

# On TCR's Fostering Creative Collaborations and Future Directions

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Sylvia Celedón-Pattichis, PhD<sup>1</sup>

## Abstract

This commentary focuses on reflections involving the special issue on Teaching and Learning Mathematics and Computing in Multilingual Contexts and the important role that Teachers College Record has played in fostering creative interdisciplinary collaborations among researchers, graduate students, teachers, K-12 students, and parents. A discussion is included on how participating as a Guest Lead Editor of this special issue afforded opportunities to learn more about projects that integrate mathematics and computing as well as transformations that have impacted the work we do in our respective fields. Multilingual contexts contribute much to our understanding of global perspectives on mathematics education. Taking up a memorable moment that involved such a context, I discuss future directions for the Teachers College Record as we consider reaching to multilingual audiences.

## Keywords

creative collaborations, mathematics education, computing, multilingual contexts, future directions

When I think about the field of education and the changes it has undergone in the past few decades, *Teachers College Record* is one of the journals I turn to and recommend for graduate students to consider new directions and groundbreaking research that informs our practice. In this commentary, I reflect on my experiences as a guest lead editor of a special issue on teaching and learning mathematics and computing in multilingual contexts with Drs. Marios S. Pattichis, Carlos A. LópezLeiva, and Marta

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<sup>1</sup>University of Texas at Austin, TX, USA

## Corresponding Author:

Sylvia Celedón-Pattichis, University of Texas at Austin, Department of Curriculum and Instruction, 1912 Speedway, Stop D5700, Austin, TX 78712-1293, USA.  
Email: [sylvia.celedon@austin.utexas.edu](mailto:sylvia.celedon@austin.utexas.edu)

Civil in 2021–2022. Specifically, I focus on the opportunity *TCR* fostered regarding creative collaborations and potential future directions of this journal.

Having the opportunity to colead this special issue with these colleagues represented interdisciplinary collaborations not only in mathematics education, bilingual education, and electrical and computer engineering but also across sites in the United States and globally. As John-Steiner (2000) stated in *Creative Collaboration*, “It is through joint activities and partnerships that we confront our shifting realities and search for new solutions” (p. 3). Through this special issue, we experienced the importance of collaborations across disciplines and across institutions nationally and globally to enrich the research we conduct in mathematics education and computing. Doing so afforded opportunities for the coeditors and contributors to engage in critical dialogue and negotiate differences that addressed the common vision of the special issue and to create networks across the different projects.

Having leading scholars in the fields of electrical and computer engineering, bilingual education, and mathematics education was instrumental to addressing the topics in this special issue. The expertise of Marios S. Pattichis in electrical and computer engineering provided insights that were needed in understanding the computing aspects of each piece that integrated mathematics and computer programming concepts through the use of Scratch, Python, or other computer programming languages. Carlos A. LópezLeiva and Marta Civil made important contributions by providing critical insights based on their expertise and experiences connecting to bilingual and mathematics classrooms and communities at a national and global level. A transformation that has occurred in the process of these interdisciplinary collaborations is an acute awareness of teaching practices that are needed to (re)humanize science, technology, engineering, and mathematics fields, and the importance of centering the voices and interests of teachers, students, parents, and families (Civil, 2007; Goffney et al., 2018). For example, Marios S. Pattichis has taken some of the implications from the special issue and our own work and has applied them by creating lab components for undergraduate computer engineering courses where students can practice their programming skills with the support of teaching assistants. This decision was intentional, given that many undergraduate students who have been historically underserved and underrepresented in STEM may not have had experiences with computer programming in their K–12 education, and they need resources to support the transition from high school to university-level work in computing. In bilingual and mathematics education, we have also taken lessons learned from the different projects in the special issue to include translanguaging practices that students use to communicate how they make meaning of mathematical and computing concepts.

What we found to be most rewarding was learning about the different projects that integrated mathematics and computer programming, as well as mathematics projects that serve parents, families, teachers, and students in the United States and globally. Common themes that emerged from the different projects highlighted in this special issue were the ways in which teachers and researchers drew from asset-based

approaches, which value the cultures and languages of students in making meaning of mathematical (Celedón-Pattichis et al., 2018) and computing concepts, and the relationships and identities that students build with mathematics and computing. Also impressive was the representation of 12 different languages used globally in mathematics classrooms—Spanish, English, Turkish, Samoan, Tongan, Maltese, Catalan, Greek, Romani, Arabic, Swedish, and Cook Island Maori. For the majority of the studies that integrated mathematics and computer programming, Spanish and English were predominantly used because these studies were conducted in U.S. urban and rural contexts.

Also critical to these creative collaborations was the inclusion of graduate students and teachers as coauthors. We were excited to learn from the onset of agreeing to coedit this special issue that teachers and graduate students were encouraged to be coauthors. We valued the opportunity to mentor colleagues in the process, from submitting an article for this special issue, to reviewing it, to providing feedback, and to editing it for publication. We took a humanistic approach in the feedback that was provided to each contributing author by filtering at times language from external reviewers to contributors that sounded unprofessional or unfriendly. Sometimes feedback from international reviewers seemed harsh toward writers from a U.S. perspective, but this type of feedback may be a common practice in other countries. This meant we also met individually with contributors to ensure major revisions were completed in a timely manner and that feedback was communicated clearly to the authors.

Thinking about the future of *TCR* while working on this special issue led to a memorable moment: One of the contributors asked if they could write their article in a language other than English, because our special issue dealt with multilingual contexts. This question was an important and valid one. While our special issue was in progress, I consulted with the executive editor, and we were informed that home languages could be included with English translations for any interviews or other data sources that were part of the studies. As we think about expanding the reach of audiences and including global creative collaborations, it will be important to consider how we are inclusive of multilingualism. This move will require *TCR* to include reviewers and authors who are proficient in languages other than English to read and provide feedback on articles in specific languages. As John-Steiner (2000) noted, “Generative ideas emerge from joint thinking, from significant conversations, and from sustained, shared struggles to achieve new insights by partners in thought” (p. 3), and it is through language that we engage with colleagues to have meaningful conversations that advance the field of education. My hope is that *TCR* will continue to maintain its trademark as that of leading with innovative research that informs our practice in the field of education and create spaces in which contributors can express themselves in multiple languages. Given that the United States has the world’s second-largest population of Spanish speakers after Mexico (Thompson, 2021), this work can begin by prioritizing the outreach needed within the United States and globally—to include abstracts written in other languages, such as Spanish, to make the journal content searchable in different languages.

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## Author Biography

**Sylvia Celedón-Pattichis**, PhD, is professor of bilingual and mathematics education and is the holder of the H. E. Hartfelder/The Southland Corporation Regents Chair in Human Resource Development Fellow in the Department of Curriculum and Instruction at the University of Texas at Austin. Her research interests focus on studying linguistic and cultural influences on the teaching and learning of mathematics, particularly with emergent bilinguals. She has led several funded projects that focus on turning language and culture into educational assets in teaching and learning mathematics. Currently, she collaborates in interdisciplinary projects to integrate mathematics and computing in bilingual middle schools in rural and urban contexts in the Southwest.