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Title: [\[Exploring Probability in School\]](#)

Personal Author: **Sriraman, Bharath**

Journal Name: [Journal for Research in Mathematics Education](#)

Source: [Journal for Research in Mathematics Education v. 38 no. 4 \(July 2007\)](#) p. 420-4

Publication Year: 2007

Peer Reviewed Journal:

ISSN: 0021-8251

Language of Document: English

Book(s) Reviewed: Title: [Exploring probability in school](#)

Document Type: Book Review

Update Code: 20071129

Database: Education

Accession Number: 200718202610005

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Title: [A Conversation With Zoltan P. Dienes](#)

Personal Author: **Sriraman, Bharath; Lesh, Richard**

Journal Name: [Mathematical Thinking and Learning](#)

Source: [Mathematical Thinking and Learning v. 9 no. 1 \(2007\)](#) p. 59-75

Publication Year: 2007

**Abstract:** An interview with Zoltan P. Dienes, whose theories on the learning of mathematics have influenced many generations of mathematics education researchers, is provided. In the interview, Dienes reflects on his life; his work; the role of context, language, and technology in mathematics teaching and learning today; and the nature of mathematics itself.

Subject(s): [Mathematics/Philosophy](#); [Dienes, Zoltan P./Interviews](#)

Peer Reviewed Journal:



Physical Description: Portrait


ISSN: 1098-6065

Language of Document: English

**Document Type:** Interview  
**Update Code:** 20070319  
**Database:** Education  
**Accession Number:** 200700107268004  
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**Title:** [\[Insights Into Innovation\]](#)  
**Personal Author:** [Sriraman, Bharath](#)  
**Journal Name:** [Gifted Child Quarterly](#)  
**Source:** [Gifted Child Quarterly v. 50 no. 1 \(Winter 2006\)](#) p. 77-9  
**Publication Year:** 2006  
**Peer Reviewed Journal:**   
**ISSN:** 0016-9862  
**Language of Document:** English

**Book(s) Reviewed:** **Title:** [The international handbook on innovation\[2003; Shavinina, Larisa V.; Elsevier Science\]](#)

**Document Type:** Book Review  
**Update Code:** 20060223  
**Database:** Education  
**Accession Number:** 200634903105008  
**Persistent URL:** [Click to copy the article citation link](#)

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**Title:** [Post-Polya Possibilities, Pedagogy, Practicalities, and Promise](#)  
**Personal Author:** [Sriraman, Bharath](#)  
**Journal Name:** [Mathematical Thinking and Learning](#)  
**Source:** [Mathematical Thinking and Learning v. 8 no. 4 \(2006\)](#) p. 433-6  
**Publication Year:** 2006  
**Peer Reviewed Journal:**   
**ISSN:** 1098-6065  
**Language of Document:** English

**Book(s) Reviewed:** **Title:** [Mathematics as a constructive activity\[2005; Watson, Anne; Lawrence Erlbaum Associates\]](#)

**Document Type:** Book Review  
**Update Code:** 20070105  
**Database:** Education  
**Accession Number:** 200600407268004  
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**Title:** [An Ode to Imre Lakatos: Quasi-Thought Experiments to Bridge the Ideal and Actual Mathematics Classrooms](#)  
**Personal Author:** [Sriraman, Bharath](#)  
**Journal Name:** [Interchange](#)  
**Source:** [Interchange v. 37 no. 1/2 \(2006\)](#) p. 151-78

**Publication Year:** 2006

**Abstract:** This paper explores the wide range of mathematics content and processes that arise in the secondary classroom via the use of unusual counting problems. A universal pedagogical goal of mathematics teachers is to convey a sense of unity among seemingly diverse topics within mathematics. Such a goal can be accomplished if we could conduct classroom discourse that conveys the Lakatosian (thought-experimental) view of mathematics as that of continual conjecture-proof-refutation which involves rich mathematizing experiences. I present a pathway towards this pedagogical goal by presenting student insights into an unusual counting problem and by using these outcomes to construct ideal mathematical possibilities (content and process) for discourse. In particular, I re-construct the quasi-empirical approaches of six14-year old students' attempts to solve this unusual counting problem and present the possibilities for mathematizing during classroom discourse in the imaginative spirit of Imre Lakatos. The pedagogical implications for the teaching and learning of mathematics in the secondary classroom and in mathematics teacher education are discussed. Reprinted by permission of the publisher.

**Subject(s):** [Mathematics/Study and teaching/High schools](#); [Mathematics/Problem solving](#); [Counting](#); [Lakatos, Imre](#)

**Peer Reviewed Journal:** 

**Physical Description:** Diagram

**ISSN:** 0826-4805

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20061115



**Database:** Education

**Accession Number:** 200600102748012

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**Title:** [Letter To The Editor](#)

**Other Titles:** Response to A first person perspective on problem solving in a history of mathematics course by M. K. McGinn and D. N. Boote

**Personal Author:** [Sriraman, Bharath](#)

**Journal Name:** [Mathematical Thinking and Learning](#)

**Source:** [Mathematical Thinking and Learning v. 7 no. 4 \(2005\)](#) p. 345-8

**Publication Year:** 2005

**Abstract:** In a letter to the editor of Mathematical Thinking and Learning, the writer provides a commentary on an article by M. K. McGinn and D. N. Boote that appeared in volume 5 of the journal. The article featured a first person narrative and self-analysis of problem-solving experiences of two graduate students in a history of mathematics course. The writer considers the implications of the article for those teaching a history of mathematics course. Moreover, he contends that by "marrying" the history of mathematics with problem solving, the article fills a niche and opens up new directions for problem-solving research.

**Subject(s):** [Mathematics/Problem solving](#); [Mathematics/History/Teaching](#)

**Peer Reviewed Journal:** 

**ISSN:** 1098-6065

**Language of Document:** English


**Document Type:** Feature Article

**Update Code:** 20051118

**Database:** Education

**Accession Number:** 200500407268004

**Persistent URL:** [Click to copy the article citation link](#)

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Title: [\[Beyond Knowledge\]](#)

Personal Author: ***Sriraman, Bharath***

Journal Name: [Interchange](#)

Source: [Interchange v. 36 no. 4 \(2005\)](#) p. 455-60

Publication Year: 2005

Peer Reviewed Journal: 

ISSN: 0826-4805

Language of Document: English

Book(s) Reviewed: Title: [Beyond knowledge](#)

Document Type: Book Review



Update Code: 20060714

Database: Education

Accession Number: 200500302748007

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 Library Owns?  Link to Article

Title: [Demystifying the Mathematicians Craft: Chasing the Elusive or a Researchable Commodity?](#)

Personal Author: ***Sriraman, Bharath***

Journal Name: [Mathematical Thinking and Learning](#)

Source: [Mathematical Thinking and Learning v. 7 no. 2 \(2005\)](#) p. 171-80

Publication Year: 2005

Peer Reviewed Journal: 

Physical Description: Bibliography

ISSN: 1098-6065

Language of Document: English

Book(s) Reviewed: Title: [Mathematicians as enquirers](#)


Document Type: Book Review

Update Code: 20050524

Database: Education

Accession Number: 200500207268004

Persistent URL: [Click to copy the article citation link](#)

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Title: [Problem Solving as a Precursor to Mathematical Proof](#)

Personal Author: ***Sriraman, Bharath***

Journal Name: [Mathematics in School](#)

Source: [Mathematics in School v. 34 no. 1 \(January 2005\)](#) p. 4-8

Publication Year: 2005

**Abstract:** The writer presents the approaches of two ninth grade high school students toward solving a mathematical problem relating to a familiar situation--that of a bandmaster and a marching band. The students, who had no prior exposure to proof, resorted to an inductive-interpretive approach and an inductive-deductive approach. These approaches are described and contrasted with the professional mathematician's approach.

**Subject(s):** [Mathematics/Problem solving](#); [Proof theory](#)

**Peer Reviewed Journal:** 

**ISSN:** 0305-7259

**Language of Document:** English

**Document Type:** Feature Article



**Update Code:** 20050322

**Database:** Education

**Accession Number:** 200500101749002

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**Title:** [Combinatorial Mathematics: Research into Practice](#)

**Personal Author:** [Sriraman, Bharath](#); [English, Lyn D.](#)

**Journal Name:** [Mathematics Teacher](#)

**Source:** [Mathematics Teacher v. 98 no. 3 \(October 2004\)](#) p. 182-91

**Publication Year:** 2004

**Abstract:** A survey and synthesis of numerous research studies offer implications and suggestions for using combinatorial mathematics in the classroom. Analysis reveals that the use of combinatorial problems can foster independent thinking, encourage flexibility, encourage a focus on structure, encourage sharing solutions, and present problem-posing opportunities. Each of these five themes is discussed, and related research and examples of problems that can be used in the classroom are considered.

**Subject(s):** [Mental development](#); [Combinations \(Mathematics\)](#); [Mathematics/Problems, exercises, etc.](#); [Group work in education](#); [Mathematics/Teaching methods](#)

**Peer Reviewed Journal:** 

**Physical Description:** Bibliography; Illustration; Table

**ISSN:** 0025-5769

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20041101

**Database:** Education

**Accession Number:** 200428301747006

**Persistent URL:** [Click to copy the article citation link](#)

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**Title:** [Can Problem Context Be an Obstacle to Proof?](#)

**Personal Author:** [Sriraman, Bharath](#)

**Journal Name:** [Mathematics in School](#)

**Source:** [Mathematics in School v. 33 no. 4 \(September 2004\)](#) p. 2-5

**Publication Year:** 2004

**Abstract:** The text of the Aspirin problem, a typical pigeonhole principle problem commonly found in many college level combinatorics textbooks or recreational mathematics books, is presented, together with student solutions to the problem. These solutions demonstrate how the context of a given problem can frequently distract students and lead them down the wrong solution path.

**Subject(s):** [Mathematics/Problems, exercises, etc.](#); [Mathematics/Problem solving](#); [Proof theory](#)

**Peer Reviewed Journal:** 

**ISSN:** 0305-7259

**Language of Document:** English

**Document Type:** Feature Article




**Update Code:** 20041123

**Database:** Education

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**Title:** [Gifted Ninth Graders' Notions of Proof: Investigating Parallels in Approaches of Mathematically Gifted Students and Professional Mathematicians](#)

**Personal Author:** ***Sriraman, Bharath***

**Journal Name:** [Journal for the Education of the Gifted](#)

**Source:** [Journal for the Education of the Gifted v. 27 no. 4 \(Summer 2004\)](#) p. 267-92

**Publication Year:** 2004

**Abstract:** High school students normally encounter the study and use of formal proof in the context of Euclidean geometry. Professional mathematicians typically use an informal trial-and-error approach to a problem, guided by intuition, to arrive at the truth of an idea. Formal proof is pursued only after mathematicians are intuitively convinced about the truth of an idea. Is the use of intuition to arrive at the plausibility of a mathematical truth unique to the professional mathematician? How do mathematically gifted students form the truth of an idea? In this study, 4 mathematically gifted freshmen with no prior exposure to proof nor high school geometry were given the task of establishing the truth or falsity of a nonroutine geometry problem, sometimes referred to as "circumscribing a triangle" problem. This problem asks whether it is true that for every triangle there is a circle that passes through each of the vertices. This paper describes and interprets the processes used by the mathematically gifted students to establish truth and compares these processes to those used by professional mathematicians. All 4 students were able to think flexibly, as evidenced in their ability to reverse the direction of a mental process and arrive at the correct conclusion. This paper further validates the use of Krutetskiian constructs of flexibility and reversibility of mental processes in gifted education as characteristics of the mathematically gifted student. Reprinted by permission of the publisher.

**Subject(s):** [Mathematics/Psychological aspects](#); [Intuition \(Psychology\)](#); [Mathematical ability](#); [Proof theory](#); [Attitudes of the gifted](#); [Mathematics/Study and teaching](#); [Gifted children/Education/Mathematics](#); [Mathematical literacy](#)

**Peer Reviewed Journal:** 

**Physical Description:** Bibliography; Diagram; Table

**ISSN:** 0162-3532

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20050218



**Database:** Education

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**Title:** [Discovering Steiner Triple Systems through Problem Solving](#)

**Personal Author:** [Sriraman, Bharath](#)

**Journal Name:** [Mathematics Teacher](#)

**Source:** [Mathematics Teacher v. 97 no. 5 \(May 2004\)](#) p. 320-6

**Publication Year:** 2004

**Abstract:** An activity for ninth-grade algebra students that uses problem solving to discover Steiner triple systems and to foster mathematical thinking is provided.

**Subject(s):** [Algebra/Study and teaching/High schools](#); [Block designs \(Mathematics\)](#); [Algebra/Problems, exercises, etc.](#)

**Peer Reviewed Journal:** 

**Physical Description:** Bibliography; Illustration; Table

**ISSN:** 0025-5769

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20040610

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**Accession Number:** 200412501747003

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**Title:** [Discovering a Mathematical Principle: The Case of Matt](#)

**Personal Author:** [Sriraman, Bharath](#)

**Journal Name:** [Mathematics in School](#)

**Source:** [Mathematics in School v. 33 no. 2 \(March 2004\)](#) p. 25-31

**Publication Year:** 2004

**Abstract:** A case study of a 14-year-old ninth-grade student who successfully discovered a mathematical principle that applied to five seemingly different problem-solving situations is presented. The student identified the principle through verbal reflection on the problems and through the abstraction of similarities from the underlying structure of his solutions to three of the problems. This case study demonstrates the potential use of problem-solving situations in the early secondary classroom to assist students in formulating generalizations and in discovering mathematical principles.

**Subject(s):** [Mathematics/Problem solving](#); [Mathematics/Problems, exercises, etc.](#)

**Peer Reviewed Journal:** 

**Physical Description:** Bibliography

**ISSN:** 0305-7259

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20040526

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**Title:** [The Pedagogical Value and the Interdisciplinary Nature of Inductive Processes in Forming Generalizations: Reflections from the Classroom](#)

**Personal Author:** [Sriraman, Bharath](#); [Adrian, Harry](#)

**Journal Name:** [Interchange](#)

**Source:** [Interchange v. 35 no. 4 \(2004\)](#) p. 407-22

**Publication Year:** 2004

**Abstract:** The tendency to generalize from specific experiences leading to new, more abstract concepts is a natural aspect of human thought. Generalizations are the end result of an inductive process that begins with the identification of similarities in seemingly disparate situations. It is the existence of such generalizations that makes it possible for us to understand each other and the world around us. It is pedagogically weak to present generalizations to students and expect them to know how and when to apply them. On the other hand if students experience the inductive process in classrooms and discover generalizations, they are likely to remember and use this process when tackling other problems. The authors illustrate the pedagogical value of such an approach and the interdisciplinary nature of the inductive process by reflecting on teaching practices in English literature and mathematics in a high school classroom. In particular the authors reflect on how the inductive process was applied to four short stories and four problem-solving situations, which resulted in high school students arriving at generalizations that characterized the stories and the problems. A conceptual model that illustrates how inductive processes facilitate generalizations in the classroom is presented. Reprinted by permission of the publisher.

**Subject(s):** [Reasoning/Study and teaching](#); [Literature/Teaching methods](#); [Induction \(Logic\)](#); [Generalization \(Cognition\)](#); [Mathematics/Problem solving](#)

**Peer Reviewed Journal:**

**Physical Description:** Bibliography; Diagram

**ISSN:** 0826-4805

**Language of Document:** English

**Document Type:** Feature Article

**Update Code:** 20050217

**Database:** Education

**Accession Number:** 200400402748002

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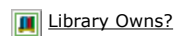
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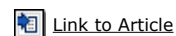
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**Title:** [Can Mathematical Discovery Fill the Existential Void? The Use of Conjecture, Proof and Refutation in a High School Classroom](#)

**Personal Author:** [Sriraman, Bharath](#)

**Journal Name:** [Mathematics in School](#)

**Source:** [Mathematics in School v. 32 no. 2 \(March 2003\)](#) p. 2-6

**Publication Year:** 2003

**Abstract:** Beginning algebra students attempted to solve the classic 5-tuple diophantine problem and kept journals to describe their problem-solving methods and rationale. The mathematics they created in attempting to solve this problem demonstrated that students were capable of original thought that transcended the imitation and application of classroom procedures. Moreover, the use of journals to foster the process of conjecture, proof, and refutation was invaluable to both students and teacher.

**Subject(s):** [Student journals](#); [Algebra/Study and teaching/High schools](#); [Algebra/Teaching methods](#); [Diophantine equations](#)

**Peer Reviewed Journal:**

**Physical Description:** Bibliography

**ISSN:** 0305-7259  
**Language of Document:** English  
**Document Type:** Feature Article  
**Update Code:** 20041021  
**Database:** Education  
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