2nd National Conference on Mathematics Education (NaCoME 2021)

Mathematical Proof as a Tool for Learning Mathematics

Advances in Social Science, Education and Humanities Research Volume 656

Online 26 - 27 October 2021

Editors:

Novita Sari Zuli Nuraeni Novika Sukmaningthias Scristia
Ruth Helen Simarmata

ISBN: 978-1-7138-5803-4

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by Springer Nature All rights reserved. Copyright for individual electronic papers remains with the authors.

For permission requests, please contact the publisher:

Springer Nature The Campus 4 Crinan St. London N1 9XW United Kingdom

www.springernature.com

Printed with permission by Curran Associates, Inc. (2022)

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400

Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

Students' Mathematics Problem-Solving Ability Through the Application of the Discovery Learning Model in SMP Negeri 1 Belitang Mulya	1
Development of Contextual Teaching and Learning (CTL) based Teaching Materials to Train Students' Representation Ability	7
Percent Material Learning Design Using Book Arrangement Context for Class V Students	15
Mathematics Modeling Ability of Students in System of Linear Equation of Two Variables Materials with PBL Model at SMPN 1 Pangkalan Baru	21
Development of PISA Type Mathematics Problems Using the Context of Palembang City Tourism Arika Sari, Cecil Hiltrimartin	29
Student's Mathematical Communication Skills in Class VII Sets Materials Through HOTS-Based Learning Ayu Yunita, Meryansumayeka Meryansumayeka, Jeri Araiku, Scristia Scristia, Muhammad Yusuf	34
Designing Mathematical Modeling Tasks for Learning Mathematics	39
Development of Student Activities in Algebra based on Problem Solving in Middle School	47
Development of Student Activity Sheets for System of Linear Equation Two Variables Based on Problem Solving in Junior High School	56
Development of the Pythagorean Theorem Learning Path with the PMRI Approach using the Context of Tiled Tangram	67
Students' Critical Thinking Skills on Class VIII Materials System of Linear Equations in Two Variables through HOTS-based Learning	72
Student Activity Sheet Development Quadratic Equations and Functions based on Problem Solving in Junior High School	79
Prospective Mathematics Teachers' Critical Thinking Processes in Dealing Truth-Seeking Problem with Contradictory Information	90
Students' Mathematical Concepts Understanding on Fractional Number Operations Using the Discovery Learning Models	101

The Fluency of Students' Mathematical Procedures Through Flipped Classroom on the Linear	100
Equation System with Two Variables	109
Development of Mathematics Learning Media Assisted by Sparkol Videoscribe Geometry Materials in Terms of Validity and Practicality Idul Adha, Rani Refianti	119
Self-Regulated Learning of Junior High School Students through Blended Learning based on Indonesian Realistic Mathematics Education Approach	124
The Factors Influencing Students' Proof Comprehension on Mathematical Induction	135
Student's Perspective on the Use of Mathematics Learning Vlogs in Pandemic Times	140
Constructing an Abridged Life Table based on Estimator of the Probability of Death Using Maximum Likelihood Estimation M. Hasbi Ramadhan	147
Mathematics Modelling Ability of Students on the Set Materials of VII Class with Problem-Based Learning (PBL)	151
Mathematical Concepts Understanding Skill of Students Grade X on System of Linear Equations in Three Variables Using Discovery Learning Models	157
Students' Ability in Making Mathematics Generalizations Through Geogebra Assisted CPS on Straight Line Equations	164
Mathematical Concepts Understanding Skill of Class VIII Students on Relation and Function Using Problem Based Learning Models	171
Student Mathematical Modeling Ability with Blended Learning Approach on Two Linear Inequality Materials	177
Students' Epistemological Obstacles in Statistical Problems	183
Development of Teaching Materials Based on Two-Column Proof Strategy on Congruent Triangle Materials	189
Scristia Scristia, Meryansumayeka Meryansumayeka, Erna Safitri, Jeri Araiku, Siti Aisyah Analysis of Student's Difficulties on Generalizing Linear Equation	194
Siti Aisyah Triwulan, Ely Susanti, Elika Kurniadi, Novita Sari	174
Mathematical Reasoning Ability of Grades IX Students in Triangle Congruence Proof Learning Using Two-Column Proofs Strategy	200

Learning of Scale and Comparison Based on Ethnomatematics of Salt Production Process	207
Mathematics Modeling Ability of Students in Class XI Linear Program Materials with Problem based Learning Model	213
Mathematical Literacy Skills of Junior High School Students Through Blended Learning Based on Indonesian Realistic Mathematics Education Approach	222
Mathematics Modelling Ability in the Materials of Relations and Functions in Class VIII Junior High School with Problem-Based Learning Model	231
Teachers' Competencies in Doing Direct Proof in Geometry	238
Providing a Proof and Providing Non-Proof Argument	243

Author Index