Teaching as Mediation: Exploring the Impacts of a Teacher Training Program on Generating Social and Emotional Learning Environments

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Abstract
This article investigates a teacher learning program in Mexico, Desarrollo de la Inteligencia a través del Arte: DIA (Development of Intelligence through Art: DIA), that supports teachers in applying holistic approaches to instruction that support social, emotional, academic, and cognitive growth. Using qualitative and quantitative measures, this article analyzes how pedagogical approaches that emphasize social and emotional learning affect teacher well-being and support practices associated with positive classroom culture. Analyses found that the DIA professional development program promotes an increase in teacher practices attending to social and emotional learning, such as emotional awareness, self-reflection, and student-centered learning. Teachers participating in the DIA professional development program also reported less emotional burnout and distress than control teachers. Analyses suggest that the DIA program may serve as a protective factor from emotional distress among teachers, promoting emotional support for students and student-centered learning.

Key Words: Social and emotional learning, teacher training, pedagogical mediation, student-centered

Introduction

Globally, academic metrics are dominantly oriented around attending to standardized performance outcomes. Within this context, the movement towards social and emotional learning helps to re-center learning as a relational and emotional endeavor.

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Educators, researchers, and policy makers increasingly assert that social and emotional learning is essential in the process of learning and development and should be integrated within the instructional process (Durlak et al., 2011; Morcom, 2014). This emphasis on the holistic experience of learning frames a teacher's role, for example, not as teaching math, but rather as teaching children math. Centering students in the teaching and learning process underscores the inherently social and emotional quality of academic content (Payton et al., 2008). As such, emotions and social experiences are deeply intertwined with the academic activities and cognitive processes in which learners engage (Ahmed, 2013; Vygotsky, 1987). In this article, we situate the process of social and emotional learning within the context of the classroom, where the teacher's role is to model social engagement and emotional awareness as well as to cultivate a classroom culture that supports well-being. We investigate a teacher learning program in Mexico, *Desarrollo de la Inteligencia a través del Arte: DIA* (Development of Intelligence through Art: DIA), which supports teachers in applying holistic approaches to instruction that support social, emotional, academic, and cognitive growth. Specifically, we analyze how DIA's pedagogical approaches that emphasize social and emotional learning affect teacher well-being and support practices associated with positive classroom culture.

The emphasis on social and emotional learning is evident across global educational contexts (Clouder et al., 2013). For example, the Organization for Economic Co-operation and Development (OECD) recently launched an international study, *The Study on Social and Emotional Skills* (SSES), with the intent of placing a greater emphasis on the development of these skills (OECD, 2019). Efforts to address social and emotional learning are also evident throughout the Americas. In the United States, eighteen states have K-12 social and emotional learning standards, and all 50 states have Pre-K social and emotional learning standards (Dusenbery et al., 2018). Similarly, the Chilean Ministry of Education began including indicators of students' social and personal development in the annual census achievement assessment (Informe Técnico, 2017). The Brazilian Ministry of Education hosted a "High Level Policy Forum: Skills for Social Progress" in 2014 and subsequently launched a process to collect social and emotional data and the development of a network of institutions, researchers, and funders dedicated to promoting evidence-based education policy (OECD, 2015).

In Mexico, the site of this study, the Secretary of Public Education (SEP) restructured the national education model, including a curricular proposal focusing on the personal and social development of the student (SEP, 2018). The plan emphasizes three curricular components: Academic Formation Fields; Areas of Personal and Social Development; and Fields of Curriculum Autonomy. The SEP refers to these three components as "*aprendizaje clave para la educación integral*," [key learning for integrated education] (SEP, 2018). Though there is strong support in favor of attending to the social and emotional processes of learners, there continues to be a need for robust

programs and pedagogical approaches that demonstrate how to promote holistic learning.

Social and Emotional Wellness from a Situated Perspective

In this article, we take situated perspective to understand social and emotional learning and teaching (Chaikin & Lave, 1996). Situated learning theory underscores the ways that learning is embedded with culture, context, and activity (Lave & Wenger, 1991). We posit that promoting social and emotional learning involves not the didactic instruction of social and emotional skills, but rather attention to the classroom environment and instructional practices that contribute to the affective dimensions of learning, as well as the social and historical context of learning. The ways in which students can enact their social and emotional skills, as well as expand upon them, are determined by the learning environment (Morcom, 2014). Recognizing, managing, and attending to one's own emotions and social processes necessitates an environment with ample opportunities to engage in reflection, observation, and relationship building. The teacher has a critical role in modeling social and emotional competencies and creating a classroom environment that supports students in cultivating their social and emotional well-being (Korthagen, 2010).

Social and emotional learning has often been conceptualized as a skill in which students need to be explicitly taught (see Dusenbury et al., 2015; Durlak et al., 2011; 2017; Weissberg & O'Brien, 2004; Izard, 2002). In this research, we recognize that students enter into the classroom with robust funds of knowledge, including social and emotional funds of knowledge (Gonzalez et al., 2005). The work of the teacher is to generate an atmosphere that cultivates students' existing skills and makes space to extend them in meaningful directions. The practice of identifying the individual processes and practices of students, and then skillfully crafting the learning environment to expand existing knowledge, is mediated instruction (Vygotsky, 1933/1997). Mediated instruction supports the teacher to attend to the setting, stimuli, and the learners' experiences, making adjustments when necessary (Vygotsky, 1978; Communig-Potvin et al., 2003)). In this research, we are interested in the bi-directional nature of promoting holistic learning. We explore the ways that practices of mediation support teachers' wellbeing, and in turn create a classroom context conducive to student wellbeing.

Teacher Wellbeing

From a situated perspective on learning, the teacher is a central part of the students' learning ecology. It is thus not surprising that the wellbeing of teachers impacts students' wellbeing, including their social and emotional experience and academic achievement (Hamre & Pianta 2004; Malmberg & Hagger, 2009). To promote student wellbeing, there is a need to consider the pedagogical practices that can mitigate teachers' experiences of stress and burnout.

Teacher stress has been well documented in recent years, a problem which has only been exasperated by the circumstances of the COVID-19 pandemic (Brackett & Cipriano, 2020). Teacher stress is described as "the experience by a teacher of unpleasant, negative emotions, such as anger, anxiety, tension, frustration or depression, resulting from some aspect of their work as a teacher" (Kyriacou, 2001, p. 29). Teaching is complex and challenging work, requiring attention to individual, collective, and institutional processes. Teaching involves both emotional and intellectual labor (Hansen, 1995; Liston, 2000, 2004). The demands of the profession are strained by practical limitations, such as minimal time allocated for planning, grading, and collaboration. Additionally, many schools require teachers to take on additional responsibilities, running school clubs and sports and taking on administrative responsibilities. It is thus that an enduring tension in education is the workload and time allocations of teachers (Benmansour, 1998). In Mexico, teachers encounter additional structural challenges. The school personnel and curriculum are highly regulated (Randall, 2005) and subject to changing government administrations (Loaeza, 2006). This context may contribute to the stress of the teacher.

Teacher wellbeing is critical in all contexts and particularly in the context of under-resourced educational systems where the structural causes of stress are heightened. In these contexts, inequities, such as a lack of resources, limited time for training, and crowded classrooms, contribute to the stress of the teachers (Wessels & Wood, 2019). Similarly, students in under-resourced schools are more likely to experience inequities in addition to under-resourced schools, like limited access to critical resources such as food, medical care, and stable housing. This context of inequity for students can contribute to teachers' experiences of stress.

Introducing teachers to social and emotional practices, such as reflective practices that acknowledge the self within the role of the teacher, could help to mitigate the effects of stress, preventing it from impacting students (Hansen, 1995; Olsen, 2017). This article thus examines the extent to which practices of mediation influence teacher stress and the classroom environment.

Desarrollo de la Inteligencia a través del Arte: DIA (Development of Intelligence through Art: DIA)

In this study, we investigated the impacts of a teacher learning program on teacher stress and classroom environment in Mexico City; the program is called Desarrollo de la Inteligencia a través del Arte: DIA SER para Aprender [Development of Intelligence through Art, DIA, Be to Learn]. DIA was developed by the organization La Vaca Independiente (LVI). LVI works throughout the Mexican nation in supporting the expansive learning of educators and civil workers. LVI develops methodologies, training programs, and resources that build knowledge and enable pathways for "personal, social, and cultural evolution" (La Vaca Independiente, 2017). DIA, one of LVI's focal

programs, presents a novel approach to integrating cognitive, academic, social, and emotional learning via arts, critical reflection, and dialogue. Specifically, the objective of the DIA program is "to create a learning space in which oral expression, participation, and collective construction of knowledge are fostered to promote the integral development of language and thinking skills, as well as social-emotional skills" (La Vaca Independiente, 2017).

The DIA pedagogy focuses on the practice of mediation, which conceptualizes the role of the teacher as navigating the interplay between a set of stimuli and the learner, modifying the engagement with the stimuli based on the learner's individual processes (Vygotsky, 1978). Through mediation, teachers respond to the processes and experiences of the learner, adapting the instructional materials to expand learners' understandings and to facilitate curiosity and exploration. The methodology of DIA aims to shift the role of the teacher from being a transmitter of knowledge to a mediator of learning. The 5 fundamental principles incorporated in the DIA pedagogy are (Madrazo Garcia, 2018, pp. 7-9): physical, mental, communicative, affective, and social. DIA lessons incorporate the five principles, using art, questioning, modeling and reflection as key learning tools.

To explore the impact of the DIA program, we conducted a mixed methods investigation, randomly assigning participating teachers to either the DIA group or the waitlist control group. Teachers in the DIA group attended an 8-week teacher learning program and the waitlist control group proceeded with teaching as usual. In this investigation, we asked the following questions:

1. To what extent do teachers who receive the DIA training demonstrate greater use of specific mediation capacities in their classrooms relative to teachers in the comparison group?

2. To what extent do teachers who receive the DIA training develop greater social and emotional capacities that protect them from stress relative to teachers in the comparison group?

3. To what extent do teachers who receive the DIA training develop social and emotional capacities that provide emotional support for students relative to teachers in the comparison group?

In a pilot study, we investigated these questions using observation tools comparisons, self-report measures, and teacher writing and drawing samples from DIA and waitlist control (WLC) teachers. We also analyzed focus groups, teachers' lesson plans, and teachers' reflections to further understand the experience of DIA teachers.

Methodology

Study design

To examine the potential impact of DIA on teacher well-being and pedagogical practices, we randomly assigned teachers to the DIA program or to a WLC group. We used qualitative methods, including teacher writing samples, teachers' lesson plans and workbooks, and focus groups, to measure stress and social and emotional awareness. We used quantitative measures, including self-report questionnaires and classroom observation, to measure quality and efficacy of teacher-student interactions, DIA pedagogical approaches, well-being, burnout, empathy, social intelligence, and compassion. Using this mixed-methods approach, we investigated differences between groups and change over time within the DIA group. The Institutional Review Board (IRB) at the University of Colorado reviewed and approved the research protocol and collaborative agreement with La Vaca Independiente (LVI), our partner organization in Mexico that delivers the DIA trainings.

We studied the DIA teacher learning program that was delivered as a 32 hour in-person professional development course. Teachers met for 2 sessions of 8 hours and 4 sessions of 4 hours over the course of 8 weeks. Each session was followed by in-school implementation of content by the participants, totaling 12 hours of implementation.

Participants

Participants were recruited and consented in the fall of 2018 and included 70 teachers who were randomized to the DIA group (n = 37), or to the WLC (n= 33). At endpoint, 26 participants in the DIA group and 21 participants in the WLC completed both qualitative and quantitative assessments.

The *Autoridad Educativa Federal en la Ciudad de México* [Federal Educational Authority in Mexico City] invited teachers from the schools targeted by the *Programa de Fortalecimiento de la Calidad Educativa* [Program for Strengthening Educational Quality], which is a program that works to improve schools with the lowest academic performance results according to the Instituto Nacional para la Evaluación de la Educación (2016) [National Institute for Learning Assessment], to participate in the DIA teacher learning program (Instituto Nacional para la Evaluación de la Educación, 2016). These schools are located in the most socioeconomically vulnerable areas of Mexico City. Educators interested in the professional development program were invited to an information session about the training, and those who registered for the class were then invited to participate in the study. Participation in the study was not a requirement to attend the professional development program. Participants were 4th, 5th, or 6th grade teachers, had never taken DIA or other social and emotional learning training, and were 18 years of age or older.

Quantitative methods
Quantitative measures

Participating teachers were observed in the classroom by *asesores técnicos pedagógicos* (ATPs) from the school where they taught and by observers from LVI. Both groups of observers were trained in the use of two observation rubrics prior to the study start: the Upper Elementary Classroom Assessment Scoring System (CLASS) observation rubric (Pianta, Hamre, and Mintz, 2012) and the *DIA* observation rubric. The CLASS certification training, led by representatives of the CLASS/Teachstone international organization, was 20 hours long and was conducted over three days for 36 participants from LVI and ATPs. The DIA rubric training led by LVI representatives was 15 hours long and conducted over 3 days, and approximately 30 observers participated in this training. The CLASS observation rubric, which has been validated as an assessment of the quality and efficacy of teacher-student interactions across different age groups (eg. Reyes, et al., 2012), contains three subscales, rated on a 7-point Likert scale, with higher scores indicating better performance: Classroom Organization, Pedagogical Support, and Emotional Support. The DIA observation rubric contains five subscales, all rated on a 5-point Likert scale, with higher scores indicating better performance: Orient, Motivate, Generate, Harvest, and Close. The DIA observation rubric was developed to assess specific elements of the DIA curriculum; each subscale represents a key step in the DIA pedagogical process: (1) Orient; (2) Motivate; (3) Generate; (4) Harvest; and (5) Close and transcend. The CLASS was completed post-program only, and the DIA observation rubric was completed both pre- and post-program.

Participants in the DIA and WLC groups completed five online self-report questionnaires. The Psychological Well-Being Scale (PWB; Ryff, 1989), Maslach Burnout Inventory for Educators (MBI-ES; Maslach, et al., 1986), Interpersonal Reactivity Index (IRI; Davis, 1983), and Reading the Mind in the Eyes Test (MITE; Baron-Cohen et al., 2001) were administered to the WLC and DIA groups at baseline and at endpoint. The Feelings, Attribution, and Similarity Test (FAS; Ashar et al., 2016) was also administered to participants in both groups at endpoint.

The PWB is an instrument that covers six areas of well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. For the purposes of this study we used a 39-item Spanish version of the scale which has been utilized among Spanish-speakers with Cronbach's alpha ranging between 0.7 and 0.84 (e.g., Hombrados-Mendieta et al., 2013). Items of the 39-item Spanish version of the PWB are rated on a 0-6-point likert scale (0 = "Strongly Disagree", 6 = "Strongly Agree").

The MBI-ES is designed to assess key components of burnout: depersonalization, emotional exhaustion, and personal accomplishment. Items on the MBI-ES are rated on a 7-point likert scale (0 = "Never", 6 = "Every Day"), with higher overall scores

indicating higher overall burnout. The educator version of the MBI-ES is adapted specifically for teachers and has been shown to measure equivalent constructs to the more general MBI occupational burnout measure (Gold, 1984). The Spanish version of the MBI-ES has been used among Spanish-speaking teachers in Mexico (Roja et al., 2007), Perú (Arata, 2008), and Spain (Aldrete Rodríguez et al., 2003). Roja et al. (2007) found that, when used with Spanish-speaking Mexican teachers, the MBI-ES has an adequate internal consistency with Cronbach's alpha ranging from 0.73 - 0.83.

The IRI is a self-report survey that is designed to capture the "multidimensional construct" of empathy by examining the constructs of empathic care, fantasy, personal distress, and perspective taking. The IRI has been used among teachers (Tettegah & Anderson, 2007), and Spanish translations of the IRI have been validated in Chile (Fernández et al., 2011) and Colombia (Garcia-Barrera et al., 2017). Internal consistency of the IRI has been found to be adequate when used with Spanish-speaking populations, with Cronbach's alpha ranging between 0.7 to 0.76.

The MITE is designed to be a sensitive measure of adult social intelligence that can capture differences within a normally functioning adult population. Participants are exposed to partial facial expressions of the part of the face around the eyes and are asked to infer what emotion is being expressed (Domes et al., 2007). Participants receive a higher score when they correctly identify the emotion; higher scores on the MITE thus reflect a higher level of social intelligence. The Spanish version of the MITE has been validated with non-clinical adult populations in various studies (e.g. Fernández-Abascal et al., 2013). Fernández-Abascal et al. (2013) established adequate test-retest stability of 0.63 (P < 0.01) for the MITE in a non-clinical Spanish-speaking sample.

The FAS is a task designed to evoke and measure compassion. Participants view pictures and read a brief paragraph about a suffering individual. Participants rate agreement with items that assess feelings toward, attributions about, and perceived similarity with the suffering individual on a 6-point likert scale (1 = "Strongly Agree", 6 = "Strongly Disagree"). Higher scores on the FAS reflect higher levels of compassion toward suffering others, and responses are broken down into four subscales: Tenderness, Distress, Perceived Need, and Blamelessness. The use of this task was adapted from Ashar et al. in which higher FAS self-report scores were shown to predict charitable donation (2016), and FAS scores were shown to mediate the effects of a compassion meditation-based intervention on helping behavior.

Quantitative analysis

We examined baseline group differences in demographic characteristics using two-sample T-tests for continuous measures and chi-squared tests for categorical measures. For the CLASS observation rubric and the FAS task, which were only available after the DIA training, regression analyses were conducted to compare means

between the DIA and WLC groups at endpoint. For the DIA observation rubric, the PWB, the MBI, the IRI, and the MITE, which were available at baseline and endpoint assessment, mixed models were fit to estimate the group by time interaction, with a random intercept included for each participant, and group, time, and the group by time interaction included as fixed effects, using the R package lmer. Mixed effects models are often recommended for estimating treatment effects in longitudinal datasets with missing observations: they provide a desirable balance of power and false positive rates, and they do not require imputation of missing data (Gallop & Tasca, 2011). We conducted intent to treat analyses including all randomized participants. Statistical corrections for multiple comparisons across these outcomes were not conducted given the exploratory nature of these analyses. We also repeated the above analyses controlling for a demographic variable (years of teaching experience) after observing significant baseline group differences in this variable.

Qualitative methods
Qualitative measures

To understand change over time in teachers' perceptions of their work, we collected narrative descriptions of how teachers perceived themselves in the classroom prior to taking the DIA training and upon completion. Teachers were asked to provide a written response and illustration to the prompt: "Describe yourself as a teacher in this classroom." To understand teachers' perceptions of the impact of the DIA professional development, we held three focus groups at the end of the 32-hour course, with a total of 18 teachers who attended the DIA training. Additionally, teachers participating in the DIA training used workbooks to plan and reflect upon the implementation of lessons. 25 DIA teacher workbooks were collected.

Qualitative analysis

Writings, illustrations, focus group transcripts, and workbook reflections were coded using both a deductive and an inductive approach. Deductive codes were developed based on key constructs of social and emotional learning and pedagogical approaches (Durlak et al., 2017). Inductive codes were developed by analyzing emergent themes in the data; three researchers independently reviewed the data to identify common themes, coders then agreed upon dominant themes. Inductive and deductive codes were synthesized and coders established theme saturation and reliability, ensuring that important constructs present in the data were represented in the coding matrix.

Findings
Baseline characteristics

Table 1 presents baseline demographic characteristics for all available participating teachers. The demographic questionnaire was completed by approximately two

thirds of participants (with exact amounts of missing data depending on the item). We did not find significant group differences at baseline in any demographic characteristic except for years of teaching experience between groups, with participants in the DIA group, on average, having taught for fewer years. All statistical models were run with and without controlling for years teaching, and the results were largely unchanged; results are reported without covariates included in the models.

Table 1.
Participant Demographics

Characteristic	Intervention	Control	*T*/Chi-squared	*p*
Age (mean, SD)	35.48 (6.74)	38.73 (7.84)	-1.46	0.15
Gender			0.01	0.93
Female	100.00%	95.55%		
Male	0.00%	4.54%		
Native Language			0.00	1.00
Spanish	100.00%	100.00%		
Place of Birth			0.10	0.32
Mexico City	60.00%	81.81%		
Other State in Mexico	40.00%	18.19%		
Years teaching (mean, SD)	10.17 (7.54)	15.89 (8.55)	-2.23	0.03*
Level of Education			0.01	0.91
Has a degree	96.0%	91.0%		
Does not have a degree	4.0%	9.0%		
No response	0.0%	0.0%		

* = p < .05

Do teachers who receive the DIA training demonstrate greater use of specific mediation capacities in their classrooms relative to teachers in the comparison group?

There was a significant group by time interaction on all five subscales of the DIA observation rubric, such that teachers in the DIA group had significantly increased demonstration of mediation capacities as compared with teachers in the WLC group with ps ranging from <0.001 to 0.03. The results from the meditation observation rubric are shown in Figure 1 and Table 2.
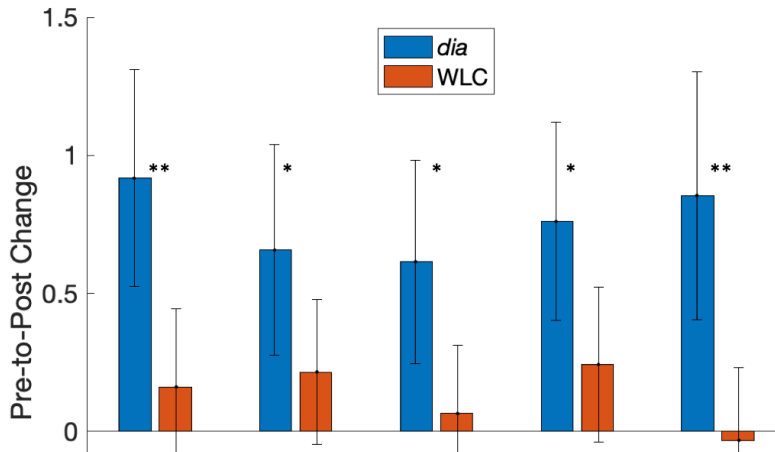
Figure 1. Pre-to-post change in LVI observation rubric subscales for the DIA program versus the WLC group. Error bars represent 95% confidence intervals. * = p < .05, ** = p < .005

Table 2.
Outcomes by Condition by Time for the DIA Observation Rubric

	WLC mean (SD)		DIA mean (SD)			
Measure	Baseline	Post	Baseline	Post	*T*	*P*
DIA Observation Total	1.17 (0.57)	1.24 (0.63)	1.07 (0.58)	1.86 (0.7)	3.59	<.01*
Orient	1.26 (0.6)	1.38 (0.77)	1.1 (0.66)	2.04 (0.77)	3.53	<.01**
Motivate	1.34 (0.64)	1.52 (0.77)	1.29 (0.71)	1.97 (0.76)	2.26	.03*
Generate	1.44 (0.58)	1.47 (0.76)	1.35 (0.62)	1.99 (0.71)	2.78	<.01*
Harvest	1.06 (0.68)	1.25 (0.67)	1 (0.61)	1.78 (0.76)	2.64	<.01*
Close	0.75 (0.73)	0.66 (0.56)	0.66 (0.66)	1.53 (0.91)	3.75	<.01**

* = *p* < .05
** = *p* < .005

Do teachers who receive the DIA training develop greater social and emotional capacities that protect them from stress relative to teachers in the comparison group?

There was a significant group by time interaction on the Personal Distress sub-scale of the IRI (β = -0.45, *T*(1,52.1) = -2.57, p = 0.013) and the Emotional Exhaustion subscale of the MBI (β = -0.42, T(1,45.8) = -2.19, p = 0.034) such that participants in the DIA group evidenced a significantly greater decrease in personal distress and emotional exhaustion over time relative to participants in the WLC group. There were no statistically significant group by time interactions on the other subscales of the IRI and the MBI, nor were significant group by time interactions observed on the PWB or the MITE. In the case of the FAS, there was no significant difference between group

means at post-assessment, though we observed less distress for DIA as compared with the control group, with marginal significance, β = -0.47, T(1, 28) = -2.00, p = .056. Table 3 and Table 4 contain outcomes and effect sizes for these measures.

Table 3.
Outcomes by Condition by Time for IRI, MBI, PBW, and MITE

	WLC mean (SD)		DIA mean (SD)			
Measure	Baseline	Post	Baseline	Post	*T*	*p*
IRI Total	3.16 (0.36)	3.18 (0.36)	3.21 (0.43)	3.2 (0.41)	-0.52	.60
Empathic Concern	3.5 (0.51)	3.6 (0.37)	3.55 (0.57)	3.56 (0.46)	-0.41	.68
Personal Distress	2.41 (0.58)	2.69 (0.88)	2.27 (0.66)	2.15 (0.63)	-2.64	.01*
Perspective Taking	3.63 (0.53)	3.54 (0.68)	3.82 (0.71)	3.88 (0.69)	1.13	.26
Fantasy	2.84 (0.75)	2.74 (0.62)	2.92 (0.77)	2.92 (0.84)	0.52	.61
MBI Total	0.96 (0.63)	1.09 (0.56)	0.95 (0.63)	0.92 (0.64)	-2.03	0.05*
Depersonalization	0.35 (0.75)	0.33 (0.49)	0.43 (0.71)	0.37 (0.74)	-0.26	.79
Emotional Exhaustion	1.48 (1.12)	1.61 (1.03)	1.5 (1.07)	1.24 (0.87)	-2.11	.04*
Personal Accomplishment	0.87 (0.6)	0.98 (0.61)	0.85 (0.84)	0.91 (0.69)	-1.26	.21
PWB Total	4.75 (0.74)	4.78 (0.46)	5.02 (0.51)	4.91 (0.59)	-0.62	0.54
Positive Relationships	4.75 (1.02)	5.17 (0.62)	5.1 (0.7)	4.97 (0.94)	-0.50	.61
Autonomy	4.79 (1.11)	4.91 (0.85)	4.77 (0.8)	4.68 (0.98)	-1.23	.23
Environment	4.23 (1.02)	4.41 (0.71)	4.54 (0.69)	4.39 (0.76)	-0.74	0.46
Personal Growth	4.77 (0.76)	4.91 (0.69)	5.23 (0.65)	5.1 (0.99)	0.38	.70
Purpose	5.02 (0.79)	5.02 (0.56)	5.27 (0.72)	5.23 (0.75)	-1.02	.31
Self-Acceptance	4.96 (1.03)	5.18 (0.74)	5.4 (0.65)	5.15 (0.95)	-1.24	.22
MITE Total	0.68 (0.12)	0.67 (0.13)	0.71 (0.09)	0.66 (0.09)	-1.01	.31

* = p < .05

Table 4.
Mean Differences at Endpoint for FAS

	WLC mean (SD)	DIA mean (SD)			WLC - DIA
Measure			*T*	*p*	Cohen's *d* (95% CI)
FAS Total	2.8 (0.5)	2.66 (0.43)	-0.81	.42	-0.29 (-1.05 to 0.47)
Tenderness	2.6 (0.81)	2.24 (0.83)	-1.17	.25	-0.42 (-1.18 to 0.34)
Distress	3.04 (0.72)	2.57 (0.52)	-2.08	.04*	-0.72 (-1.49 to 0.06)
Need	2.23 (0.54)	2.25 (0.64)	0.11	.91	0.04 (-0.71 to 0.79)
Blameless	2.5 (0.74)	2.3 (0.91)	-0.64	.53	-0.23 (-0.99 to 0.52)

* = p < .05

Mean Differences by Group at Post-Assessment for the FAS

The qualitative analyses supported and extended our understanding of the educator self-report data. Specifically, in the focus groups, teachers discussed how the DIA program supported them in reducing their own stress. Teachers reported that participating in the 32 hour DIA program provided them with strategies, tools, and pedagogi-

cal approaches that decreased their stress. As one teacher explained:

> *"Yo siempre me caractericé desde que entré que yo soy una maestra muy estricta. Tengo mi tono de voz fuerte, y es muy alto mi tono de voz, ... entonces esta parte, yo terminaba el día súper cansada porque era "niño, bájate" o esto o el otro, y esta parte me ha hecho también como que "a ver, entre más grites o más estricta eres, vamos como decía siempre en positivo…" Entonces me ha hecho que ahora la parte que aplicó las sesiones, que los niños también ya se van tranquilizando, término menos cansada tanto de mi voz, mentalmente también ya me relaja un poco más esta parte porque me siento ya menos presionada, ya veo que pues van entendido esta parte, y eso es lo que he visto que ha cambiado en mí también."* (*DIA*, Focus group 1, 2018)

> [I always characterized myself as a very strict teacher. I have a strong tone of voice, and it is very loud, so I used to finish the day very tired because it was "child, sit down" or this or that, and I thought, "the more you yell or the more strict you are, the better…" So now when I apply the DIA sessions, the children appear more calm. I finish with my voice less tired and also my mental state, and I relax a little more because I feel less pressured, and I now see that they have understood this part, and I have noticed that this has changed in myself too.]

In this quote, the teacher described how letting go of an authoritarian role and implementing the pedagogical tools and principles of DIA helped both the teacher and the students feel less stressed, less tired, and calmer. This sentiment was shared across teachers, as one explained: "*Me ha servido mucho, me siento menos cansada, salgo menos cansada, salgo más satisfecha, menos frustrada*" [It has served me so well, I feel less tired, I leave less tired, more satisfied, and less frustrated] (DIA, Focus group 1, 2018).

In the focus groups, teachers also talked about the role of self-reflection in helping to manage stress and promote change within the teaching practice. In the focus groups, DIA teachers reference or invoke self-reflection 77 different times. This trend was also evident in their writing after participating in the program. One DIA teacher shared:

> *"el ser maestra, es una alternativa de concebir el mundo desde distintas visiones siempre teniendo la oportunidad de mejorar o cambiar donde primero me reconozco como ser humano y a mis alumnos también donde validamos nuestras emociones, pero reflexionamos las formas en que reaccionamos ante ellas al hacer conscientes nuestras emociones sin miedo a entenderlas cuando las veo reflejadas en otras personas o situaciones."* (*DIA*, Endpoint writing, 2018)

[To be a teacher is to conceive the world with alternative or different visions, always having the opportunity to improve or change oneself. I see myself and my students as humans whose emotions are validated. We reflect on the ways that we react, without fear of our emotions, in order to understand them when they are reflected by other people or situations.]

This quote exemplifies many statements shared in the focus groups and in teachers' writing as they reflect on the role and interconnection of emotional awareness and self-reflection, and how together, these processes can catalyze and inspire change.

Do teachers who receive the DIA training develop greater social and emotional capacities that provide emotional support for students relative to teachers in the comparison group?

Two sample t-tests comparing the mean scores for the DIA group and the WLC group on the subscales of the CLASS observation rubric at endpoint demonstrate that teachers in the DIA group scored significantly higher on the Emotional Support subscale than teachers in the WLC group ($\beta = 0.53$, $T(61) = 2.19$, $p = 0.03$). We observed no significant differences between groups on the other two CLASS subscales at endpoint. The results from the CLASS observation rubric are shown in Figure 2, and Table 5 contains outcomes and effect sizes for this measure.
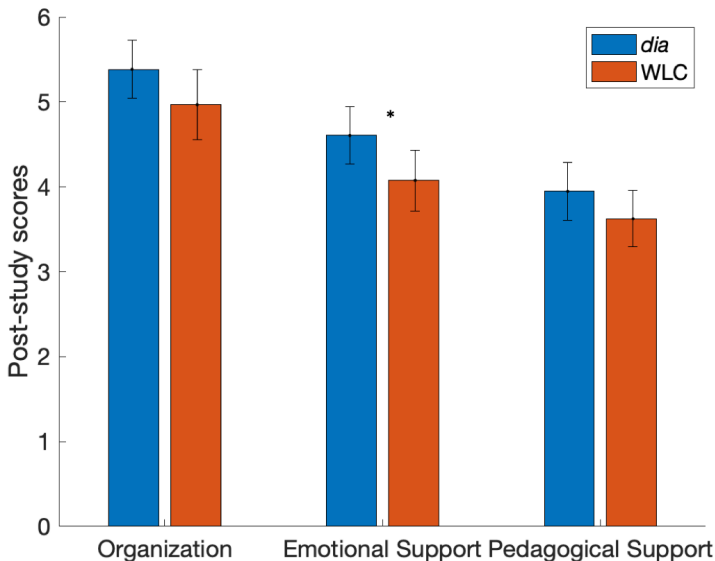

Figure 2. Post-study CLASS observation scores in 3 subscales for the DIA and WLC groups. Error bars represent 95% confidence intervals of the mean.
$* = p < .05$

Table 5.
Mean Differences at Endpoint for the CLASS Observation Rubric

Measure	WLC mean (SD)	DIA mean (SD)	T	p	WLC - DIA Cohen's *d* (95% CI)
CLASS Total	4.07 (0.88)	4.47 (0.77)	1.92	0.06	0.48 (-0.03 to 0.99)
Emotional Support	4.08 (0.98)	4.6 (0.93)	2.19	.03*	0.55 (0.03 to 1.06)*
Classroom Organization	4.97 (1.13)	5.39 (0.94)	1.60	.12	0.4 (-0.11 to 0.91)
Pedagogical Support	3.62 (0.91)	3.95 (0.94)	1.39	.17	0.35 (-0.16 to 0.85)

* = $p < .05$

In writing tasks, teachers who participated in the DIA program demonstrated greater attention to describing, noticing, and attending to their own and students' emotions than WLC teachers. At the end of the DIA training, when both WLC and DIA teachers responded to the written prompt: "describe yourself as a teacher in this classroom," teachers who participated in the DIA training mentioned the emotional quality of the classroom or students over twice as frequently as WLC teachers (73, 34 times, respectively). Similarly, DIA teachers mentioned or described their own emotions more than twice as often as WLC teachers, with DIA teachers noting their own emotions 14 times, compared to WLC teachers, who noted their own emotions 6 times.

When coding for emotions, coders identified reference to specific emotions that were present in the teachers' written descriptions of their classroom and instances when teachers referred to their own emotions. Many descriptions of the 'role of the teacher' also involved describing an environment conducive to social and emotional learning without making reference to specific emotions. In this case, those were coded as social and emotional learning, which we defined as expressions of student learning goals around emotional awareness, collaboration, confidence, empathy, perspective taking, and self-motivation. In analysis of writing samples at endpoint, we found that 100% of DIA teachers' writing samples included a focus on social and emotional learning, compared to WLC teachers, of whom 71% included this focus.

The following DIA teacher's statement represents a common theme of a desire to support students' social and emotional practices:

"Deseo seguir fomentando en mis alumnos la práctica de las valores, la buena respiración, observación atenta, escucha activa, empatía, solidaridad, trabajo en equipo, responsabilidad y compromiso." (*DIA*, Endpoint writing, 2018)

[I wish to continue developing in my students the practice of values, of good breathing, attentive observation, active listening, empathy, solidarity, team work, responsibility, and commitment.]

Supporting students' social and emotional practices necessitates a pedagogical approach that is responsive to the experiences of students. As such, we found that from baseline to endpoint DIA teachers shifted away from describing the role of the teacher as authoritarian. At baseline, 63% of DIA teachers described authoritarian and teacher-centered practices. By endpoint, when responding to the same prompt, only 15% of DIA teachers cited authoritarian and teacher-centered practices. As teachers' instructional practices were more responsive to students' experiences of learning, DIA teachers noted their students increasing in their own self-regulation capacities:

> *"Mis alumnos han mejorado mucho en la autorregulación. Ya que ellos empiezan a darse las reglas del juego. Se han vuelto más empáticos y solidarios con sus compañeros."* (*DIA* Teacher notebook, November 24, 2018)

> [My students have improved a lot in self-regulation. So much that now they give themselves and each other reminders about the rules. They have become more empathic and they have more solidarity with their classmates.]

The focus on students' social and emotional learning found in DIA teachers' writing samples was also noted in DIA teachers' lesson planning and reflection notebooks (n=25). Teachers detailed a focus on students' social and emotional learning 112 times over the course of 12 lessons. As the teachers increasingly focused on students' social and emotional learning while implementing the DIA pedagogy and resources, in their notebooks where they reflected on their lessons, teachers noted instances of "improved or increased student engagement" 116 times.

Discussion

Findings from this pilot study indicate that teachers who participated in the DIA program reported experiencing a decrease in personal distress and emotional exhaustion while also demonstrating increased emotional support for students and greater attention to the social and emotional qualities of the learning environment. In a global climate in which the stress in the teaching profession is pervasive, these findings are encouraging and warrant further research to test the correlation between the DIA program and its mediation skills and teacher stress and classroom environment.

Analysis of the DIA observation rubric indicated that compared to teachers who had not received the DIA training, teachers who attended the DIA training increased in all five of the DIA observation rubric's domains, suggesting that the DIA training was effective in improving teachers' capacities in the domains it was designed to impact. Specifically, DIA emphasizes the role of the teacher as a mediator of learning. Mediation involves understanding students' background knowledge and experiences and bringing those into the learning setting. With the use of tools such as dialogue, reflection, observation, and art, students draw on their background experiences, and

the teacher supports the learner in leveraging their background knowledge to extend in meaningful directions. This process of mediated learning involves individualized instruction and thoughtful scaffolding based on students' needs. This approach contrasts with the authoritarian and teacher-centered approaches described at baseline. It is noteworthy that the DIA training provided in this study was 32 hours. Thus, in that relatively short time period, considerable shifts in professional practices were found.

Our findings also indicate the potential of the DIA program to impact not only teacher performance in the classroom but also ways in which they cope with stressors in their environments. The significant reduction, relative to teachers in the control group, in personal distress and emotional exhaustion indicate specific ways in which the DIA program may contribute to the well-being of educators who work in low-resource schools. In focus groups, teachers discussed how the pedagogical approach of DIA supported teachers in experiencing less stress and engaging in more self-reflection. Increasing teachers' capacities in self-reflection may support them in acknowledging their emotions and thus being mindful of the ways that they react and internalize external stressors. The process of self-reflection, coupled with a shift away from tightly controlled classrooms towards a model of mediation, may support teachers in not only managing their own emotions, but also in generating a classroom culture where students have more autonomy to do so as well. Consistent with this interpretation was evidence that teachers described experiencing less pressure and a greater sense of 'calm.' Taken together, these findings suggest an important possible relationship between shifting teachers' roles and classroom cultures and teachers' experiences of stress. Further research is warranted to empirically examine the psychological impact of the DIA program on teachers and test our understanding of teacher stress, teacher roles in the classroom, and the DIA training model.

Our findings also suggest that the promise of the DIA program for influencing not only the experiences of educators but also of students. Using the CLASS observation rubric, teachers in the DIA group were rated as demonstrating significantly higher emotional support for students than teachers in the WLC group at the post-assessment time point. There were no differences on other CLASS scales, suggesting that the effects of DIA may be specific to emotional support. Given that the observers were not blind to the random assignment of teachers to DIA or control conditions, the specificity of effects on the emotional support scale suggests that observers were not uniformly rating DIA teachers more highly. The CLASS report that DIA teachers demonstrated higher emotional support than WLC aligns with the qualitative findings that DIA teachers attended to their own and their students' emotions with a higher frequency than WLC teachers. DIA teachers also described a change over time in their description of authoritative and teacher-centered practices, suggesting that the process of attending to the emotional quality of learning supported a shift towards student-centered learning. The process foregrounds learning as an emotional experience that

occurs in social relationships (Vygotsky, 1987). As teachers' practices shifted towards a practice of mediation, student engagement and self-regulation increased. Thus, moving away from authoritarian and teacher-centered practices may facilitate attention to the individual needs of students, in turn making space for greater student engagement and self-regulation.

An emphasis on mediation, as opposed to didactic instruction, recognizes students' social and emotional knowledge and skills with the aim of leveraging and expanding upon these practices. Students enter into classrooms with rich funds of knowledge (González et al., 2005) including knowledge of social interaction and emotional awareness. Promoting social and emotional wellness amongst students is thus less about didactic teaching of these skills, and more about modeling and making space for students to enact their social and emotional competencies (Lave & Wegner, 1991). As teachers model practices of self-reflection, stress management, and emotional support, simultaneously fostering connection, students' understandings of these skills expand, shifting the culture of the classroom, as well as opening up their own learning.

It is important to note that there were several limitations to this pilot study. We had a small sample and there were differences between the DIA group and the WLC group at baseline in years of teaching experience and professional training. These differences underscore the need for additional research on the DIA program to test the extent to which our preliminary findings replicate with new, adequately powered, randomized samples.

Also, the raters for the classroom observation rubrics were not blind to random assignment of teachers and may have exhibited biases in their ratings; however, the fact that DIA participants were not rated as significantly superior on all subscales suggests that observers may have provided valid ratings. Finally, our findings from the measures that were assessed only at post-training cannot rule out the possibility that observed trends were evident at baseline, rather than a function of the training. In light of these methodological considerations, it is important to emphasize that our quantitative findings are to be understood as exploratory.

This research study responds to the need and increasing desire for evidence-based educational programs that include attention to the development of mediation, social skills, and emotional wellness in Mexico as well as within a global setting. This work has important implications for considering how to develop professional learning programs oriented around student well-being within diverse national and international contexts of teaching and learning. Findings encourage focusing on promoting the well-being and practices of the teachers as an important end in itself and as well as a valuable path to improve the social and emotional quality of student learning. This research suggests that the DIA model promotes a learning environment that attends to the social and emotional quality of learning with benefits for both educators and the classrooms they create for their students.

Conclusions

This study found that the DIA professional development program promotes an increase in teacher practices attending to social and emotional learning, such as emotional awareness, self-reflection, and student-centered learning. Teachers participating in the DIA professional development program also reported less emotional burnout and distress than control teachers. Our findings suggest that the DIA program may serve as a protective factor among teachers and may promote emotional support for students and student-centered learning. This study suggests that supporting teacher well-being should be emphasized in teacher education, training, and professional development as it is beneficial to both educators and students; the DIA model provides promising practices by which to do so.

Acknowledgments

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