

## NOTICIAS DE TODOS

TODOS NEWSLETTER: MATHEMATICS FOR ALL

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### EDITORIAL

#### Welcome to the new normal

*Eugenia Vomvoridi-Ivanovic and Laura McLeman*

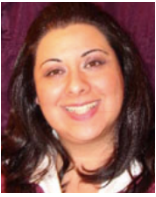
In the wake of the pandemic, schools are shuttered. Teachers around the world are pushing boundaries and working in ways that no one could have imagined six months ago. In her News from the President, Diana Ceja shares an inspirational message that encourages us all to continue innovating and creating experiences for our students that push beyond “business as usual.” We hope you find her words uplifting and supportive as you consider your role in this re-imagined world – finding creative and imaginative ways to meet the needs of your students.

In our on-going quest to support the teaching of emergent bilingual students, we invited Dr. Anthony Fernandes to write about some of his most recent research. Specifically, he shares findings from interviews of preservice teachers, findings which help situate the perspectives that future teachers have regarding different orientations of language use within the mathematics classroom. While you may not work with preservice teachers yourself or you may be long past the novice teacher phase of your career, we believe that it is important for all teachers to consider their views regarding the different language orientations that Dr. Fernandes discusses.

On a final note, this is our final newsletter as editors. It has been our pleasure to bring you the NOTICIAS de TODOS for the past 3 years. We end this editorial with three wishes to everyone: stay safe, stay strong, and stay positive!

#### TODOS Mission Statement

The mission of *TODOS: Mathematics for ALL* is to advocate for equity and high quality mathematics education for all students—in particular, Latina/o students.



## NEWS FROM THE PRESIDENT

### Love in a Time of Covid-19

*Diana Ceja, 2019-2020 President*

“It was the time when they loved each other best, without hurry or excess, when both were most conscious of and grateful for their incredible victories over adversity. Life would still present them with other mortal trails, of course, but that no longer mattered: they were on the other shore.”

*Gabriel García Márquez*

[Love in the Time of Cholera](#)

Thank you all for your commitment to equity and excellence. This commitment is shaping your actions in a time when the call for humanity is loud and clear. We are all called to adapt, to learn, to collaborate and to reflect. I look around me and choose to see the kindness, the generosity, the creativity and the love we are sharing with each other. I notice how we are working together in spite of the distance to provide security and confidence for each other, our families, our students, and our communities.

Necessity is the mother of invention and I think we are all witnesses to this. This adversity is creating opportunities for us to be innovative. Educators are going above and beyond, using the walls around the tub as whiteboards, driving to a student’s house for 1-1 distance tutoring, and engineering some of the most functional camera rigs with household items. Our capacity to innovate is great and inspirational.

In this moment in time, education is seeing glimpses of its humanity through all of you. Let us not forget that this is not “business as usual” and that “business as usual” is not what should be usual. Let us not permit the pressures of the inequitable and traditional systems to control how we move through this crisis nor how we move beyond the crisis. Let us take what we are learning about humanity forward with us. Allow humanity to be the influencer that shapes how you move forward for education, your students and yourself.

TODOS will continue with a social justice stance, investigating different forums for expanding our mission. There are several possibilities for getting involved. We invite you to get involved, ask questions and share ideas. Post a comment on our [membership blog](#); comment on [Facebook](#), [Instagram](#), or [Twitter](#), or

contact a board member. It has been an honor serving as the president of TODOS and I look forward to seeing you on the other shore. ¡Que siga el movimiento! ¡Que siga la humanidad!



## FEATURE ARTICLE

### Understanding Language Orientations

*Anthony Fernandes*

Language is a key resource in the mathematics classroom, especially with the growing population of emerging bilingual students (usually classified as English learners) across the nation. Emerging bilingual students benefit from the use of all their linguistic resources in the classroom as it promotes learning the content, learning English, and makes them feel part of the class. On the other hand, not allowing emerging bilingual students to use their entire linguistic repertoire constrains their learning of the content and positions them as outsiders in the class. Mathematics teachers can either choose to build on the language resources, including the emerging bilingual students’ native language, or seek to curb the use of these resources and promote English only classrooms. This depends on their conceptions about language and its role in the teaching and learning of mathematics. Thus, it is important to understand teachers’ conceptions about language since it influences their teaching. This article summarizes my findings in a research study aimed at understanding preservice teachers’ conceptions about language within the context of teaching and learning mathematics to emerging bilingual students. Note that I used the term English learner (EL) in the study given the familiarity of this term with the preservice teachers who were interviewed for the study.

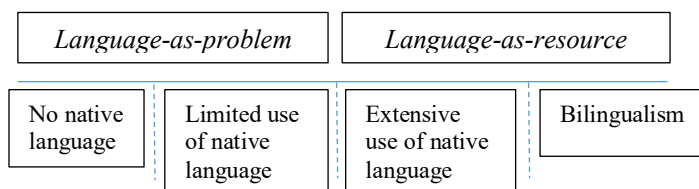
Ruiz (1984) introduced the concept of language orientations from his work in bilingual education. According to Ruiz (1984), language orientations refer to a “complex of dispositions towards language and its role, and toward languages and their role in society” (p. 16). In most cases we are not aware of the language orientations we hold and make decisions instinctively. Ruiz outlines three language orientations, though there are two that relate more closely to the mathematics classroom – *language-as-problem* and *language-as-resource*.

*Language-as-problem* associates the problems (e.g. poverty) of a group to the language they speak and the solution as learning the dominant language (e.g.

English). For example, learning English is viewed as a means to integrate into the workforce and alleviate issues like poverty. In the context of education, the *language-as-problem* orientation takes the view that EL students' underperformance is tied to their lack of English proficiency and pushes for them to learn English quickly, despite the research indicating that it takes 5-7 years to gain proficiency in the academic language in a content area (Cummins, 2000). The *language-as-problem* orientation also assigns a lower status to the language of the minority group.

Instead of viewing language as a problem that needs to be suppressed or eliminated in favor of the dominant language, Ruiz proposes the language-as-resource orientation where we strive for bi- and even multilingualism. Members of the dominant group also learn the languages of the non-dominant groups. In this orientation, language is viewed as a resource and the users of the minority language are positioned as experts. The *language-as-resource* orientation can go in some way towards mitigating the tensions that arise between the majority and minority groups and assign a higher status to the minority languages.

I interviewed 31 preservice teachers (PSTs) from a university in the Southeast to understand their language orientations. I used items from a beliefs survey (Fernandes & McLeman, 2012) as a springboard for the interactions. The PSTs responded to the items and explained their reasoning as I probed them on the issues to get a better understanding of how they were thinking about language in the context of teaching and learning mathematics to ELs. I used the constructs of *language-as-problem* and *language-as-resource* to understand the PSTs responses, with special attention to the use of the EL students' native language in the classroom. Analysis of the interviews showed that there were nuances to the language orientations. I found that the PSTs' orientations could be aligned in a continuum in four categories – No native language, Limited use of native language, Extensive use of native language, and Bilingualism. The next figure shows the continuum with the first two aligning with *language-as-problem* orientation and the next two with the *language-as-resource* orientation:



### *No native language*

Two PSTs in this category viewed the native language as a problem and believed that there was no role for the EL students' native language in the teaching of mathematics. The PSTs believed that the use of the native language would hamper the education of the ELs. Both the PSTs were concerned that not knowing the students' native language could lead to the students getting off-task in the classroom as they worked in groups. The PSTs would also not be able to provide modifications for these students in the lesson. Finally, the PSTs pointed out that the ELs had to learn English and allowing them to use the native language would impede this goal.

### *Limited use of the native language*

Sixteen PSTs in this category advocated for a limited use of the native language based on their understanding that ELs were new to the country. The PSTs believed that the native language could be used for translations of the teaching and interactions with other speakers of the same language, as the ELs transitioned into a new system. The PSTs believed that the ELs would transition to using English in less than a year. They were concerned that the ELs would not be motivated to learn English if they continued to speak their native language for an extended period. Some PSTs believed that having the tests in English at the end of the year would force the students to learn English. In the classroom, the PSTs leaned towards grouping the ELs with the native English speakers during groupwork; once again, forcing the ELs to start interacting with their peers in English. The PSTs were concerned that the ELs would not assimilate with their classmates if they continued using their native language. Some also expressed concern about the ELs getting confused if they were taught mathematics in two languages.

### *Extensive use of the native language*

Ten PSTs in this category demonstrated support for using the native language in the mathematics class. Unlike the PSTs in the previous category who viewed the native language as a translation tool to help ELs in a new setting, the PSTs in this category viewed the native language as a resource to develop the mathematical knowledge of the ELs as they engaged with other students who shared the same native language. The PSTs believed that the ELs could relate the mathematics that they learned in their home countries to the mathematics they were now learning in English. Further, the PSTs also paid attention to the overall well-being of the ELs in the class and believed that there was a better chance for the students to learn when they had the opportunity to use their native language and build on their previous thinking. The PSTs in this category also saw other

benefits of the native language. One PST pointed out that having the homework in Spanish would allow the parents to engage with their children. In the process the PST pointed out that the native language is not lost in the second and third generations.

Unlike the PSTs in the previous category (Limited use of the native language), the PSTs in this category did not believe that the use of the native language would hamper the learning of English. Even though the PSTs in this category stated that eventually the ELs would need to learn and interact in English in school, this was not supposed to happen quickly, or at the expense of their native language. As such, the PSTs were not concerned that grouping EL students who shared the same language would hamper learning of the content or language, and instead believed that it promoted learning.

### *Bilingualism*

The last category consisted of three PSTs who, in addition to supporting the extensive use of the native language, also actively promoted bilingualism among all students. Their push for bilingual education of all the students distinguished the PSTs from those in the previous category who also had a *language-as-resource* orientation. Though the PSTs did not explicitly mention it, the push for all the students to be bilingual would position the EL students as experts in their native language (Ruiz, 1984). In addition to viewing the language as a cognitive resource to help ELs learn mathematics, the PSTs also believed that the use of the native language would not hamper their learning of English but support it. Further, the PSTs believed that the students' bilingualism would facilitate the development of students who could function in a global economy.

### **Implications**

Educators can use the framework from this study to understand the current orientations of PSTs and teachers and move them towards a *language-as-resource* orientation. The PSTs' responses provide some hint about how teacher preparation can influence their language orientations. PSTs' prior experiences featured prominently in their responses to the items. For example, PSTs in the first category (*No native language*) mentioned observing EL students in their clinical classes who they perceived to be off-task as they interacted in Spanish. While PSTs in the third category (*Extensive use of the native language*) cited examples of observing students who interacted productively in their native language. Given the influence of personal experiences, mathematics teacher educators can provide PSTs with appropriate experiences to (re)shape their language orientations. In addition, the PSTs also need guidance to

reflect on their experiences to ensure that the experiences do not reinforce *language-as-problem* orientations. Most of the PSTs in this study were open to the use of the native language in the mathematics classroom. With the right preparation all PSTs and teachers can develop a *language-as-resource* orientation.

### **References**

- Fernandes, A., & McLeman, L. (2012). Developing the mathematics education of English learners scale (MEELS). In L. R. Van Zoest, J-J. Lo, & J. L. Kratky (Eds.), *Proceedings of the Thirty Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 591-597). Western Michigan University.
- Ruiz, R. (1984). Orientations in language planning. *NABE Journal*, 8(2), 15-34.

### **ITEMS OF INTEREST**

#### **TODOS 2020 Conference Postponement**

The TODOS Conference, Activating Agency for Student Access, Engagement, and Advancement in Mathematics will now be held from June 28-30, 2021 in Scottsdale, AZ. Below is a message from TODOS President:

*We find ourselves surrounded by hope, generosity, and kindness as we meander through these uncertain days. The TODOS Board and Conference Committee thank you all for your patience as we researched and discussed how to best move forward for our members and the operation of the organization. The decision to postpone the 2020 Conference will launch us to new opportunities, from which we will all benefit. Thank you again for your patience and support. Stay safe and healthy.*

*Diana Ceja, President, 2019-2020  
TODOS: Mathematics for ALL*

#### **TODOS Podcast Equity and Social Justice in Math for ALL**

Don't forget to get caught up will all the [new podcasts](#). Podcast Highlight: Episode 8—A Conversation with Carlos Nicolas Gomez.

Carlos Nicolas Gomez is an assistant professor of Mathematics Education at Clemson University. He joined host Maria Zavala for a conversation in early February on the research he is launching on elementary school Latinx students in the south and beyond.

#### **Election Results**

Nichole Lindgren and Luz Maldonado Rodríguez were

elected as TODOS Board members. We are excited because of the passion and dedication that both bring with them. As Nichole Lindgren wrote, “I believe that being a former coach and a current teacher leader can bring a valuable perspective and voice to TODOS,” which pairs with what Luz Maldonado Rodríguez stated: “It will require all allies, from university researchers / educators, to teachers, to parents and students to disrupt the current inequitable education structures that continue to enforce labels on our students and find them lacking.” We can see they make TODOS stronger.

### **TODOS Live! Webinars**

Our members have been active in hosting [webinars](#) on a wide range of topics, which you can join live and contribute to the conversation. Take a look at [upcoming sessions](#). If you missed the webinar, they are all recorded and accessible [here](#). We want to thank all of our presenters for sharing their knowledge:

### **Disruptive Numbers: The Chaos Numbers Bring to Uncover Hidden Stories**

*Ma. Bernadette Andres-Salgarino*

### **Tests, Assessments and Learning Math: Equitable Alternatives in Pandemic Times**

*Dr. Vanson Nguyen and Dr. Amanda Ruiz*

### **Educator-Led Professional Development to Support Equity and Access: The Instructional Leadership Corps**

*Melissa Gilbert, Linda Tolladayn, and Dion Burns*

### **Pop-Up Panel/Webinar, "Math When Schools Are Closed"**

*María del Rosario Zavala, Melissa Adams Corral, Luz Maldonado Rodríguez, Gloria Brown Brooks, Kyndall Allen Brown, Ricardo Martínez, and Marta Civil.*

### **Four-Dimensional Education: Equity and Access to Education and Jobs**

*Greg Ludwa*

### **Using Math Language Routines to Launch Performance Tasks, Explore the Relationship Between Language & Math to Shift Mindset & Identity**

*Cecilio Dimas*

### **Supporting Preservice Teachers: Responsiveness to Students During COVID-19 and Transition to Online Courses in Teacher Ed**

*Trevor Warburton*

### **TODOS & NCTM's 100 Days of Professional Development**

Exciting news from TODOS! As part of NCTM's 100 Days of Professional Development, TODOS will be co-hosting four sessions. For more information, follow [this link](#).

#### **Monday, July 6, 2020**

Amplifying Language in Sense Making Routines  
*Nichole Lindgren*

#### **Tuesday, July 7, 2020**

Supporting ELs through Mathematical Inquiry and the Discursive Assessment Protocol  
*Richard Kitchen*

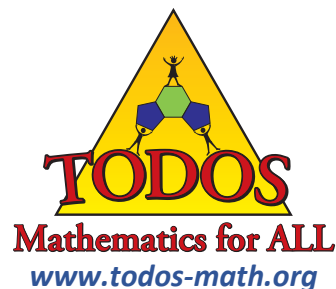
#### **Wednesday, July 8, 2020**

Translanguaging to Persevere: Exploring Latinx Bilingual Students' Collective Problem-solving  
*Hector Morales, Joseph DiNapoli, and Craig Willey*

#### **Thursday, July 9, 2020**

Humanizing Online Mathematics Teaching: Possibilities and Resistance  
*Mary Raygoza*

Register for all four sessions [here](#).



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#### **NOTICIAS del TODOS Spring/Summer 2020 Vol. 15, No. 1**

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