STATISTICS EDUCATION ACROSS SOCIAL AND POLITICAL BOUNDARIES: SIMILARITIES, DIFFERENCES, AND POINTS FOR BUILDING COMMUNITY

EDUCACIÓN ESTADÍSTICA A TRAVÉS DE LAS FRONTERAS SOCIALES Y POLÍTICAS: SIMILITUDES, DIFERENCIAS Y ASUNTOS EN VÍAS DE LA CONSTRUCCIÓN DE UNA COMUNIDAD

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The concepts and practices of the discipline of statistics are crucial for engaging in government and society in the current information age. These concepts and practices are also a part of the school mathematics curriculum to help prepare students to be able to think and reason statistically in their daily lives. The relevance to learning statistics and the importance of its concepts and practices know no boundaries, as statistics is part of the human endeavor to make sense of the world we live in. In spite of this, due to sociopolitical forces, ideas, resources, and research often do not cross political and social boundaries. The goal of this group is to begin to break down some of those boundaries of isolation to create spaces for collaboration and leveraging our shared understandings for positive change. A particular focus given the location of the conference is to break down political and social barriers sharing ideas and resources.

Keywords: Data Analysis and Statistics, Cross-cultural Studies

Creating opportunities for students to engage in statistical investigations to learn statistical concepts and become attuned to statistical practices is crucial for mathematics educators (Franklin et al., 2007, 2015) making it relevant for PME-NA. The centrality of context to statistical inquiry makes its practices powerful for students to make sense of their world (Cobb & Moore, 1997; Wild & Pfannkuch, 1999). During the 2019 PME-NA Conference the goal of the statistics education working group was to create a space for those interested in researching issues around the teaching and learning of statistics to meet, discuss, synthesize past research, and begin to strategize ways of leveraging multiple perspectives and expertise to identify and address current challenges in statistics education. The goals of this year's group are still in a similar vein, but we want to take advantage of the location of the conference in Mexico to collaborate and discuss statistics education across political and social boundaries to share ideas and resources.

Education systems are very contextualized, which can lead scholars to focus on their specific context. One of our goals is to share challenges and insights that statistics educators have from the contexts that they work in to consider similarities and differences and to learn from one another. Such sharing is important because though North America includes Canada, Mexico, and the United States the political powers in those countries create obstructions physically, emotionally, psychologically, and discursively between their citizens and those of the other countries, which have isolating effects. However, people move back and forth across those made up boundaries spreading ideas and culture. Therefore, in education, a social science, we face some of the same challenges. Because of our contextual differences, we have also likely tackled challenges in different ways based on the resources we had available. Furthermore, based on differences in language and power structures we have likely faced different challenges that we may be able to help one another. Through

In: Sacristán, A.I., Cortés-Zavala, J.C. & Ruiz-Arias, P.M. (Eds.). (2020). *Mathematics Education Across Cultures: Proceedings of the 42nd Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Mexico. Cinvestav / AMIUTEM / PME-NA. https:/doi.org/10.51272/pmena.42.2020

sharing our experiences, we share insights on how to tackle common challenges, reflect on what we are missing in our work, consider important challenges for us to tackle together, reflect on what needs we have, and consider what help and support we can give. We plan to develop a mechanism for the communities to share and support one another with ideas, resources, data, and social and political experiences. We also hope to share ideas about ways we can talk about real-world controversial issues in our classrooms that are relevant to the lives of our students safely and critically – a very important aspect in all mathematics classrooms, but essential in statistics classrooms due to the nature of exploring and analyzing relevant data. Finally, we aim to find ways to share ideas across languages and cultural communities and find ways to break down barriers to the English dominant scholarship.

Theoretical Framing

To frame the work of the working group we draw from Communities of Practice (CoP; Lave & Wenger, 1991; Wenger, 1998). All of the authors are members of various CoP's relevant to the focus of the working group including those of statistics, statistics education, and mathematics education. We also come from different communities, particularly in the contexts we work within. We view this working group as a space were we come together to share challenges and lessons learned as well as consider our roles as boundary crossers and how we and the resources we produce might break down some of the boundaries of the communities we are situated and the communities we are interconnected by. This framing is consistent with past work of the authors in considering how CoP's can be used with teacher professional development (Gómez-Blancarte & Viramontes, 2014) and organizing researchers (Tauber et al., 2019).

Table 1: Plan for Active Engagement of Participants

Session	Activities
Session 1: Sharing	• Participant introductions. • Brief presentations of selected projects from authors' various contexts to highlight challenges in statistics education research to begin discussions. • Participants share their context for statistics education and challenges. • Identify similarities and differences in contexts and challenges. • Discuss how we can collaborate and what we hope to gain.
Session 2: Discussing	• Group discusses insights we have collectively on the similarities in contexts and challenges identified during the first session. • Group discusses resources they have to tackle the challenges identified. • Group will discuss what would be helpful and sustainable mechanisms for sharing ideas and resources beyond the conference.
Session 3: Planning for Action	• Participants brainstorm ways of tackling challenges different from their own identified during the first session to bring new ideas to bear. • Participants create a plan of collaboration for after the conference, research ideas, analyzing data together, writing together, etc.
After conference: Action	• Group continues to collaborate to implement the ideas and share resources based on connections made during the conference. • Group members begin longer term research collaborations.

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