IRME & IRMEC
the journal and the conference

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on behalf of the IPC

What ground to cover in the next hour or so

- The need for and beginning of the journal IRME
- A look at the topics of editorials in IRME's five volumes
- The idea of ''impact sheets''
- What theoretical constructs are typically used in IRME papers?

- The need for and beginning of IRMEC
- The future of IRMEC
- The IRMEC proceedings
- Future submission of your work to journals

IRME

The journal

Realizing the need for an outlet

- Based on a somewhat annoying experience of wanting to report on the design of a Danish Maths Councellor Program for high school teachers in a high end Math Ed. Journal, I and others realized that the field needs an outlet for reporting on educational innovations and the implementation of these

The ERME Thematic Working Group

- An idea of creating a new Thematic Working Group on implementation research at the Conference of ERME was coined
- This TWG took place the first time in Dublin in 2017

A first definition from 2017

- Such "implementation research" can encompass a wide range of different kinds of didactical designs stretching from task design, (model) lesson design, teaching modules and courses to entire programs (on all educational levels), aspects of developmental projects, intervention projects, etc. and an equally wide range of formats (textbooks, apps, software, learning platforms, etc.) **– *as long as the designs of these are explicitly based on and informed by findings from mathematics education research*.**
- The TWG is also interested in **research on already existing implementations** based on incorporating mathematics education results as well as in research-based designs themselves.

At the same time : An editorial in JRME – vol. 48(1), 2017

- ”In recent years, there has been increased interest in research that investigates the effectiveness of curricula on students’ learning by taking implementation into consideration (Century & Cassata, 2016; Lloyd, Cai, & Tarr, in press; Morris, 2012; National Research Council, 2004; Remillard, 2005). It has become “a phenomenon in its own right” (Fullan & Pomfret, 1977, p. 336). It also has its own label, implementation research (Century & Cassata, 2016; Nilsen, 2015), and its own journal in the medical profession, Implementation Science. According to Schoenfeld’s (2016) review of research in mathematics education, a recognition during the 1980s that educational innovations needed to be followed into the classroom marked a significant shift in research approaches. **Clearly, issues of implementation are no longer being ignored.**”

The birth of the journal

- In 2018, we began to discuss the possibility of creating a new journal.
- Another topic, which was both discussed in another JRME editorial in 2018, and eventually also included in the ERME TWG, was that of **replication studies**
- Hence, we reached out to internaitonal publishing houses with the idea of a journal that exclusively focussed on implementation and replication studies in mathemtics education
- Eventually we signed with BRILL – and **IRME** (***I****mplementation and* ***R****eplication Studies in* ***M****athematics* ***E****ducation*)
- Around the same time another idea had already emerged – a special issue in ZDM (Guest editors: Boris, Morten & Mario)

IRME

- First issue of IRME was published in 2021
- One volume per year. Two issues per volume. Four papers per issue along with a **long thematic editorial**
- Each paper has an **impact sheet** – which is open access on the journal website (links in the papers)
- These impact sheets are similar to the structure of the papers for IRMEC – so you already know what they look like
- In 2024, IRME was accepted into **Scopus**

The IRME editorials

- 1(1). Launching Implementation and Replication Studies in Mathematics Education (IRME)
- 1(2). What to Replicate?
- 2(1). Recent Discussions on Implementation Research at CERME12
- 2(2). How about Fidelity?
- 3(1). What Happens after Implementation? 'Post-Implementation' as Framing of Implementation Research in Mathematics Education
- 3(2). Contemporary Dialogues on Implementation Research at CERME13

The IRME editorials

- 4(1). Reflections on Internationality: Implementation and Replication Studies in South American STEAM Education
- 4(2). About Implementability
- 5(1). The Current State of Implementation Research in Mathematics Education [CERME14]
- 5(2). "Solid Findings" in Mathematics Education: an Inspiration for Replication

- In Vol. 6 in 2026 there might likely be an editorial about IRMEC-1 ☺

The ZDM definition

- We conceptualize ***implementation in mathematics education*** as an ecological disruption to a particular mathematics education system, through the gradual endorsement of innovation in conjunction with an action plan aimed at resolving what is perceived as a problem by (at least some of) the stakeholders involved.
- The defining feature of implementation is that it occurs in interaction between ***the innovation and plan proponents and the innovation adapters***. At the beginning of the implementation, the innovation proponents have the ultimate agency over the innovation and the associated action plan.
- During the implementation process, the innovation adapters experience some or all of the following sub-processes: (1) constructing agency over the innovation, (2) gradually changing within-community communication or across-community communication, (3) gradually changing practice so that it accommodates the innovation, (4) adapting the innovation to their needs and aspirations. These subprocesses reflect back on the proponents, including evolution of the innovation, of the associated action plan and of the theories underlying their development.
- The implementation process is iterative and ends when the innovation stops being perceived by the stakeholders as an ecological disruption. To this end, implementation can succeed (e.g., the adapted innovation is eventually integrated in the system) or fail (i.e., the innovation is rejected explicitly or tacitly so that it stops influencing the system).

Examples of theoretical papers used

- Century, J. & Cassata, A. (2016). Implementation research: Finding common ground on what, how, why, where, and who. *Review of Research in Education*, 40(1), 169–215. https://doi.org/10.3102/0091732X16665332
- Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, 32(6), 3–12. https://doi.org/10.3102/0013189x032006003
- Rogers, E. M. (1962). *Diffusion of innovations*. Free Press of Glencoe.
- Chen, H. T. (2015). Practical program evaluation: Theory-driven evaluation and the integrated evaluation perspective (2nd ed.). Thousand Oaks: SAGE Publications.

Some examples of IRME vocabulary

- Innovation
- Enablers and barriers
- Stakeholders
- Implementability
- Theory of change
- Scale and scaling
- Conceptual replication
- Replicability
- Etc. …

What studies are IRME interested in?

- IRME welcomes implementation studies and replication studies that communicate and investigate initiatives aiming to improve teaching and learning of mathematics by using knowledge from mathematics education research and/or by re-implementing it in new contexts and at different scales. In particular, IRME is interested in publishing high-quality empirical and theoretical articles addressing the following themes:
  - Studies that analyze how the results produced in the field of mathematics education research can be implemented into educational practice
  - Studies focused on analyzing and/or comparing the functioning and outcomes of actual implementation initiatives
  - Studies investigating mathematics instruction at scale and studies exploring implementation strategies for scaling up learning initiatives
  - Methodological studies that elucidate the way in which different theories, methods and tools can be used to develop implementation and replication research
  - Replication studies in which previous research findings (empirical and/or theoretical) can be tested for validity, generality or be explored to find the conditions under which they do or do not hold
  - Replication studies where previous research findings are (re)interpreted using different or new theoretical perspectives to expand our understanding of the original results
  - Replication studies investigating the effects of a particular educational intervention under different conditions, contexts, or sample populations

IRMEC

The conference

IRMEC

- In the beginning of 2024 the idea for a specialized conference on implementation and replication was coined
- It was decided that it should be a ”working conference” – one where participants could present **work in progress** and get feedback on this
- Another purpose is of course also to present people to the ideas of implementation and replication
- And hopefully sometime down the line get high quality submissions to IRME (and other journals)
- This conference should not (as the ERME TWG to some extent is) be limited to Europe, but be truly international!

IRMEC proceedings

- You will have 3 pages in the **template**
- It should be clear how you understand and intrepet implementation or replication in relation to your study
- Your paper must have been presented at the conference of course to go into the proceedings
- Submission deadline is **December 1, 2025**
- These will be peer reviewed by the IPC
- Proceedings will be published primo 2026

Future of IRMEC

- We hope to organize IRMEC-2 in November of 2027
- We do not yet know where in the world…
- But submission deadline for 2 page papers will be September 15th 2027 ☺

Thank you!

From the IPC