

Sélection d'articles en didactique de la chimie

**Fix Me!**

à ajouter :

- <https://dvillers.umons.ac.be/wiki/teaching:biblio-10.1021-ed2001957>

Liens rapides :

- <http://pubs.acs.org/toc/jceda8/current> : **numéro courant de Journal of Chemical Education** où vous avez la possibilité de consulter les résumés. Si vous souhaitez recevoir la table des matières à chaque nouveau numéro, il vous suffit de prendre l'option "register" (<https://account.acs.org/ssoamweb/account/signUp>), et ensuite de demander les "E-Mail Alerts" pour les journaux choisis. Pour les étudiants et le personnel UMONS, vous pouvez accéder aux textes complets sur le réseau de l'UMONS ou en activant le [VPN](#), ou via le [bureau à distance](#).
 - [Fil RSS des derniers articles parus dans Journal of Chemical Education](#)
- **Chemistry Education Research and Practice** : **journal de la Royal Society of Chemistry**, accessible sur inscription. Vous pouvez obtenir des alertes via la page <http://www.rsc.org/Publishing/Journals/forms/V5profile.asp>, ainsi que pour [Education in chemistry](#).
 - [Fil RSS des derniers articles parus dans Chemistry Education Research and Practice](#)
- [The Chemical Educator - table of contents](#)
- [Publications intéressantes \(résumés\)](#) (sélections d'articles discutés lors de séminaires internes, sur ce wiki)
- [Publications intéressantes de chimie-physique](#), pour travaux personnels d'étudiants,...

Dans les listes qui suivent, certains articles concernent l'enseignement supérieur et présentent donc un intérêt relatif par rapport au secondaire.

Articles de Journal of Chemical Education

ASAP and/or ACS Editors Choice articles

- ...

Virtual Issues

- [Journal of Chemical Education - Resources for Teaching Your Chemistry Class Online: A Free to Read Collection from the American Chemical Society & the ACS Division of Chemical Education](#)
- [Laboratory Learning](#)
- [Introducing the Virtual Issue: George M. Bodner Festschrift Marcy Towns, 2021](#) → [sélection](#)

d'articles sur :

- Constructivism as a Lens for Understanding Student Learning
- Student Conceptualization of Organic Reactions
- Understanding Student Approaches to Problem Solving
- Visualization and Spatial Reasoning Skills in Chemistry Education
- Conceptual Understanding of Chemistry

Cf. aussi le lien [virtual collections](#).

2024

- [Journal of Chemical Education | Vol 101, No 1](#)
 - ...

2023

- [Journal of Chemical Education | Vol 100, No 11](#)
 - [How Effective are Indicators for Individuals with Color Vision Deficiency? | Journal of Chemical Education](#)
- [Journal of Chemical Education - Vol 100, No 10](#)
 - [Working Together: Chemical Safety and Education](#)
 - [ChatGPT Needs a Chemistry Tutor Too](#)
 - [Systems Thinking in Chemistry and Chemical Education: A Framework for Meaningful Conceptual Learning and Competence in Chemistry](#)
 - [Introductory Organic Chemistry \(First-Semester\) for Blind and Visually Impaired Students: Practical Lessons and Experiences](#)
 - [Lighting Up for Learning—Fluorescence Analysis of Microplastic Particles by Secondary School Students Using Nile Red](#)
 - [Quantifying the Dynamics of the Candy Cola Soda Geyser Using a Simple and Inexpensive Protocol](#)
- [Journal of Chemical Education - Vol 100, No 9](#)
 - [Statistical Analysis in a Longitudinal Study of the Implementation of Process Oriented Guided Inquiry Learning at Norwich University](#)
 - [Development and Use of Flowchart for Preservice Chemistry Teachers' Problem Solving on the First Law of Thermodynamics](#)
 - [Development, Implementation, and Evaluation of a Pre-service Chemistry Teacher Preparation Unit on Fostering Pedagogical Scientific Language Knowledge](#)
 - [Introduction of Formative Assessment Classroom Techniques \(FACTs\) to School Chemistry Teaching: Teachers' Attitudes, Beliefs, and Experiences](#)
 - [A Modern Twist on an Old Measurement: Using Laboratory Automation and Data Science to Determine the Solubility Product of Lead Iodide](#)
 - [The Effectiveness of the Competence Approach in the Training of Chemistry Teachers](#)
 - [Experiences with Student Projects Focusing on Chemistry Shows in Undergraduate Chemistry Teacher Education](#)
 - [Eutectics in Pharmacy Curriculum: A Simple Demonstration with Pharmaceutical Relevance](#)
 - [Mobile App to Quantify pH Strips and Monitor Titrations: Smartphone-Aided Chemical Education and Classroom Demonstrations](#)

- Journal of Chemical Education - Vol 100, No 8
 - More than Marshmallows: Implementation and Assessment of an Interactive In-Class Activity for Learning VSEPR Theory
 - A Review of Research on the Quality and Use of Chemistry Textbooks
 - Design and Conduct of Lab@Home Chemistry Experiment: The Effect of Strong Acid and Base on Buffered and Unbuffered Systems
 - Quantitative Assessment on the Effectiveness of a Formal Charge Method for Constructing Lewis (Electron Dot) Structures
 - "Atomizados": An Educational Game for Learning Atomic Structure. A Case Study with Grade-9 Students with Difficulties Learning Chemistry
- Journal of Chemical Education - Vol 100, No 7
 - Epistemological Lessons from Inconsistencies in Teachers' Errors Related to Use of the Mole Ratio in Stoichiometry Calculations: A Cue for Professional Development
- Journal of Chemical Education - Vol 100, No 6
 - Experiences with Flipped Classroom Methodology in US High School Chemistry Courses: Lessons Learned from Action Research Projects
 - ChemVLab+: Integrating Next Generation Science Standards Practices with Chemistry
 - Development of an Inexpensive, Rapid Method to Measure Nitrates in Freshwater to Enhance Student Learning
 - Solving Redox Reactions: The Advantages of the Thermodynamic Method
 - Green Chemistry Teacher Professional Development in New York State High Schools: A Model for Advancing Green Chemistry
 - Investigating Preservice Chemistry Teachers' Understanding and Views about the Diversity of Scientific Methods
 - Exploring Science Literature: Integrating Chemistry Research with Chemical Education
 - Dissolution of Calcium Hydroxide in Water: A Guided Inquiry in University and High School Chemistry Laboratories
 - Chemistry and Chaos: A Role-Playing Game for Teaching Chemistry
 - Introducing Pharmaceuticals to Middle School Students using with Hypothesis-Driven, At-Home Activities **intérêt pharmaceutique**
- Journal of Chemical Education - Vol 100, No 5
 - Chemistry Education Research at a Crossroads: Where Do We Need to Go Now?
 - Effective Pedagogical Approaches Used in High School Chemistry Education: A Systematic Review and Meta-Analysis
 - Investigating the Use of an Artificial Intelligence Chatbot with General Chemistry Exam Questions
- Journal of Chemical Education - Vol 100, No 4
 - Was This Title Generated by ChatGPT? Considerations for Artificial Intelligence Text-Generation Software Programs for Chemists and Chemistry Educators
 - Potential ChatGPT Use in Undergraduate Chemistry Laboratories
 - An Experimental Approach with a Twist: Helping High School Students to Understand the Concept of Limiting Reactant
 - Features of Immersive Virtual Reality to Support Meaningful Chemistry Education
 - Alcohol or Ethanol? Teaching Organic Chemistry Nomenclature in an Informal Environment
- Journal of Chemical Education - Vol 100, No 3
 - Proposal for a Didactic Tool on Teaching Practices Related to the Selective Sorting of Plastic Waste According to Relative Density in High Schools: Case Study in Burkina Faso
 - Computer-Aided Drug Design Project for Introductory High School Students **intérêt pharmaceutique**
 - Interlocking Toy Bricks Help Nursing Students "Handle" Valence Electrons, Molarity,

Solubility, and More!

- Chem'Sc@pe: an Organic Chemistry Learning Digital Escape Game
- A Simple and Inexpensive Invisible Ink System Based on Red Cabbage Extracts
- Journal of Chemical Education - Vol 100, No 2
 - A Low-Cost Dual-Beam Smartphone Visible Spectrometer
 - A Simple At-Home Titration: Quantifying Citric Acid in Lemon Juice with Baking Soda and Mentos
 - An Alternative Experimental Procedure to Determine the Solubility of Potassium Nitrate in Water with Automatic Data Acquisition Using Arduino for Secondary School: Development and Validation with Pre-Service Chemistry Teachers
 - Step by Step to Make Augmented Reality Filters for Molecular Models
 - BasePairPuzzle: Molecular Models for Manipulating the Concept of Hydrogen Bonds and Base Pairs in Nucleic Acids
 - Periodic Table of Ladder: A Board Game to Study the Characteristics of Group 1, Group 17, Group 18, and the Transition Elements
 - Will It Rust? A Set of Simple Demonstrations Illustrating Iron Corrosion Prevention Strategies at Sea
- Journal of Chemical Education | Vol 100, No 1
 - Didactic Reasoning about Using Chemicals in Teaching Upper Secondary Chemistry
 - Educational Metal-Air Battery
 - An Experiment of Chemistry with Historical Context: 18th-Century Potash Production in Brazil
 - ChemEscape: Redox and Thermodynamics—Puzzling Out Key Concepts in General Chemistry

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- Journal of Chemical Education | Vol 99, No 12
 - Inquiry-Based Laboratories for Students to Investigate the Concepts of Acid-Base Titration, pKa, Equivalence Points, and Molar Absorption Coefficients
 - Encouraging Student Engagement by Using a POGIL Framework for a Gas-Phase IR Physical Chemistry Laboratory Experiment
 - The Hydrogen Atom Spectrum: Experimental Analysis Using Iterative Model Building
- Journal of Chemical Education | Vol 99, No 11
 - Newly Designed Laboratory Course for Preservice Chemistry Teachers: Do the Students Rate Their Practical Skills As Relevant for Their Future Profession?
 - Introducing the Role of Metals in Biology to High School Students
 - Organic Connections: A Chemical Jigsaw Puzzle for Learning Structural Formulas
- Journal of Chemical Education | Vol 99, No 10
 - How Can Socio-scientific Issues Help Develop Critical Thinking in Chemistry Education? A Reflection on the Problem of Plastics
 - "MasterChemist": A Novel Strategy for Reviewing Stoichiometry and Introducing Molecular Gastronomy to Chemistry Students
 - "The Masked Scientist": Designing a Virtual Chemical Escape Room | Journal of Chemical Education
 - A Simple Chemical Oscillator: The "Educator"
 - A Low-Cost and Simple Demonstration of Freezing Point Depression and Colligative Properties with Common Salts and Ice Cream
 - Electrochromic Device Demonstrator from Household Materials

- Using Jupyter Tools to Design an Interactive Textbook to Guide Undergraduate Research in Materials Informatics
- Journal of Chemical Education | Vol 99, No 9
 - Knowledge, Attitude, and Practice of Teachers and Laboratory Technicians toward Chemistry Laboratory Safety in Secondary Schools
 - Chemistry Teachers' Self-Efficacy Perception Scale for Teaching in Chemistry Laboratories
 - STR120: A Web-Based Board Game for Aiding Students in Review of the Structural Theory of Organic Compounds
- Journal of Chemical Education | Vol 99, No 8
 - When All You Have Is a Covalent Model of Bonding, Every Substance Is a Molecule: A Longitudinal Study of Student Enactment of Covalent and Ionic Bonding Models
 - Independent at-Home Chemistry Project for a High School Student: Osmosis Experiments Using a U-Tube Apparatus
 - Improving the Understanding of Chemistry by Using the Right Words: A Clear-Cut Strategy to Avoid Misconceptions When Talking about Elements, Atoms, and Molecules
 - Visualizing Solutions of the One-Dimensional Schrödinger Equation Using a Finite Difference Method
- Journal of Chemical Education | Vol 99, No 7
 - Inconsistent Language Use in Online Resources Explaining the Mole Has Implications for Students' Understanding
 - A Review of Research on the Teaching and Learning of Chemical Bonding
 - Microcomputer-Based Laboratory Role in Developing Students' Conceptual Understanding in Chemistry: Case of Acid-Base Titration
 - Why Is There a Red Line? A High School Experiment to Model the Role of Gold Nanoparticles in Lateral Flow Assays for COVID-19
 - Integrating Python into a Physical Chemistry Lab
 - Investigating Student Engagement in General Chemistry Active Learning Activities using the Activity Engagement Survey (AcES)
 - Thermodynamics of Wettability: A Physical Chemistry Laboratory Experiment
 - Embedded Questions and Targeted Feedback Transform Passive Educational Videos into Effective Active Learning Tools
 - Harry Potter Themed Digital Escape Room for Addressing Misconceptions in Stoichiometry
 - A Simple, Facile Demonstration of Copper and Nitric Acid Reaction
 - An Alternative to the Flame Test: Using Inexpensive Tesla Coils to Produce the Emission Spectra of Metal Salts
- Journal of Chemical Education | Vol 99, No 6
 - A Sweet Introduction to the Mathematical Analysis of Time-Resolved Spectra and Complex Kinetic Mechanisms: The Chameleon Reaction Revisited
 - The Chemical Wonders of No-Mess Markers
 - Titrating Consumer Acids to Uncover Student Understanding: A Laboratory Investigation Leading to Data-Driven Instructional Interventions
 - Development of a Microscope Stage with Light-Emitting Diodes to Upgrade a Traditional Microscope to a Fluorescence Microscope
- Journal of Chemical Education | Vol 99, No 5
 - Anesthesia as a Theme for Context-Based Learning in a Physical Chemistry Short Course (pharma ?)
 - Virtually Bridging the Safety Gap between the Lecture Hall and the Research Laboratory
 - Invention as a Complement to High School Chemistry
 - Rising Atmospheric Carbon Dioxide Could Doom Ocean Corals and Shellfish: Simple Thermodynamic Calculations Show Why
 - Simulation Game Illustrating the Density-Le Châtelier Effect on a Chemical Equilibrium of

- the Type A \rightleftharpoons 2B
- An Inexpensive 3D Printed Periscope-Type Smartphone-Based Spectrophotometer for Emission, Absorption, and Fluorescence Spectrometry
 - Impact of Ocean Acidification on Shelled Organisms: Supporting Integration of Chemistry and Biology Knowledge through Multidisciplinary Activities
 - WERNER: A Card Game for Reinforcement Learning of Inorganic Chemistry Nomenclature
 - Journal of Chemical Education | Vol 99, No 4
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 - Designing Virtual Laboratory Exercises Using Microsoft Forms
 - Creating Representation in Support of Chemical Reasoning to Connect Macroscopic and Submicroscopic Domains of Knowledge
 - Journal of Chemical Education | Vol 99, No 3
 - Gamified Virtual Laboratory Experience for In-Person and Distance Students
 - The Case Study Method in Chemistry Teaching: A Systematic Review
 - Compounds and Molecules: Learning How to Distinguish Them through an Educational Game
 - Does Virtual Titration Experiment Meet Students' Expectation? Inside Out from Indian Context
 - Future of the Flipped Classroom in Chemistry Education: Recognizing the Value of Independent Preclass Learning and Promoting Deeper Understanding of Chemical Ways of Thinking During In-Person Instruction
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 - Using the Recycled Parts of a Computer DVD Drive for Fabrication of a Low-Cost Arduino-Based Syringe Pump
 - New Software Application and Case Study That Simplify Teaching Complex Chemical Solubility and Equilibria
 - Mobile Augmented Reality Laboratory for Learning Acid-Base Titration
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 - Assessment of Practical and Scientific Writing Skills for Pre-University Students through Project-Based Learning
 - Animated Electrochemistry Simulation Modules
 - Virtual Reality Assisted General Education of Nuclear Chemistry and Radiochemistry
 - Digital Tool for the Analysis of UV-Vis Spectra of Olive Oils and Educational Activities with High School and Undergraduate Students
 - LabPi: A Digital Measuring Station for STEM Education 4.0
 - Adsorption of Additives in Cola Beverages: A Safe and Improved Experiment Exploring Beer's Law and Adsorption Process
 - Thirst for a Solution: Alginate Biopolymer Experiments for the Middle and High School Classroom
 - CHEMTrans: Playing an Interactive Board Game of Chemical Reaction Aeroplane Chess

- [At-Home Microscale Paper-Based Quantitative Analysis Activity with External Standards](#)
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- [Journal of Chemical Education | Vol 99, No 1 - Special Issue on Diversity, Equity, Inclusion, and Respect in Chemistry Education Research and Practice](#)
 - [Investigating the Impact of Assessment Practices on the Performance of Students Perceived to Be at Risk of Failure in Second-Semester General Chemistry](#) Lisa Shah, Adan Fatima, Ahmad Syed, and Eric Glasser, *J. Chem. Educ.* 2022, 99, 1, 14–24 DOI: 10.1021/acs.jchemed.0c01463

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- [Journal of Chemical Education | Vol 98, No 12](#)
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- Inexpensive Alkaline Fuel Cell for Introductory Chemistry Classes
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 - Connecting Chemistry to Mathematics by Establishing the Relationship between Conductivity and Concentration in an Interdisciplinary, Computer-Based Project for High School Chemistry Students | Journal of Chemical Education

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 - [Safety Moments in Chemical Safety Education | Journal of Chemical Education](#)
 - [RAMP: A Safety Tool for Chemists and Chemistry Students | Journal of Chemical Education](#)
 - [Building Strong Cultures with Chemical Safety Education | Journal of Chemical Education](#)

- [An Engaging and Fun Breakout Activity for Educators and Students about Laboratory Safety | Journal of Chemical Education](#)
- [Reinterpreting Popular Demonstrations for Use in a Laboratory Safety Session That Engages Students in Observation, Prediction, Record Keeping, and Problem Solving | Journal of Chemical Education](#)
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- [Developing Risk Assessment Competencies in Preservice K-12 Teachers | Journal of Chemical Education](#)
- [Safe Handling of Gas Generating Experiments Using Disposable Plastic Syringes | Journal of Chemical Education](#)

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- [Journal of Chemical Education | Vol 97, No 12](#)
 - [Will 2020 Be an Inflection Point in the Trajectory of Chemistry Teaching and Learning? | Journal of Chemical Education](#)
 - [Examining the Psychometric Properties of the Redox Concept Inventory: A Rasch Approach | Journal of Chemical Education](#)
 - [Analyzing Chemistry Teachers' Formative Assessment Practices Using Formative Assessment Portfolio Chapters Timothy N. Abell and Hannah Sevan, J. Chem. Educ. 2020, 97, 12, 4255–4267 DOI: 10.1021/acs.jchemed.0c00361](#)
 - cf. [Are you making the most of formative assessment? David Read, education in chemistry, RSC, 2021](#)
 - [Teaching an Introductory Organic Chemistry Class for High School Students | Journal of Chemical Education](#)
 - [Derivation of the Theoretical Minimum Energy of Separation of Desalination Processes | Journal of Chemical Education](#)
 - [Fun with Flags and Chemistry | Journal of Chemical Education](#)
 - [Race to the Reactor and Other Chemistry Games: Game-Based and Experiential Learning Experiences in Materials and Polymer Chemistry | Journal of Chemical Education](#)
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L'article [Influencing the practice of chemistry education](#) *Chem. Educ. Res. Pract.*, 2019, DOI: 10.1039/C9RP90006C (Editorial) de Michael K. Seery propose de nombreux liens d'articles importants en CER (chemical education research) :

Sujet	Citation
Clickers in the classroom	MacArthur and Jones (2008)
Teaching chemical equilibrium	Raviolo and Garritz (2009)
Green chemistry	Andraos and Dicks (2012)
Use of dataloggers	Tortosa (2012)
Transfer of learning	Dori and Sasson (2013)
Chemical triplet (Johnstone's triangle)	Taber (2013)
Learning progressions	Sevian and Talanquer (2014)
Teaching thermodynamics	Bain et al. (2014)
Solutions/electrolytes	de Berg (2014)
Hydrogen bonding	Weinhold and Klein (2014)
Education for sustainable development	Burmeister et al. (2012) Juntunen and Aksela (2014)
Quantum chemistry	Greca and Freire (2014)
Graphical representations of orbitals	Barradas-Solas and Sánchez Gómez (2014) Clauss et al. (2014)
Chemical bonding	Dhindsa and Treagust (2014)
Implicit knowledge	Taber (2014)
Distinguishing abstraction and complexity	Blackie (2014)
Organic chemistry	Graulich (2015)
Capturing student reasoning	Sevian et al. (2015)
Flipped learning	Seery (2015)
Chemical kinetics	Bain and Towns (2016)
Learning difficulties leading to misconceptions	Tümay (2016)
Symbolic expressions in chemistry	Liu and Taber (2016)
Pre-laboratory activities	Agustian and Seery (2017)
Reasoning about structure–property relationships	Talanquer (2018)

La revue propose aussi un [accès thématique](#) :

- Celebrating our 2020 Prize and Award winners, 2020
- Learning progressions and teaching sequences in chemistry education, 2018
- Celebrating our 2018 prize and award winners, 2018
- Development of key skills and attributes in chemistry, 2017
- The language and the teaching and learning of chemistry, 2016
- Celebrating the 2016 RSC Prize and Award Winners, 2016
- Teaching And Learning About The Interface Between Chemistry And Biology, 2015
- Physical Chemistry Education, 2014
- The Application of Technology to Enhance Chemistry Education, 2013
- Sustainable Development and Green Chemistry in Chemistry Education, 2012
- Diagnostic Assessment in Chemistry, 2011
- Evidentially-Based Curriculum Development, 2010
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- Research and Practice in Chemical Education in Advanced Courses, 2008
- The Laboratory in Science Education: The State of the Art, 2007
- Chemical Education Research in Glasgow in Perspective, 2006
- Chemistry and Environmental Education, 2004
- Teaching Chemistry and Physics, 2003
- Structural Concepts, Part II, 2002

- Structural Concepts: Contributions from Science, Science Education, History and Philosophy of Science, 2001

Advance articles

- ...

2023

- Fixme #4 October
- Volume 24, 01 July 2023, Issue 3, Page 785 to 1099
 - Learning to teach chemical bonding: a framework for preservice teacher educators - Chemistry Education Research and Practice (RSC Publishing)
 - Enhancing academic performance and student success through learning analytics-based personalised feedback emails in first-year chemistry - Chemistry Education Research and Practice (RSC Publishing)
 - Impacts of the flipped classroom on student performance and problem solving skills in secondary school chemistry courses - Chemistry Education Research and Practice (RSC Publishing)
- Volume 24, 01 April 2023, Issue 2, Page 385 to 784
 - The efficacy of instruction in application of mole ratios and submicro- and macro-scopic equivalent forms of the mole within the unit factor method
 - Revealing the development of interaction among components of pedagogical content knowledge in teaching chemical equilibrium
 - Students' interactive engagement, academic achievement and self concept in chemistry: an evaluation of cooperative learning pedagogy
 - Could competence-based chemistry teaching in secondary school harm students' performance in upper traditional exams?
- Volume 24, 01 January 2023, Issue 1, Page 1 to 383
 - Guided inquiry-based learning in secondary-school chemistry classes: a case study - Chemistry Education Research and Practice (RSC Publishing)
 - Understanding covalent bonding – a scan across the Croatian education system - Chemistry Education Research and Practice (RSC Publishing)
 - Inoculating students against science-based manipulation strategies in social media: debunking the concept of 'water with conductivity extract' - Chemistry Education Research and Practice (RSC Publishing)
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 - Developing green chemistry educational principles by exploring the pedagogical content knowledge of secondary and pre-secondary school teachers - Chemistry Education Research and Practice (RSC Publishing)
 - Looking for solutions: students' use of infrared cameras in calorimetry labs - Chemistry Education Research and Practice (RSC Publishing)

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- Volume 23, 01 April 2022, Issue 2, Page 277 to 507
 - Pedagogical chemistry sensemaking: a novel conceptual framework to facilitate pedagogical sensemaking in model-based lesson planning
 - How do we know when students are learning? Shining a light on chemistry education practitioner research articles - Chemistry Education Research and Practice (RSC Publishing)
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 - Problem solving in chemistry supported by metacognitive scaffolding: teaching associates' perspectives and practices - Chemistry Education Research and Practice (RSC Publishing)
- Volume 23, 01 January 2022, Issue 1, Page 1 to 275
 - Development of a framework to capture abstraction in physical chemistry problem solving
 - Pre-service chemistry teachers' use of pedagogical transformation competence to develop topic-specific pedagogical content knowledge for planning to teach acid-base equilibrium
 - The conceptual profile of equilibrium and its contributions to the teaching of chemical equilibrium

2021

- Volume 22, 01 October 2021, Issue 4, Page 803 to 1092
 - Considerations of sample size in chemistry education research: numbers do count but context matters more!
 - Discipline-specific cognitive factors that influence grade 9 students' performance in chemistry
 - Incorporating concept development activities into a flipped classroom structure: using PhET simulations to put a twist on the flip
 - Examining learning of atomic level ideas about precipitation reactions with a resources framework
 - Student perspectives on chemistry intelligence and their implications for measuring chemistry-specific mindset
 - The impact of representations of chemical bonding on students' predictions of chemical properties
 - Teaching of experimental design skills: results from a longitudinal study
 - Preservice teachers' enactment of formative assessment using rubrics in the inquiry-based chemistry laboratory
- Volume 22, 01 July 2021, Issue 3, Page 555 to 801
 - Writing a review article: what to do with my literature review
 - Student success and the high school-university transition: 100 years of chemistry

education research

- The role of visuospatial thinking in students' predictions of molecular geometry
- Effects of a context-based approach with prediction-observation-explanation on conceptual understanding of the states of matter, heat and temperature)
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