

Investigaciones que Energizan a Formadores en Matemáticas: Intimate Scholarship

Elizabeth Suazo-Flores, Ph.D. elizabeth.suazo@und.edu
13-14 Diciembre, 2023

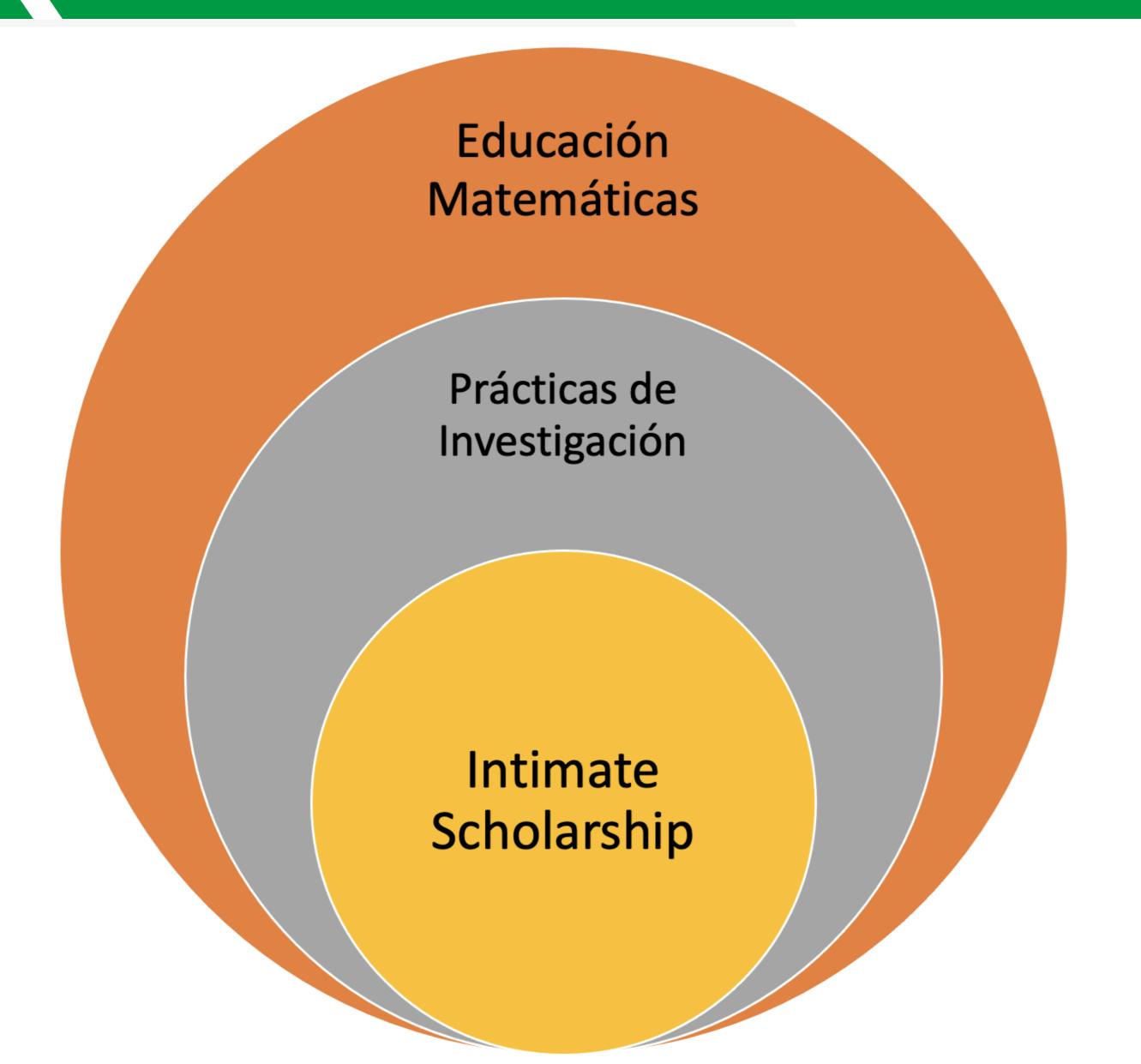


Foco de la Presentación

 Estamos en un momento crucial para innovar nuestras metodologías de investigación en el área de la formación de profesores de matemáticas.

 Espero motivarlos para comenzar intimate scholarship (Pinnegar et al., 2021) estudios que les llevarán a aprender y sentirse energizados en sus prácticas docentes.





Educación Matemática





La Disciplina de la Educación Matemática

- Las disciplinas son un fenómeno social y fueron creadas para generar conocimiento especializado y diferenciado (Williams et al., 2016).
 - La disciplina de la educación matemática ha evolucionado gracias al trabajo de sus practicantes (Kilpatrick, 2014; Lester & Lambdin, 1998; Stinson & Walshaw, 2017).
- A medida que colaboramos con otros, extendemos los límites de nuestro conocimiento (e.g., Heid, 2021; Lerman, 1996; Reys, 2021; Wagner, 2009).

Prácticas en Educación Matemática





Prácticas en la Disciplina de la Educación

Matemática

- Prácticas son formas de ser, interactuar y operar en nuestro trabajo (Suazo-Flores et al., 2021).
- Las prácticas que usamos las aprendemos por primera vez en nuestra formación inicial y las seguimos mejorando a medida que tenemos más experiencia en nuestro trabajo (Sherin, 2014).
- Agentes externos como nuestras instituciones o guías para publicar en revistas nos motivan o desmotivan a usar o no ciertas prácticas (Bruce et al., 2017; Goos & Bennison, 2018).

Mathematics Education Research Journal https://doi.org/10.1007/s13394-021-00371-0

SHORT COMMUNICATION



A call for exploring mathematics education researchers' interdisciplinary research practices

Elizabeth Suazo-Flores¹ · Hanan Alyami¹ · William S. Walker III¹ · Mahtob Aqazade¹ · Signe E. Kastberg¹

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Abstract

Mathematics Education Researchers' work in interdisciplinary research groups can be enriching and challenging in terms of communication, work processes, institutional support, and the translation of findings into viable results for existing disciplines. We contend that there is a need to explore practices (i.e., ways of being, operating, and interacting with others) in these groups. We searched Scopus and ERIC databases to find published works of interdisciplinary groups involving at least one Mathematics Education Researcher, which led us to five articles in peer-reviewed mathematics education journals. Thematic analysis of these articles helped us identify three practices: (1) working toward research interests, (2) cultivating trust and open-mindedness, and (3) understanding institutional support. We argue that consideration of these practices can facilitate Mathematics Education Researchers' interdisciplinary collaborations. Further research documenting Mathematics Education Researchers' interactions within interdisciplinary research groups is needed.

Keywords Mathematics education researchers · Interdisciplinary collaborations · Research practice · Policy

Prácticas de Investigación: Formadores en Matemáticas





Prácticas de Investigación

- Las prácticas de investigación más conocidas o dominantes provienen del paradigma positivo o post-positivo (Paul & Marfo, 2001).
- En relación a la investigación sobre los formadores en matemáticas, tenemos categorías de conocimiento (e.g., Goos & Beswick, 2021).
- Chapman (2021) afirmó que necesitamos investigar cómo los formadores de profesores de matemáticas usan su conocimiento o cómo lo organizan.

Intimate Scholarship Indagación Intima Pinnegar et al. (2021)



Intimate Scholarship ([IS], Pinnegar et al., 2021)

IS explora lo particular, está orientada a la ontología relacional, usa diálogo en el proceso de saber, e invita al lector a un espacio donde saber es dinámico y cambiante (Pinnegar et al., 2021, p. 114). La indagación íntima:

- es abierta y honesta
- es intima y es investigación
- los reportes tienen la forma de investigación y escritos personales
- invita a los lectores a interrogar sus contextos y formas de saber
- usa primera persona

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Intimate Scholarship

MATHEMATICS EDUCATOR TEACHER STORIES

- SIGNE E. KASTBERG
 Purdue University
- ELIZABETH SUAZO-FLORES Purdue University
- SUE ELLEN RICHARDSON
 Purdue University

ABSTRACT

Teacher stories/autobiographies have been used by mathematics teacher educators (MTEs) to gain insight into prospective teachers' (PTs) experience with mathematics, yet stories of MTEs' motivation for and learning by engaging PTs in creating teacher stories is less understood. We fill this gap by narrating our experiences gaining insight into motivations for engaging PTs in creating teacher stories. Artifacts from our teaching practice, discussions of the work of Dewey and Rogers, and reflections were used to create themes that informed the plot line of each narrative. Findings focus on ways that teacher stories sustain PTs and MTEs by creating a living counter-narrative to the narrative of teacher evaluation MTEs and PTs live in the United States. We argue that MTEs' motivations for collecting PTs' teacher stories are informed by MTEs' life experiences and the development of MTEs' views of teaching and learning to teach.

Keywords: Prospective Teachers. Autobiography. Mathematics Teacher Educator.

OLIVE CHAPMAN, SIGNE KASTBERG, ELIZABETH SUAZO-FLORES, DANA COX AND JENNIFER WARD

7. MATHEMATICS TEACHER EDUCATORS' LEARNING THROUGH SELF-BASED METHODOLOGIES

Mathematics teacher educators can create spaces for self-awareness and self-understanding by conducting research exploring their lived histories and practices. In this chapter we discuss the creation of such spaces through the exploration of self-based methodologies with a focus on narrative inquiry, self-study, and autoethnography. We highlight the significance of these three self-based methodologies to show what they reveal about the professional self of mathematics teacher educators and the potential to reveal knowledge important to teacher education. Specifically, we discuss these methodologies from a theoretical perspective; in terms of related research literature of studies involving mathematics teacher educators; and based on their use in studies of the authors. Our studies collectively address how these methodologies have allowed us to empathetically and respectfully collaborate with students and teachers, while also giving us an opportunity to develop self-awareness of our identity, experiences, and bias. We, thus, draw on our experiences to highlight implications regarding the meaningfulness and usefulness of self-based methodologies in mathematics teacher educators' learning and research.

INTRODUCTION

The nature of mathematics teacher educators' professional knowledge and their learning to develop or enhance this knowledge are under-researched areas that need more attention given the growing emphases in many countries on teacher quality (Beswick & Goos, 2018). In this chapter, we focus on how mathematics teacher educators support their own learning to address the complexities in working with mathematics teachers. As teachers and researchers, mathematics teacher educators can learn by reflecting on their practice (Chapman, 2008a) from the perspective of being reflective practitioners (Schön, 1987) or from their research (Chapman, 2008b; Jaworski, 2001, 2008) through formal methodologies. However, this learning is often not acknowledged and articulated in published studies. Chapman (2008b) found that reports on studies in which mathematics teacher educators investigated instructional approaches they developed and implemented in their courses for

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Suazo-Flores, E. (2023). From a partnership liaison to a liaison of teachers and learners: An autoethnography. AERA Annual Meeting, Chicago, IL.

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Intimate Scholarship

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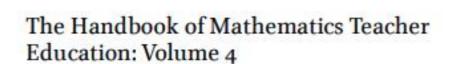
Keywords: Prospective Teachers. Autobiography. Mathematics Teacher Educator.

LEARNING | A Sense of Wonder

Intimate Scholarship



■ BRILL ■ BÖHLAU ■ FINK ■ MENTIS ■ NIJHOFF ■ SCHÖNINGH ■ VANDENHOECK & RUPRECHT ■ V&R UNIPRESS ■ WAGENINGEN ACADEMIC



The Mathematics Teacher Educator as a Developing Professional

Volume Editors: Barbara Jaworski and Terry Wood

The Handbook of Mathematics Teacher Education, the first of its kind, addresses the learning of mathematics teachers at all levels of schooling to teach mathematics, and the provision of activity and programmes in which this learning can take place. It consists of four volumes. Volume 4 of this handbook has the title The Mathematics Teacher Educator as a Developing Professional. The volume seeks to complement the other three volumes by focusing on knowledge and roles of teacher educators working with teachers in teacher education processes and practices. In this respect it is unique. Chapter authors represent a community of teacher educators world wide who can speak from practical, professional and theoretical viewpoints about what it means to promote teacher education practice.

The volume is in 3 main sections. In the first we focus on Challenges to and Theory in Mathematics Teacher Education. Here authors write from perspectives of theory and/or challenge and relate this to examples and insights from their practice. The second section, Reflection On Developing as a Mathematics Teacher Educator has four autobiographical chapters in which authors delineate their experiences as teacher educators and relate these to theoretical and/or moral standpoints. In Section 3, Working With Prospective and Practising Teachers: What We Learn; What We Come to Know, authors write from perspectives on practiceâ€"in many cases, the practices in which they themselves have engagedâ€"and relate this to theoretical perspectives and rationales for teacher education programmes.

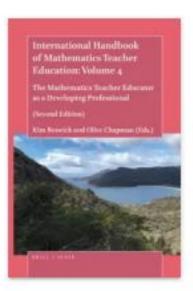
The volume also has an introductory chapter in which the purpose and content of the volume is set out, and a final chapter that syntheses themes and issues from the chapters as a whole, offering an overview of the field and suggesting future directions.

Bibliographical Information for the complete set:

Knowledge and Beliefs in Mathematics Teaching and Teaching Development

Peter Sullivan, Monash...

See More



Pages: 372 pp. Language: English Publisher: Brill

E-Book (PDF) Publication: 01 Jan 2008 ISBN: 978-90-8790-552-1 USD A \$105.00

Paperback Publication: 23 May 2020 ISBN: 978-90-04-42420-3 USD A \$78.00

Subjects

Biology Mathematics & Computer Sciences

Education Teacher Education

Mathematics

Education

Professional Development

OLIVE CHAPMAN, SIGNE KASTBERG, ELIZABETH SUAZO-FLORES, DANA COX AND JENNIFER WARD

7. MATHEMATICS TEACHER EDUCATORS' LEARNING THROUGH SELF-BASED **METHODOLOGIES**

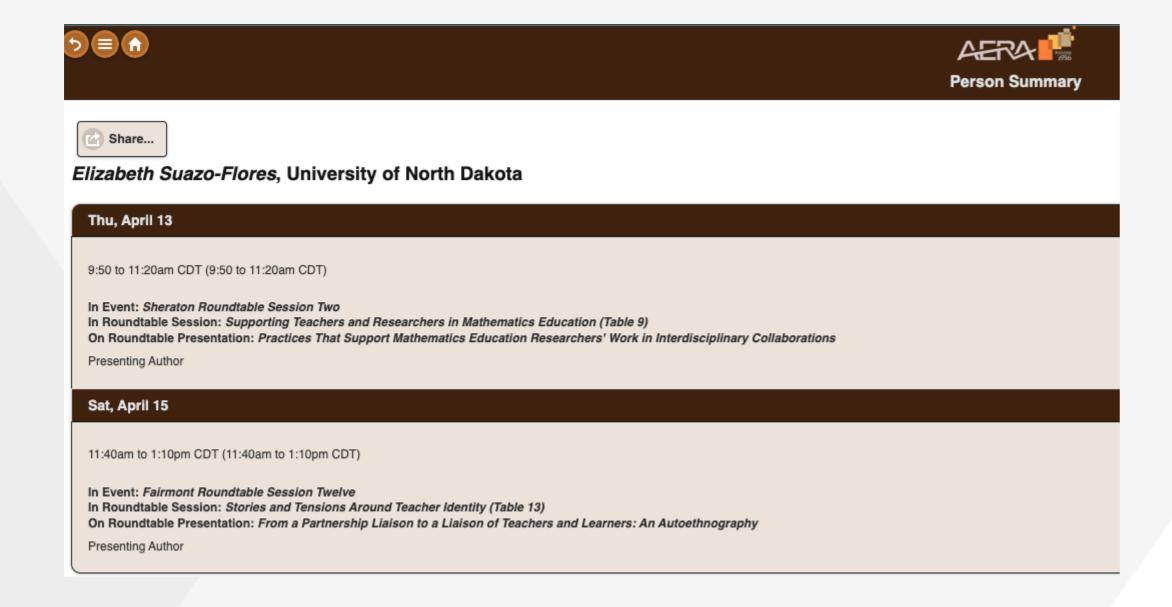
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Mi Nuevo Proyecto: Cultivando Intimate Scholarship en Formadores en Matemática



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Inicios de Intimate Scholarship

Philosophy of Mathematics Education Journal No. 40 (June 2023)

Philosophy of Mathematics Education Journal

ISSN 1465-2978 (Online)

Founding Editor: Paul Ernest

Special Issue: Seeing Self-Based Methodology Through a Philosophical Lens
Guest Editors

Signe E. Kastberg, Elizabeth Suazo-Flores, Melva Grant & Olive Chapman

CONTENTS

Elizabeth Suazo-Flores, Signe E. Kastberg, Melva Grant, & Olive Chapman Commentary on the Special Issue

Courtney K. Baker and Katherine Comey Edwards Embedding Photovoice to Transform a Mathematics Specialist Course Assignment: A Self-Study on Developing Mathematics Teacher Educator Anti-Racist Pedagogical Praxis

Rebecca S. Borowski and Kathryn M. Rupe Can We Figure This Out Together? Surfacing Beliefs Through Collaborative Planning

Sara Donaldson, Robin Keturah Anderson, Courtney K. Baker, Melissa Troudt, and Dawn M. Woods

Stuck in Our Whiteness: The Power of Student Feedback for Perspective-Taking Within Collaborative Self-Study

Alyson E. Lischka, Natasha Gerstenschlager, and Jennifer Webster Dismantling Traditional Structures of Assessment Practice: Self-Study as a Path to Understanding Alternative Assessment Systems

José Martínez-Hinestroza Drawn Onward: Symmetry as Pedagogical Imagination in Critical Mathematics Teacher Education

Aubrey Neihaus and Scott Kaschner Intellectual Curiosity, Conflict Management, and Mutual Respect in an Interdisciplinary Collaboration

Joy A. Oslund Getting Real: An Autoethnography on Becoming an Elementary Mathematics Teacher Educator

Jennifer Ward, Eugenia Vomvoridi-Ivanovic, and Sarah vanIngen Lauer Unearthing the Knowledge of Mathematics Teacher Educator Mothers: Journeying From Dehumanization to Power

LEARNING A Sense of Wonder

Uso de Prácticas Becoming José Martínez-Hinestroza Drawn Onward: Symmetry as Courtney K. Baker and Katherine Comey Edwards Embedding Photovoice to Transform a Mathematics Specialist Course Pedagogical Imagination in Critical Mathematics Teacher Education Assignment: A Self-Study on Developing Mathematics Teacher Joy A. Oslund Getting Real: An Autoethnography on Becoming an Educator Anti-Racist Pedagogical Praxis Elementary Mathematics Teacher Educator Rebecca S. Borowski and Kathryn M. Rupe Can We Figure This Jennifer Ward, Eugenia Vomvoridi-Ivanovic, and Sarah Out Together? Surfacing Beliefs Through Collaborative Planning vanlngen Lauer Unearthing the Knowledge of Mathematics Sara Donaldson, Robin Keturah Anderson, Courtney K. Baker, Teacher Educator Mothers: Journeying From Dehumanization to Melissa Troudt, and Dawn M. Woods Stuck in Our Whiteness: The Power Power of Student Feedback for Perspective-Taking Within Collaborative Self-Study Alyson E. Lischka, Natasha Gerstenschlager, and Jennifer **Webster** Dismantling Traditional Structures of Assessment Practice: Self-Study as a Path to Understanding Alternative Assessment **Systems** Aubrey Neihaus and Scott Kaschner Intellectual Curiosity, Conflict Management, and Mutual Respect in an Interdisciplinary Collaboration

¿Qué estamos aprendiendo de Intimate Scholarship?

- Las formas de operar de los formadores de profesores de matemáticas están relacionadas con los contextos donde se encuentran incluido contextos históricos, politicos, e institucionales.
- Los formadores de profesores de matemáticas aprenden de sus prácticas dialogando con otros (e.g., colegas, estudiantes, artículos).
- El conocimiento de los formadores en matemáticas es contingente, múltiple, y fragmentado.

¿Cómo empezamos una Intimate Scholarship?



AFFINITY | A Sense of Belonging

Estructura de las Sesiones de Capacitación

- Cuatro reuniones
 mensuales con todo el
 grupo de autores.
- Reuniones intercaladas con los editores y autores.
- Al menos tres fechas de entrega de borradores preliminares.

Chapter 7 Writing Toward Knowing: Crafting Intimate Scholarship

Chack for updates

Can. J. Sci. Math. Techn. Educ. (2020) 20:190–204 https://doi.org/10.1007/s42330-020-00080-z



Stefinee Pinnegar, Trudy Cardinal, M. Shaun Murphy, and Janice Huber

Abstract We begin this chapter with a quote from an article by Trudy Cardinal to introduce the ways in which an author can write so that the reader moves toward knowing that it is an essential part of producing quality writing for intimate scholarship, and then our analysis of the article follows. The purpose of the chapter is to explore the challenges and articulate possible responses that intimate scholars might take in their writing. To meet the purpose we provide an example from Cardinal's work followed by analysis. We consider four challenges: intimate scholarship's dual positioning, conundrums based on intimate scholarship characteristics, writing in a personal but academic voice, and the move from writer- to reader-based prose. To explain the challenges and guide writers in responding, we follow the pattern that begins this chapter. We explain the concepts and the challenges they pose, and provide a representative quote from Cardinal's article. We analyze the quote indicating where the challenge resides in the writing and how Cardinal's text responds to and resolves the challenge making suggestions for response. We end by considering how intimate scholars can construct texts that engage readers in writing that is oriented toward knowing by attending to challenges in their own writing.

SCHOLARS BEFORE RESEARCHERS: Philosophical Considerations in the Preparation of Mathematics Education Researchers

David W. Stinson

Georgia State University dstinson @ gsu.edu

Abstrac

In this essay, the author explores how research in mathematics education is always already entangled with and in ontological, epistemological, and ethical considerations—that is, philosophical considerations—of the researcher from beginning to end. The danger in too much of the existing mathematics education research, however, is limited acknowledgement of how philosophical considerations drive both knowledge production and knowledge dissemination in the field. "Practical" definitions of ontology, epistemology, and ethics are provided as well as descriptions of how each concept is made sense of across the paradigms of inquiry spectrum: predict, understand, emancipate, and deconstruct. The author concludes the essay with a summative argument of where and how to begin engaging philosophical considerations and a brief discussion of an emerging paradigm of inquiry.

Keywords Mathematics Education Research, Paradigms of Inquiry, Philosophical Considerations

Teacher Professional Learning with/in Place: Storying the Work of Decolonizing Mathematics Education from within a Colonial Structure



Cynthia Nicol • Susan Gerofsky • • Kathleen Nolan • Krista Francis • • Amanda Fritzlan

Published online: 9 May 2020 © Ontario Institute for Studies in Education (OISE) 2020

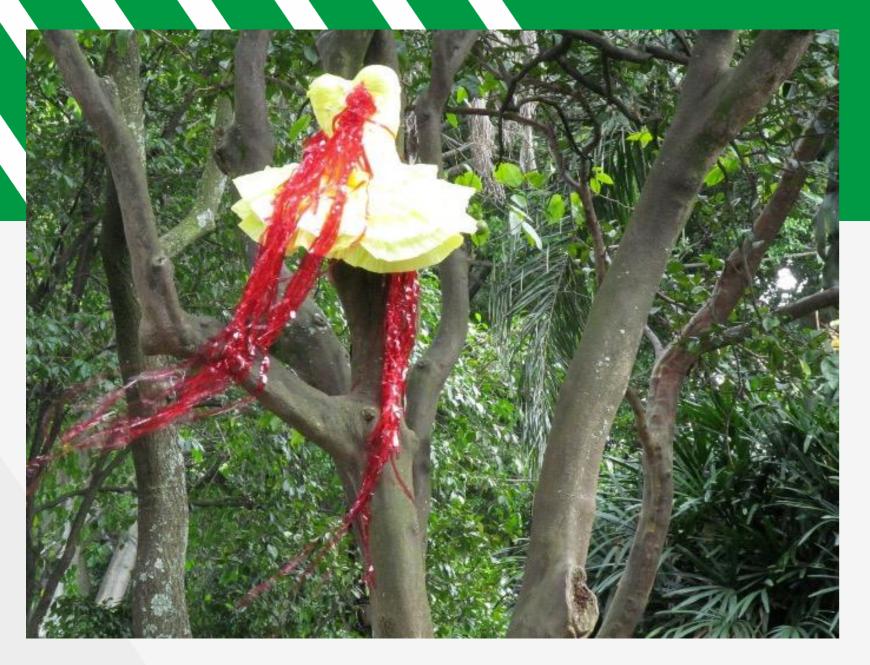
Abstract We come together, five mathematics teacher educators from varied cultural backgrounds and diverse academic pathways, interested in teacher professional learning, and interested in exploring our understanding of colonial practices in mathematics education specifically and in education more generally. In this paper, we share our stories, drawing upon our own experiences in conversation with each other and in dialogue with academic readings. Our paper studies tensions encountered as we explore decolonizing educational practices within colonial structures, paying close attention to place/land-based pedagogies. In recognizing education as a colonial act, we examine some of the literature in decolonizing education and research before introducing arguments for the role of mathematics education in colonizing educational practices. As a collaborative research group, we met regularly over a period of 3 months, collecting audio recordings of our meetings, transcriptions, shared individual writings, and written responses to each other's writing and academic readings. We draw on narrative inquiry to structure our experiences of decolonizing mathematics teacher professional learning through living and telling stories and then through re-telling and re-living stories. We argue that this process is rewarding and challenging, and requires individual and collective ongoing dialogue. With our stories, we challenge the places where mathematics is performed, for example from classrooms to learning gardens, and what counts as mathematics. We conclude with questions

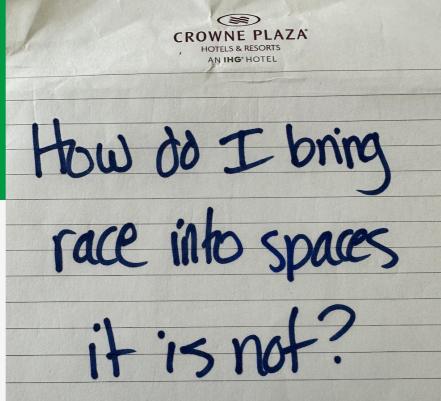
Una Actividad de Escritura

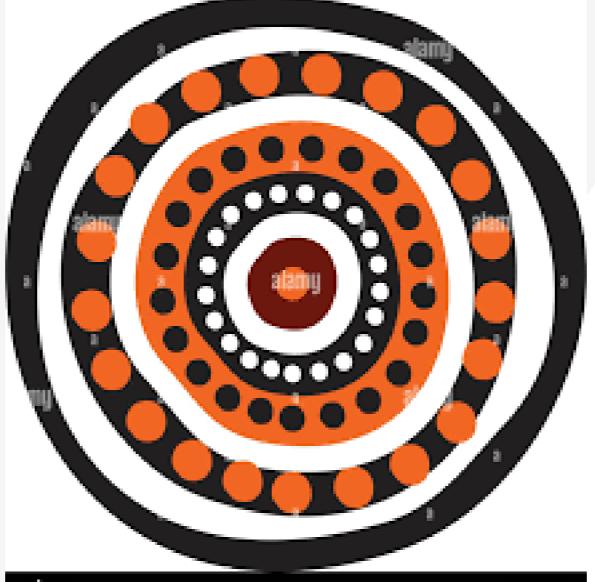
Por favor comparte un artefacto que capture la idea de tu estudio. Un artefacto puede ser un **objeto**, **poema**, **canción**, **o fotografía**. El artefacto es una herramienta para llamar a tu diálogo interno o privado y sacarlo para una audiencia externa.

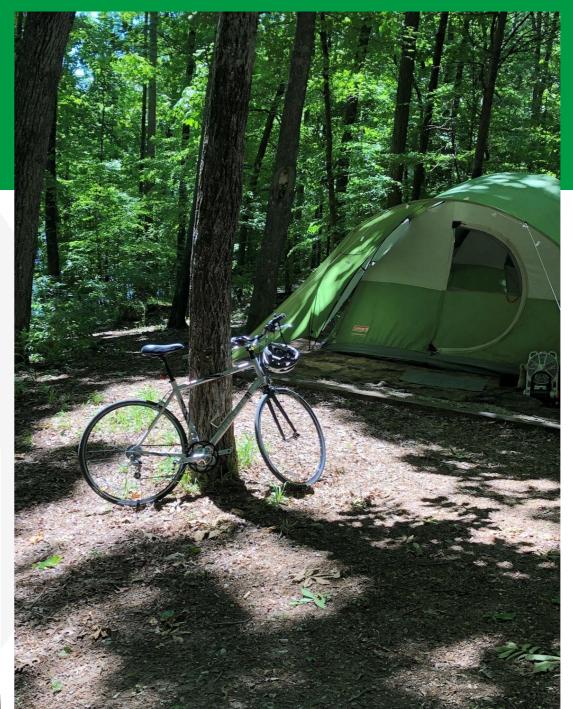
Pedagógicamente, usar un artefacto es una metáfora para describir tu forma de ser, conocer y saber que es lo correcto en el contexto de tu estudio.

- Describe el artefacto en detalle.
- Describe por qué elegiste ese artefacto.
- Comparte cómo el artefacto es una metáfora para describir tu forma de ser, conocer, y saber que es correcto en tu estudio.









AUTOBIOGRAPHY IN FIVE CHAPTERS

I

I walk down the street.
There is a deep hole in the sidewalk.
I fall in.
I am lost ... I am hopeless.
It isn't my fault.
It takes forever to find a way out.

П

I walk down the same street.
There is a deep hole in the sidewalk.
I pretend I don't see it.
I fall in again.
I can't believe I'm in the same place.
But it isn't my fault.
It still takes a long time to get out.

Ш

I walk down the same street.
There is a deep hole in the sidewalk.
I see it is there.
I still fall in ... it's a habit.
My eyes are open.
I know where I am.
It is my fault.
I get out immediately.

137

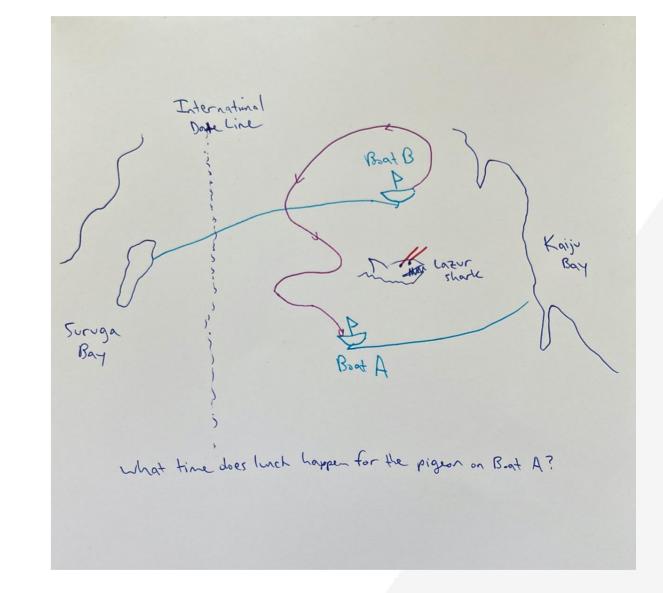
I walk down the same street.

There is a deep hole in the sidewalk.



MORE THAN ANYTHING I WANT TO BE ABLE TO TELL THE TRUTH ABOUT HOW HARD THIS IS SOMETIMES. JUST HEARING IT WITHOUT TRYING TO FIX IT, IS THE BEST GIFT YOU CAN GIVE.





¿Qué les parece trabajar en un libro similar con autores chilenos?





Muchas Gracias! elizabeth.suazo@und.edu