CONTENTS

Editorial

INTERCULTURAL LEARNING: CHALLENGES FOR CURRENT SCIENCE EDUCATION Martin Bilek	532
Articles	
IMPLEMENTATION OF INNOVATIVE CHEMISTRY LEARNING MATERIAL WITH GUIDED TASKS TO IMPROVE STUDENTS' COMPETENCE Manihar Situmorang, Marudut Sinaga, Jamalum Purba, Sapnita Idamarna Daulay, Murniaty Simorangkir, Marham Sitorus, Ajat Sudrajat	535
THE EFFECT OF VISUALIZATION TYPE AND STUDENT SPATIAL ABILITIES ON LEARNING ACHIEVEMENT I Gde Wawan Sudatha, I Nyoman Sudana Degeng, Waras Kamdi	551
CONTEXTUALIZATION OF SPATIAL INTELLIGENCE: CORRELATION BETWEEN SPATIAL INTELLIGENCE, SPATIAL ABILITY, AND GEOGRAPHY SKILLS	564
THE CONTRIBUTION OF TEACHER PREPARATION ON GRADE 8 STUDENTS' SCIENCE ACHIEVEMENT IN TIMSS: A COMPARATIVE STUDY BETWEEN MALAYSIA AND SINGAPORE	576
SCIENCE TEACHERS' PERCEPTIONS OF THE EMERGENCE OF RESPONSIBLE RESEARCH AND INNOVATION IN SCHOOL Mirjam Burget, Emanuele Bardone, Margus Pedaste, Katrin Saage	
VIEWS AND EXPERIENCES OF PRE-SERVICE TEACHERS ON THE USE OF STORIES IN TEACHING SCIENCE Burcu Anilan	
FOURTEEN-YEAR-OLD STUDENTS' MISCONCEPTIONS REGARDING THE SUB-MICRO AND SYMBOLIC LEVELS OF SPECIFIC CHEMICAL CONCEPTS Miha Slapničar, Valerija Tompa, Saša A. Glažar, Iztok Devetak	
IDENTIFYING INDONESIAN UPPER-SECONDARY SCHOOL STUDENTS' ORIENTATIONS TO LEARN SCIENCE AND GENDER EFFECT THROUGH THE USE OF STRUCTURAL EQUATION MODELING Arif Rachmatullah, Sariwulan Diana, Minsu Ha	I
PRE-SERVICE SCIENCE TEACHERS' PREDICTIONS ON STUDENT LEARNING DIFFICULTIES IN THE DOMAIN OF MECHANICS	
Shao-Na Zhou, Hua Xiao ENHANCING STUDENTS' CORRESPONDING REASONING OF COGNITIVE PERFORMANCES	049
BY ANIMATED CONCEPT MAPPING IN ELECTROCHEMISTRY King-Dow Su	662
KOREAN HIGH SCHOOL STUDENTS Sein Shin, Arif Rachmatullah, Minsu Ha, Jun-Ki Lee	674
THE VIEWPOINTS OF PRE-SERVICE SCIENCE TEACHERS ON THE ESSENTIAL NATURE OF SCIENCE CONCEPTS IN THE SAUDI CONTEXT: A TRIANGULATION APPROACH Fayadh Hamed Alanazi	688
SCIENCE EDUCATION ADAPTIVE LEARNING SYSTEM AS A COMPUTER-BASED SCIENCE LEARNING WITH LEARNING STYLE VARIATIONS Z. Zulfiani, Iwan Permana Suwarna, Sujiyo Miranto	
DEVELOPMENT OF PRE-SERVICE TEACHERS' UNDERSTANDING OF THE NATURE OF SCIENCE THROUGH AN INTERDISCIPLINARY CURRICULUM: A CASE STUDY	/11
Melis Yeşilpınar Uyar, Tuba Demirel, Ahmet Doğanay	728
Information	
INFORMATION FOR CONTRIBUTORS	742
QUALITY ISSUES AND INSIGHTS IN THE 21ST CENTURY	743