

Topic Study Group 3.11: Task design and analysis

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Team details*

Co-Chairs

Lorraine Day (University of Notre Dame Australia; lorraine.day@nd.edu.au)

Hye-Yun Jung (Korean Institute for Curriculum and Evaluation, Korea; hy0501@kice.re.kr)

Members

Minoru Ohtani (Kanazawa University, Japan)

María Trigueros (Instituto Tecnológico Autónomo de México, Mexico)

Carol Murphy (University of Tasmania, Australia)

Catherine Pearn (The University of Melbourne, Australia)

IPC Liaison

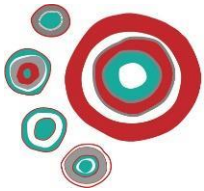
Nelly León (Mathematics Education Research Center(NIEMAT))

Overview

Task design and analysis is a well-known field of research in mathematics education and has been of critical interest during the last decades. This increasing interest is based on the belief that well-designed tasks can provide opportunities for students to learn mathematics and develop mathematical competencies, and on the importance that tasks play in research studies on students learning and teachers' work. Various frameworks and principles for task design as well as empirical studies on the relationship between tasks and student learning support the importance of task design.

* Team details correct at time of print; 28 April 2023





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Following these traditional studies on task design and previous discussions within ICME TSGs, we will continue the international exchange of ideas focusing on the role of task design to better prepare students for future society. To match the needs of the future society, tasks should provide opportunities to develop higher order thinking skills, and could be provided in any form of media including technology. Students should be able to experience various types of tasks that reflect technological functions.

Moreover, considering the complexity of task design, colleagues should be encouraged to work collaboratively when designing tasks. The investigation, refinement, and use of tasks can encourage dialogue between a range of stakeholders including designers, authors, teachers, students, and researchers. The diversity of those involved in task design can add to the richness of how tasks can be best used in classrooms. Through the use of well-designed and purposeful tasks and the associated pedagogies, students may be provided with opportunities to develop understanding of mathematical concepts, strategies, ideas and how these connect to each other. Teachers can develop a pedagogical repertoire that includes selection, refinement, design, sequencing, making mathematical connections and the evaluation of tasks.

We expect that the TSG 3.11 participants will expand task design beyond technology and explore the value of both individual and collective efforts as they are reflected in task design.

Areas of interest

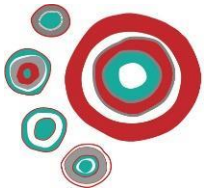
The aim of the TSG is to bring together researchers, task developers and teachers to investigate the theoretical and practical aspects of task design. We are looking for contributions that are evidence-based and/or empirically grounded and include examples of tasks that are designed to promote mathematical development.

We will use the research and findings reported to inform our discussion of key issues in Task Design, including but not limited to:

- Frameworks and principles for task design.
- The role of task design in promoting higher order thinking.
- Task design in digital environments.
- How teachers design tasks or sequences of tasks: individually and/or collectively.
- The role of cultural context in task design.
- The relationship between task design, anticipated pedagogies, and student learning.

We hope to see contributions from both primary and secondary teachers and researchers of mathematics.





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How to make a submission to this Topic Study Group

Submissions for Topic Study Group Papers and proposals for Posters open 28 April 2023 via the official ICME-15 website, icme15.org. The website also contains a timeline of dates for the activity of the Topic Study Groups in the lead up to the Congress.

For questions about this TSG, please contact the Co-Chairs using the email addresses provided.

