teaching of mathematics, such as: why we teach mathematics the place of mathematics in the National Curriculum planning, teaching and assessing for mathematics learning how to communicate mathematically using digital technology to advance mathematical learning working with students with special educational needs post-16 teaching the importance of professional development the affective dimension when learning mathematics, including motivation, confidence and resilience Already a major text for many university teaching courses, this revised edition features a glossary of useful terms and carefully designed tasks to prompt critical reflection and support thinking and writing up to Masters Level. Issues of professional development are also examined, as well as a range of teaching approaches and styles from whole-class strategies to personalised learning, helping you to make the most of school experience, during your training and beyond. Designed for use as a core textbook, Learning to Teach Mathematics in the Secondary School provides essential guidance and advice for all those who aspire to be effective mathematics teachers.

Math Anxiety Among Junior Secondary School Children in Lagos, Nigeria

Mathematics Anxiety Among High and Low Achievers in a Hong Kong Secondary School

The mission of the International Journal of Educational Reform (IJER) is to keep readers up-to-date with worldwide developments in education reform by providing scholarly information and practical analysis from recognized international authorities. As the only peer-reviewed scholarly publication that combines authors’ voices without regard for the political affiliations perspectives, or research methodologies, IJER provides readers with a balanced view of all sides of the political and educational mainstream. To this end, IJER includes, but is not limited to, inquiry based and opinion pieces on developments in such areas as policy, administration, curriculum, instruction, law, and research. IJER should thus be of interest to professional educators with decision-making roles and policymakers at all levels turn since it provides a broad-based conversation between and among policymakers, practitioners, and academicians about reform goals, objectives, and methods for success throughout the world. Readers can call on IJER to learn from an international group of reform implementers by discovering what they can do that has actually worked. IJER can also help readers to understand the pitfalls of current reforms in order to avoid making similar mistakes. Finally, it is the mission of IJER to help readers to learn about key issues in school reform from movers and shakers who help to study and shape the power base directing educational reform in the U.S. and the world.

Mathematics Anxiety

Encyclopedia of Special Education, Volume 3

The purpose of this action research study was to explore student and teacher perceptions on the usefulness of teaching students to practice positive coping strategies for managing math anxiety in a high school International Baccalaureate mathematics classroom. This study used a reflective action research methodology in which students’ math anxiety levels were assessed using Alexander and Martray’s Abbreviated Mathematics Anxiety Rating Scale (1989). Students were then surveyed on their use of coping strategies for managing math anxiety, presented with a variety of positive coping strategies, and asked to rate each strategy on its perceived worth and the likelihood that they would continue to use the strategies in the future. A variety of open-ended and Likert scale questions were used, and the teacher-researcher maintained a reflective journal on how the lessons and strategies were received. In this study, a survey of 48 juniors and seniors in an International Baccalaureate mathematics course revealed that the majority of the students had experienced varying degrees of math anxiety, with 21% being highly math anxious. Nearly half of the participants reported either using negative coping strategies or not being aware of any coping strategies at all for handling math anxiety or academic stress. Almost all of the students reported that it was a valuable use of their time to talk about math anxiety and practice these strategies in class. The results of this study indicate that there is a need for mathematics educators to include a discussion of math anxiety and how to cope with it in their classrooms.

Assessment of the Effects of Affective Student Characteristics and Educational Background on Mathematics Achievement at the Level of Higher Education in Cameroon

The world is becoming more and more competitive. Quality of performance has become the key factor for personal progress. Parents desire that their children climb the ladder of performance to as high a level as possible. This desire for a high level of achievement puts a lot of pressure on students, teachers, and schools and in general the education system itself. In fact, it appears as if the whole system of education revolves round the academic achievement of students, though various other outcomes are also expected from the system. Thus a lot of time and effort of the schools are used for helping students to achieve better in their scholastic endeavors. The importance of scholastic and academic achievement has raised important questions for educational researchers. What factors promote achievement in students? How far do the different factors contribute towards academic achievement? (Ramaswamy, 1990).

Learning to Teach Mathematics in the Secondary School

It is vital to understand the challenges and provide the right support for learners with dyscalculia and specific learning difficulties in mathematics. The book provides: • an overview of current research explaining the nature and causation of dyscalculia • guidance on the identification of dyscalculia • examples of how to carry out informal and formal assessments • an explanation of the principles of multisensory Baccalaureate mathematics course revealed that the majority of the students had experienced varying degrees of math anxiety, with 21% being highly math anxious. Nearly half of the participants reported either using negative coping strategies or not being aware of any coping strategies at all for handling math anxiety or academic stress. Almost all of the students reported that it was a valuable use of their time to talk about math anxiety and practice these strategies in class. The results of this study indicate that there is a need for mathematics educators to include a discussion of math anxiety and how to cope with it in their classrooms.

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Read Book Mathematics Anxiety In Secondary School Students

Bridging the Transition from Primary to Secondary School

This comprehensive volume provides teachers, researchers and education professionals with cutting edge knowledge developed in the last decades by the educational, behavioural and neurosciences, integrating cognitive, developmental and socioeconomic approaches to deal with the problems children face in learning mathematics. The neurocognitive mechanisms and the cognitive processes underlying acquisition of arithmetic abilities and their significance for education have been the subject of intense research in the last few decades, but the most part of this research has been conducted in non-applied settings and there's still a deep discrepancy between the level of scientific knowledge and its implementation into actual educational settings. Now it’s time to bring the results from the laboratory to the classroom. Apart from bringing the theoretical discussions to educational settings, the volume presents a wide range of methods for early detection of children with risks in mathematics learning and strategies to develop effective interventions based on innovative cognitive test instruments. It also provides insights to translate research knowledge into public policies in order to address socioeconomic issues. And it does so from an international perspective, dedicating a whole section to the cultural diversity of mathematics learning difficulties in different parts of the world. All of this makes the International Handbook of Mathematical Learning Difficulties an essential tool for those involved in the daily struggle to prepare the future generations to succeed in the global knowledge society.

More Trouble with Maths

Identifying, Assessing and Supporting Learners with Dyscalculia

Now in an updated third edition, this invaluable resource takes a practical and accessible approach to identifying and diagnosing many of the factors that contribute to mathematical learning difficulties and dyscalculia. Using a combination of formative and summative approaches, it provides a range of norm-referenced, standardised tests and diagnostic activities, each designed to reveal common error patterns and misconceptions in order to form a basis for intervention. Revised to reflect developments in the understanding of learning difficulties in mathematics, the book gives a diagnostic overview of a range of challenges to mathematical learning, including difficulties in grasping and retaining facts, problems with mathematics vocabulary and maths anxiety. Key features of this book include: Photocopiable tests and activities designed to be presented in a low-stress way Guidance on the interpretation of data, allowing diagnosis and assessment to become integrated into everyday teaching Sample reports, showing the diagnostic tests in practice Drawing on tried and tested methods, as well as the author’s extensive experience and expertise, this book is written in an engaging and user-friendly style. It is a vital resource for anyone who wants to accurately identify the depth and nature of mathematical learning difficulties and dyscalculia.

Der Zahlensinn oder Warum wir rechnen können

The Language of Mathematics Education provides definitions, summaries, and bibliographic references for over 100 key terms and concepts commonly used in mathematics teaching and learning.

Understanding Emotions in Mathematical Thinking and Learning

The book provides an overview of state-of-the-art research from Brazil and Germany in the field of inclusive mathematics education. Originated from a research cooperation between two countries where inclusive education in mathematics has been a major challenge, this volume seeks to make recent research findings available to the international community of mathematics teachers and researchers. In the book, the authors cover a wide variety of special needs that learners of mathematics may have in inclusive settings. They present theoretical frameworks and methodological approaches for research and practice.

Beyond Shanghai and PISA

Les poètes russes, de Lomonosoff à Akrakov

Mathematics Anxiety in the Secondary School

This book seeks to illustrate the research on mathematics competencies and disposition in China according to the conceptual development and empirical investigation perspective. Mathematics education in China has a distinguishing feature a focus of attention to mathematical competency. Paradoxically, there has not been an explicit, refined, and measurable evaluation system in place to assess mathematical competency in China. While academic achievement surveys or evaluations are common, these can only give an overall conclusion about mathematical thinking skills or problem solving abilities. In response to this deficiency, China is beginning to carry out national projects that emphasize defining both a conceptual framework on core competencies in school mathematics and developing a corresponding assessment framework. Thus, the main focus of this volume is the current investigations of different mathematics competencies and mathematical disposition of Chinese students, with the aim of promoting interaction between domestic and international student performance assessment, to provide a more comprehensive understanding of mathematics competencies and disposition in mainland China, and to stimulate innovative new directions in research. The primary audience of this volume is the large group of researchers interested in mathematics competencies, mathematics teaching and learning in China, or comparative studies, or the relation of the three. The book will also appeal to teaching trainers or instructors, as well as be an appropriate resource for graduate courses or seminars at either the master’s or doctoral level.

Mathematics Anxiety in Secondary School Students

Learning Under the Lens: Applying Findings from the Science of Learning to the Classroom highlights the innovative approach being undertaken by researchers from the disparate fields of neuroscience, education and psychology working together to gain a better understanding of how we learn, and its potential to impact student learning outcomes. The book is structured in four parts: 'Science of learning: a policy perspective' sets the scene for this emerging field of research; ‘Self regulation of learning’ and ‘Technology and learning’ feature findings by eminent international and national researchers in the field and provides an insight into some of the innovative research illustrating the depth, breadth and multi-disciplinarity of the research; and ‘Research translation’ focuses on the scaled-up implementation of research findings in authentic learning settings, and showcases research findings which are having impact in learning environments. This fascinating book is intended as a reference tool to create awareness among researchers, policy makers, and education practitioners of the research being undertaken in the science of learning field and its potential to impact student learning outcomes.
Read Book Mathematics Anxiety In Secondary School Students

The Effect of Various Strategies for Reducing Math Anxiety on Secondary School Students’ Mathematics Achievement

This book intends to provide a comprehensive introduction to the status of development of Chinese mathematics education in the 21st century. To this end, the book summarizes and presents the research and practices of Chinese mathematics education in the following aspects: (1) characteristics of Chinese school mathematics curriculum and textbooks, (2) Chinese ways and strategies of teaching mathematics and the characteristics of mathematics classroom instruction in China, (3) Chinese instructional practices in developing (both gifted and underachieving) students’ mathematical capabilities, (4) how professional development of mathematics teachers is promoted in China, including mathematics teachers’ pre-service and in-service education, and how Chinese mathematics teachers design and implement teaching and research activities, and (5) how mathematics education is assessed and evaluated, including how to evaluate teachers’ teaching and students’ achievements. Relevant research in Chinese mathematics education involving methods of surveys, interviews, text analysis, etc., are reviewed and analyzed. Results of a number of video studies of Chinese mathematics classroom teaching and learning are also integrated into this book.

Mathematics Anxiety Among High and Low Achievers in a Hong Kong Secondary School

Strategies for Overcoming Mathematics Anxiety

Emotions play a critical role in mathematical cognition and learning. Understanding Emotions in Mathematical Thinking and Learning offers a multidisciplinary approach to the role of emotions in numerical cognition, mathematics education, learning sciences, and affective sciences. It addresses ways in which emotions relate to cognitive processes involved in learning and doing mathematics, including processing of numerical and physical magnitudes (e.g. time and space), performance in arithmetic and algebra, problem solving and reasoning attitudes, learning technologies, and mathematics achievement. Additionally, it covers social and affective issues such as identity and attitudes toward mathematics. Covers methodologies in studying emotion in mathematical knowledge Reflects the diverse and innovative nature of the methodologies approaches and theoretical frameworks proposed by current investigations of emotions and mathematical cognition Includes perspectives from cognitive experimental psychology, neuroscience, and from sociocultural, semiotic, and discursive approaches Explores the role of anxiety in mathematical learning Synthesizes unifies the work of multiple sub-disciplines in one place

Practicing Positive Coping Strategies for Managing Math Anxiety in a Secondary Mathematics Classroom

Mathematics anxiety and mathematics avoidance behaviors are widespread in the American population. No other school subject, with the exception of science, carries with it the myriad of beliefs, emotions, and attitudes that are connected to mathematics. Children entering the first grade already have personal expectations about their future achievement in arithmetic. Given the strong influences of family and society, many children—especially females, begin school with some apprehension about their mathematics capabilities or develop it in early adolescence. Unfortunately, due to the abstract nature of the curriculum and authoritarian pedagogical style of our traditional mathematics educational system, many people emerge from secondary school with high degrees of anxiety related to mathematics. This research case study examines the nature of mathematics anxiety, and tests various educational intervention strategies to determine what facilitates learning in two female math-anxious individuals.

An Achievement Motivation and Academic Anxiety of School Going Students

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