



Foundations for the Future in Mathematics Education

By Richard A. Lesh, Eric Hamilton, James J. Kaput

Taylor & Francis Inc. Paperback. Book Condition: new. BRAND NEW, Foundations for the Future in Mathematics Education, Richard A. Lesh, Eric Hamilton, James J. Kaput, The central question addressed in "Foundations for the Future in Mathematics Education" is this: what kind of understandings and abilities should be emphasized to decrease mismatches between the narrow band of mathematical understandings and abilities that are emphasized in mathematics classrooms and tests, and those that are needed for success beyond school in the 21st century? This is an urgent question. In fields ranging from aeronautical engineering to agriculture, and from biotechnologies to business administration, outside advisors to future-oriented university programs increasingly emphasize the fact that, beyond school, the nature of problem-solving activities has changed dramatically during the past twenty years, as powerful tools for computation, conceptualization, and communication have led to fundamental changes in the levels and types of mathematical understandings and abilities that are needed for success in such fields. For K-12 students and teachers, questions about the changing nature of mathematics (and mathematical thinking beyond school) might be rephrased to ask: If the goal is to create a mathematics curriculum that will be adequate to prepare students for informed citizenship—as well as preparing them...



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Reviews

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Five Guiding Principles for Future Education. I imagine a relatively near-term future in which robotics and artificial intelligence will allow any of us, from ages 8 to 108, to easily and quickly find answers, create products, or accomplish tasks, all simply by expressing our desires. From “mind to manufactured in moments.”™ In short, we’ll be able to do and create almost whatever we want. Coding is an important tool for computer science, in the way that arithmetic is a tool for doing mathematics and words are a tool for English. Coding creates software, but computer science is a broad field encompassing deep concepts that go well beyond coding. Every 21st century student should also have a chance to learn about algorithms, how to make an app, or how the internet works. Mathematics helps children make sense of their world outside of school and helps them construct a solid foundation for success in school. In elementary and middle school, children need mathematical understanding and skills not only in math courses but also in science, social studies, and other subjects. In high school, students need mathematical proficiency to succeed in course work that provides a gateway to technological literacy and higher education [14].