Evaluation Findings from Georgia's *CLASS*-Related Professional Development Pilot Project

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Abstract

During the 2014-15 academic year, Georgia's Department of Early Care and Learning (DECAL) piloted three different professional development models for Georgia's Pre-K teachers. All three models focused on the Instructional Support domain of the *Classroom Assessment Scoring System™* (*CLASS*; Pianta, LaParo, & Hamre, 2008) and used resources developed by Teachstone. Pre- and post-intervention *CLASS* observations were collected for 71 participating teachers and revealed significant gains in average Instructional Support scores for teachers in all three models. Some gains were also seen for some groups in Emotional Support and Classroom Organization, but on average the gains were larger for Instructional Support than the other domains. The findings must be interpreted with caution because the sample was selected based on site director interest and convenience, thus we cannot know if these findings would generalize to other teachers.

Further, we cannot know if these teachers would have demonstrated comparable growth with different professional development supports because the current study did not assign teachers to groups at random and did not include a control group. To gain more insight on that issue, the posttest *CLASS* scores of the teachers in these three professional development conditions were compared to those of a randomly selected group of teachers who served as the control group in another study Georgia's Pre-K teachers. The findings were encouraging: in all three *CLASS* domains, all three groups of teachers in the *CLASS*-Related Professional Development Pilot Project had significantly higher posttest scores than the control group from the other study, after accounting for pretest scores. Again, these findings must be interpreted with caution because the comparison group was part of a different study, during different academic years, employing different data collectors.

Despite the cautions noted above, these models appear to be promising approaches to improving teacher-child interactions and warrant further development and research.

Introduction

Georgia has been at the forefront of the pre-kindergarten movement since implementing its pre-k program in 1992 and creating the nation's first state-funded universal pre-k program in 1995. Georgia's Pre-K, administered by Bright from the Start: Georgia Department of Early Care and Learning (DECAL), aims to provide high-quality preschool experiences to four-year-olds to help prepare them for kindergarten. Two recent evaluation reports concluded that participation in Georgia's Pre-K program significantly improved children's school readiness skills across a wide range of language, literacy, math, and general knowledge measures (Peisner-Feinberg, Schaaf, Hildebrandt, & Pan, 2015; Peisner-Feinberg, Schaaf, LaForett, Hildebrandt, & Sideris, 2014).

For the past few years, DECAL has used the *Classroom Assessment Scoring System™* (*CLASS*; Pianta, LaParo, & Hamre, 2008) to provide a framework for its pre-k teachers' professional development. The *CLASS* is an observational tool focused on the aspects of teacher-child interactions that are most closely aligned with children's social, emotional, and academic outcomes. The *CLASS* provides scores in three domains of teacher-child interaction: Emotional Support, Classroom Organization, and Instructional Support.

During the 2014-15 academic year, DECAL provided support to three groups of Georgia's Pre-K teachers with the aim of improving teacher-child interactions in these classrooms, as measured by the *CLASS*. Participating teachers took part in one of three professional development models, described below. Each of the models contained elements of My Teaching Partner (MTP) and Making the Most of Classroom Interactions (MMCI)—professional development models developed by Teachstone[1]—and also employed additional Teachstone-developed resources to support the professional development delivery. Georgia's Pre-K consultants—a group of DECAL employees who ensure compliance with the program standards while also providing training and technical assistance—delivered the professional development models after completing extensive training through Teachstone.

The three models were: Professional Learning Communities with coaching (PLC-C); Making the Most of Classroom Interactions, Increased Focus on Instructional Support Domain Indicators, without coaching (MMCI w/o C); and Making the Most of Classroom Interactions, Increased Focus on Instructional Support Domain Indicators, with coaching (MMCI w/C). Each model had a specific and intentional focus on the Instructional Support domain, which is the domain most closely linked to children's early academic gains (Mashburn et al., 2008). Instructional Support scores tend to be markedly lower than scores in the other two domains.

The PLC-C model started with a pretest *CLASS* observation and an introduction to the *CLASS* to provide teachers with a basic understanding of the tool. Following the introduction, the coach

[1] Teachstone is an organization started by the *CLASS* authors to train individuals on the use of the *CLASS* and support implementation of professional development models designed to improve teacher-child interactions.

met with teachers individually to discuss results of their pretest observation. This cycle of classroom observation followed by face-to-face meetings with the coach and teacher repeated approximately every three weeks. During the individual conferences, coaches worked with teachers to identify and discuss effective interactions. Coaches also met with teachers in small groups to facilitate conversations about the Instructional Support domain. In one district, the school principals were invited to join the consultant on some of the *CLASS* observations and sit in on the small group meetings.

The MMCI w/o C model is a slightly revised version of the MMCI model developed by Teachstone. It is a face-to-face, classroom-based professional development model in which a cohort of teachers learns to identify and analyze effective interactions in classrooms and discuss ways to interact intentionally to increase children's learning. Teachers have access to an online library of video clips demonstrating best practice in various aspects of teacher-child interactions and complete homework assignments that involve watching specific videos and practicing interactions in the classroom. Five full-day training sessions, led by DECAL consultants who had been trained in MMCI delivery, were held once a month over the course of five months. The standard MMCI model was enhanced for the current project by increasing the focus on the Instructional Support domain. MMCI does not typically include an individual coaching component, and teachers in this model did not receive individual coaching.

In the MMCI w/C professional development model, teachers participated in MMCI with an increased focus on Instructional Support, as described above, and received coaching provided by DECAL consultants. Between each of the five MMCI sessions, the coach observed each teacher's classroom for 20 to 30 minutes and provided direct feedback following the observation. Coaches worked with teachers to enhance effective interactions, with a special focus on increasing teachers' understanding of the Instructional Support domain.

Study Description

To assess change in teacher-child interactions in participating classrooms, DECAL Pre-K consultants conducted pre- and posttest *CLASS* observations. Consultants did not conduct observations in the classrooms in which they were serving as coaches and did not know in which professional development model the teachers were enrolled. These data were submitted to researchers at the Frank Porter Graham Child Development Institute (FPG) for analysis. The FPG research team also collected questionnaires from those participating teachers in the fall and again in the spring to investigate their perceptions of the supports, their knowledge of high-quality teacher-child interactions, and their views about intentional instruction.

It is important to note that findings from this study *cannot* be used to determine if the professional development models *caused or led to* changes in teachers' instructional practice or be generalized to a larger population. Schools and centers were selected to participate based on directors' and consultant's mutual interest and consultants' ability to serve that geographic area, and thus participating programs may be different from programs in general. The teachers were probably motivated to change and therefore might have shown similar gains if they had

not had any supports or if they had had the typical professional development that DECAL requires of all Georgia's Pre-K teachers each year.

To partially address this shortcoming, the analyses presented here compare the posttest *CLASS* scores of the participating teachers to those of a group of randomly selected Georgia's Pre-K teachers who served as the control group for Georgia's Pre-K Professional Development Evaluation, after controlling pretest. These analyses must also be interpreted with caution because the control group teachers come from a different study, and their *CLASS* scores were collected during different years and by different classroom observers. Nonetheless, they provide some information about how this professional development compares with what we would expect from standard professional development.

Additionally, the analyses presented below likely overestimate any between group differences because they do not account for nesting of teachers within centers/schools or nesting of centers/schools within district or cohort/professional learning community (PLC). More rigorous statistical analyses would account for this nesting, thereby decreasing the power to detect differences among groups. We have not employed such techniques because the number of districts and cohorts/PLCs would be too few to complete the analyses.

Sample Description

Only Georgia's Pre-K teachers with *CLASS* observations at both pre- and posttest are included in the analyses. This included 28 teachers at 10 sites (8 schools and 2 centers) in PLC-C, 28 teachers at 22 sites (16 schools and 6 centers) in MMCI w/o C, and 15 teachers at 10 sites (3 schools and 7 centers) in MMCI w/C.

Table 1 provides descriptive information about the classrooms and teachers in the analyses. As seen on the table below, the average class size was just under 22, which is the maximum allowable for Georgia's Pre-K classrooms. Almost all classrooms used only English for instruction. Almost all teachers had a Bachelor's degree or higher and had college-level course work in early childhood education.

Table 1. Classroom and Teacher Characteristics

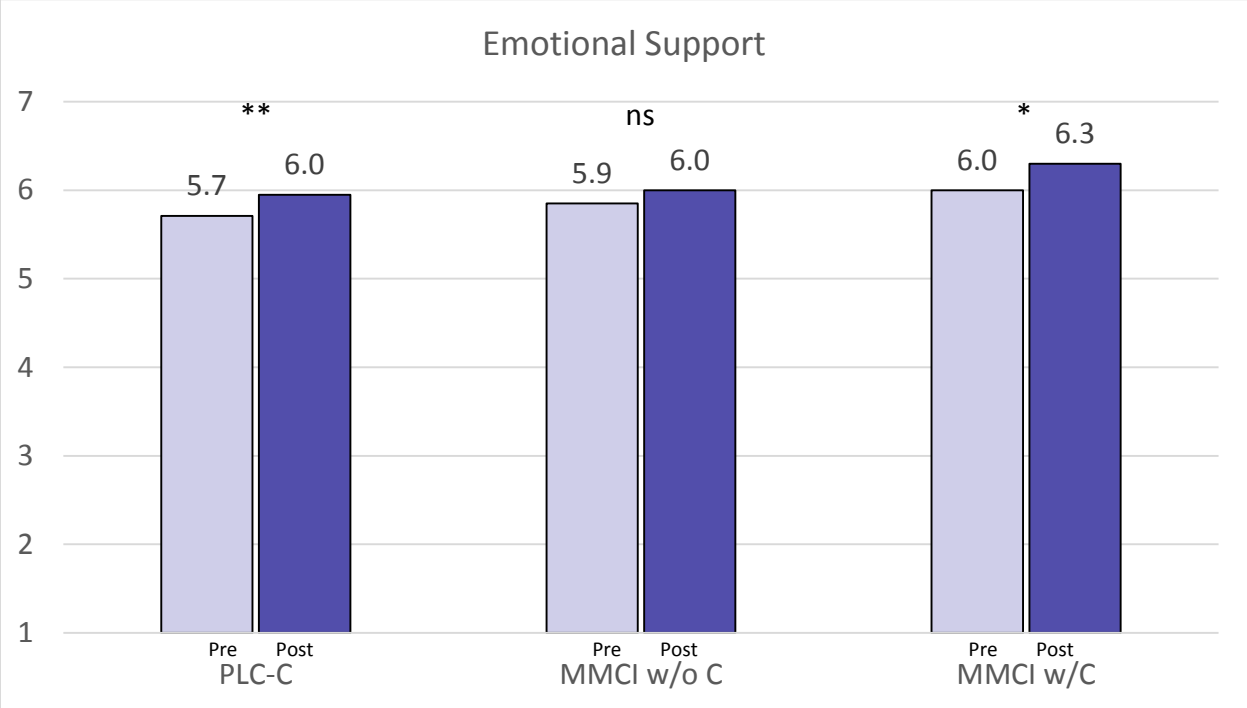
	PLC-C	MMCI w/o coaching	MMCI w/coaching
Number with pretest *CLASS* scores	30	28	16
Number in analyses (i.e., with pre and posttest *CLASS* scores)	28	28	15
Number who returned questionnaire	20	26	14
Classroom Characteristics			
Average enrollment	21.4	21.9	21.6
% of children who are Dual Language Learners	19%	20%	15%
% of children with an active IEP	7%	5%	5%
% of classrooms where English is only language used	80%	88%	71%
Teacher Characteristics			
Mean years as GA Pre-K teacher	5.8	7.3	7.9
Teachers' Highest Degree			
Some College	5%	0%	0%
BA/BS Degree	50%	54%	79%
Some graduate coursework	10%	12%	7%
MA/MS Degree	30%	31%	14%
Ed.D. or Ph.D. Degree	5%	4%	0%
Early Childhood Education (ECE) Degree[2]			
Bachelor's in ECE	55%	54%	79%
Graduate degree in ECE	25%	12%	14%
% of teachers who had taken a college course in ECE	100%	96%	100%

[2] Teachers could report having both a Bachelor's and a Graduate Degree in ECE, in which case they were counted in both these values.

Emotional Support

The chart below presents average pre- and posttest *CLASS* Emotional Support scores for the three groups. Teachers in both PLC-C and MMCI w/C had significantly higher Emotional Support scores at posttest, compared to pretest. The gain demonstrated by MMCI w/o C group was not statistically significant.

Hierarchical linear models (HLMs) were also estimated to compare the posttest scores of the three groups to one another, after controlling their pretest scores. The findings revealed no significant differences.[3]

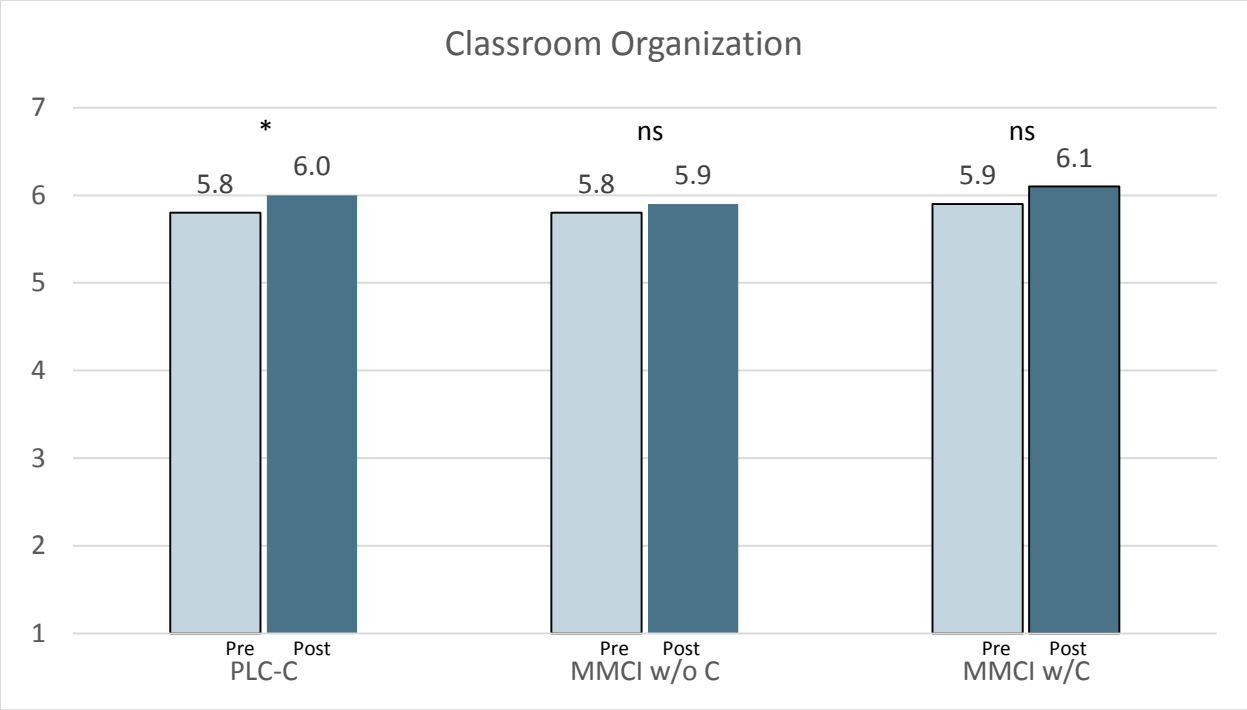


* p < .05, ** p< .01

[3] The within PD model pre/post comparisons compare *CLASS* scores at pre- and post-intervention for each model. A positive difference indicates improvement in *CLASS* score on average between the two time points for teachers in a particular PD model. The HLMs compare post-intervention *CLASS* scores across three PD models controlling for corresponding baseline scores. Emotional Support scores at posttest were significantly higher than pre-score for teachers in PLC-C and MMCI w/C; however, posttest scores were not different across three groups. Whereas this may seem counterintuitive, it is not statistically unusual. In this case, for example, we see that the difference of 0.3 for the PLC-C and MMCI w/C groups is significantly different from zero; however not statistically different from the pre/post difference of 0.1 seen in the MMCI w/o C group.

Classroom Organization

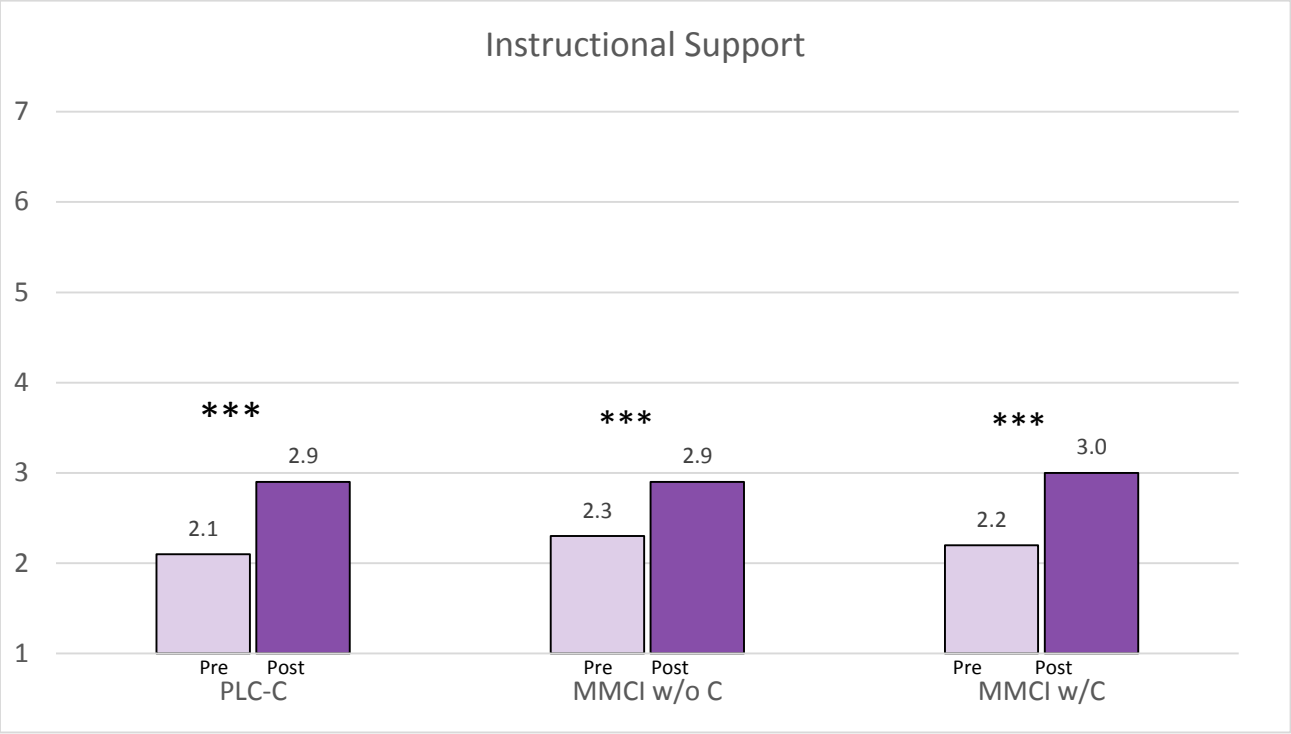
As seen on the chart below, only teachers in the PLC-C group had significantly higher Classroom Organization scores at posttest, compared to pretest. HLMs comparing the posttest scores of the three groups to one another, after controlling their pretest scores, indicated that there were no significant differences amongst the groups.



* p < .05

Instructional Support

As seen on the chart below, teachers in all three groups had significantly higher Instructional Support scores at the posttest as compared to pretest. HLMs comparing the posttest scores of the three groups after controlling pretest scores revealed no differences.



*** p < .001

Comparisons Among Domains

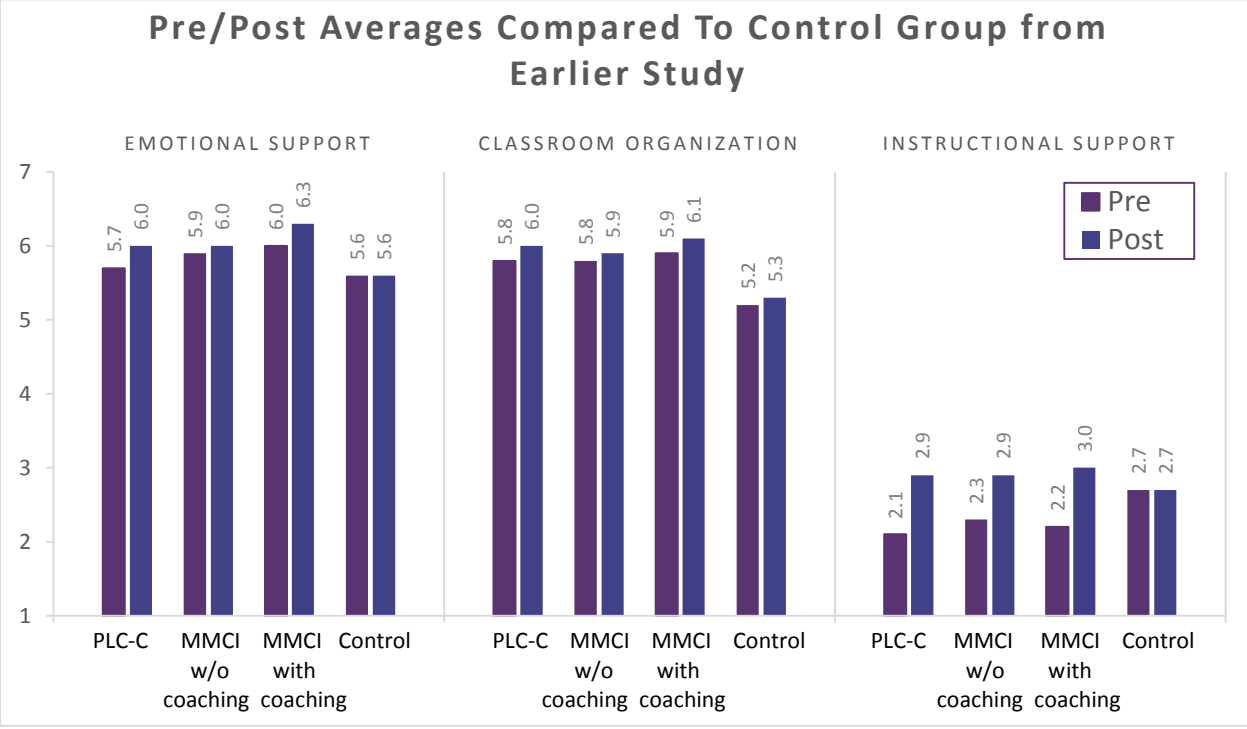
All three professional development models targeted the teacher-child interactions as measured by the three *CLASS* domains, but placed special emphasis on improving teachers' Instructional Support skills. Analyses that compared gains in the three domains, after combining the three professional development models, revealed that gains in Instructional Support were indeed greater than gains in Emotional Support ($p < .001$) or Classroom Organization ($p < .001$). The gains in Emotional Support and Classroom Organization were not significantly different.

Comparisons with Georgia's Pre-K Professional Development Project Control Group

The current study did not include random assignment or a control or comparison group. In 2011-12, 2012-13 and 2013-14; however, DECAL, FPG and Child Trends had worked together on a randomized control trial evaluating MMCI and MTP (Early et al., 2014), called Georgia's Pre-K Professional Development Evaluation. That study included 160 teachers who were randomly selected for participation and randomly assigned to serve as a control group. *CLASS* observations were conducted at the start and end of the academic year in which each teacher participated. Control group teachers took part in Georgia's standard professional development opportunities. [4]

In order to evaluate how end-of-year *CLASS* scores for teachers in the three *CLASS*-based professional development models compared to what we might expect if they had not received this targeted professional development, the posttest scores of the teachers in the three conditions were compared to the posttest scores of the control group from this other study, after accounting for their pretest scores.

Findings indicated that all three professional development groups had significantly higher posttest scores on all three *CLASS* domains than the other study's control group, after accounting for their pretest scores.

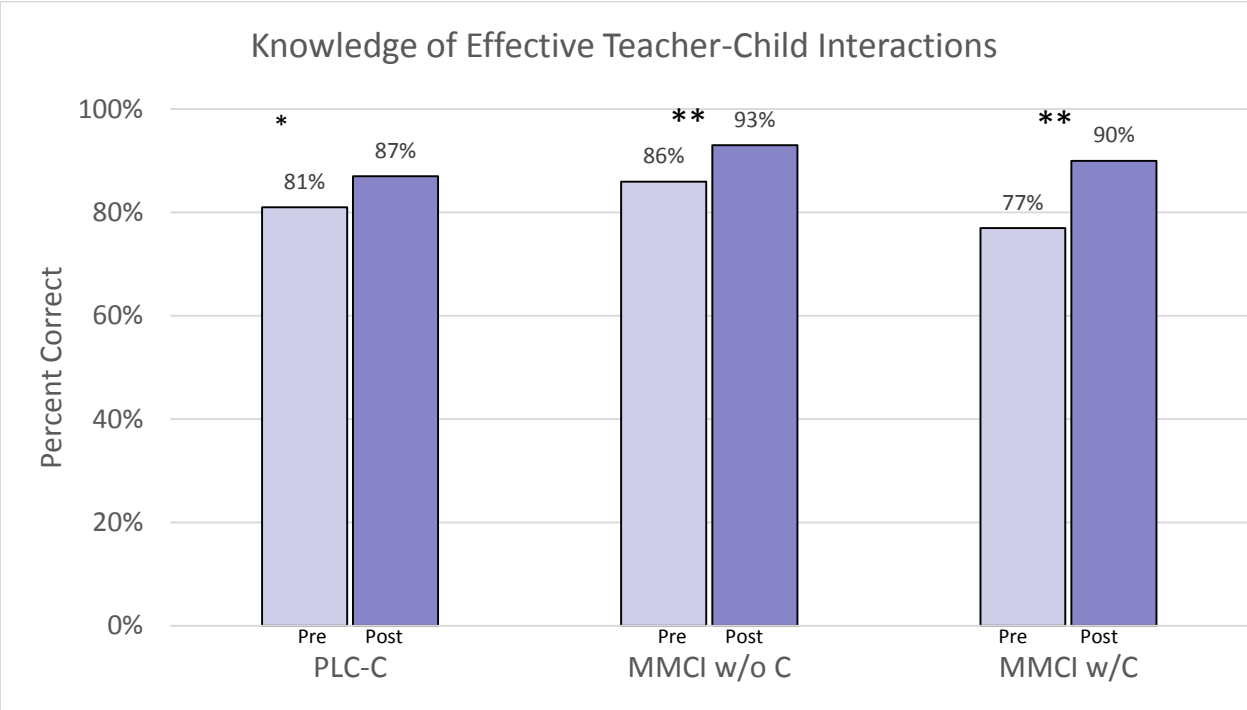


[4] See Early et al., 2014 for more details about the professional development received by control group teachers in Georgia's Professional Development Project.

<u>Knowledge of Effective Teacher-Child Interactions</u> (Hamre & LoCasale-Crouch, 2009)

Sometimes knowledge changes before practice (Hamre et al., 2012), so in addition to observations of practice, the FPG research team gathered information about teachers' knowledge of effective teacher-child interactions, using a 9-item scale based on a *CLASS* framework. The scale presented respondents with scenarios that they might encounter in the classroom and asked them to select the best of four possible responses to each scenario.

As seen below, teachers in all groups showed significant gains in knowledge on this measure. HLMs revealed no significant between group differences on posttest scores, when pretest scores were controlled.

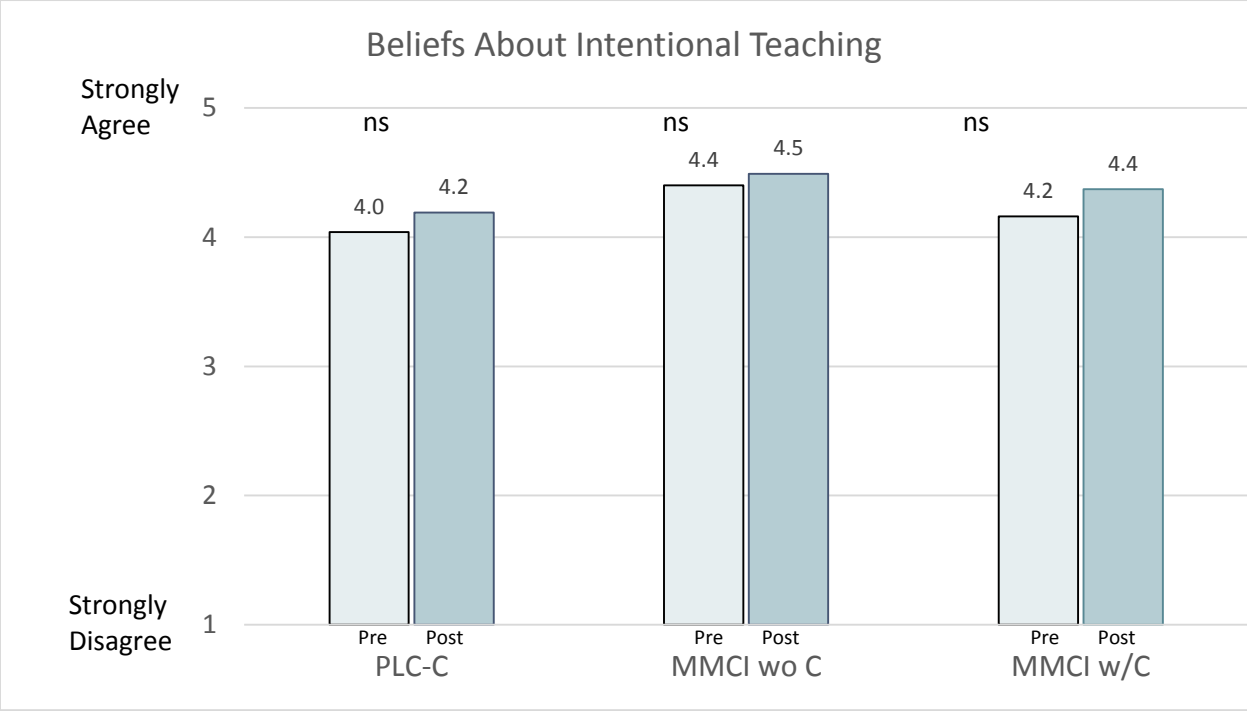


* p < .05, ** p< .01

Beliefs About Intentional Teaching (Hamre & Downer, 2007)

The *CLASS* framework strongly endorses the ideas that teaching should be intentional, even at the preschool level, and that young children benefit from planned, purposeful instruction. To test the extent to which teacher's beliefs in the value of intentional teaching changed while they participated in these *CLASS*-based professional development models, teachers were asked to respond to a series of statements regarding how children learn. An example of an item is "Young children learn best when teachers are actively involved in their play." Items were scored on a 5-point scale, ranging from *strongly disagree* to *strongly agree*; higher values indicate a stronger belief in the importance of intentional teaching.

The chart below shows average pre- and posttest scores on this scale.[5] None of the groups endorsed more intentional beliefs about teaching at posttest compared with pretest; however this might be because their scores were already quite high at pretest. HLMs revealed no significant between group differences on posttest scores, when pretest scores were controlled.

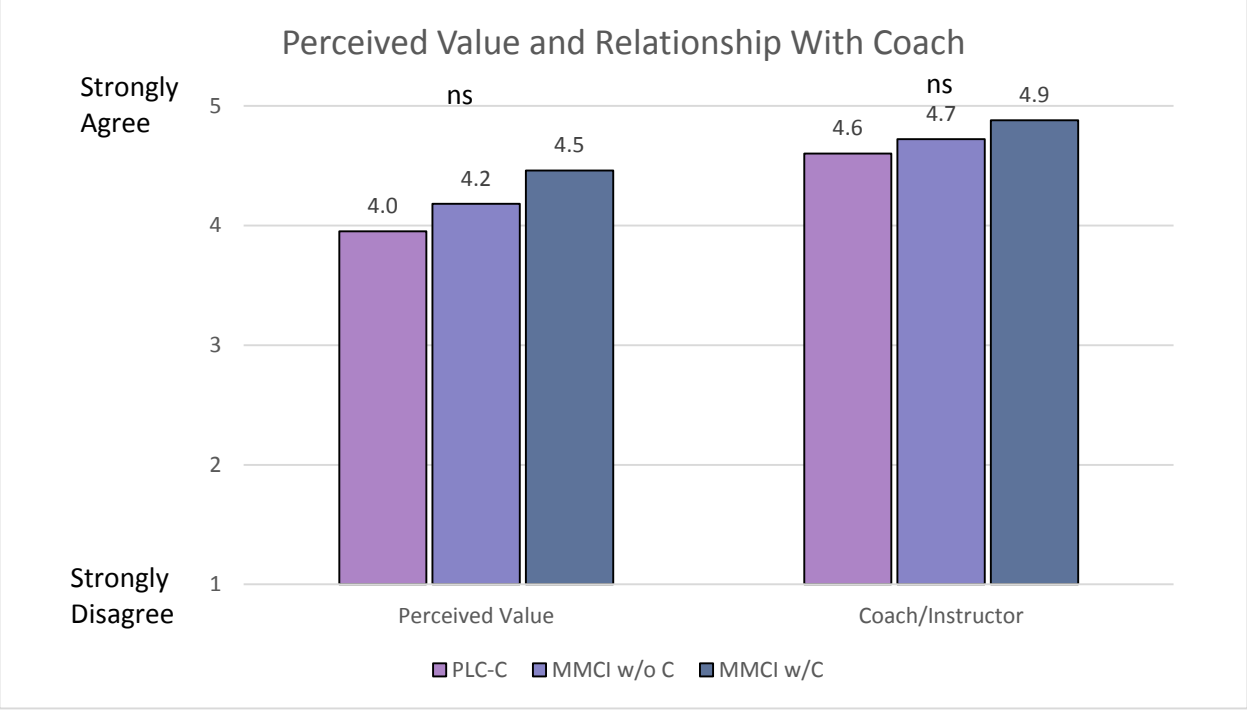


[5] The original scale included 11 items, but only eight were included in the final analyses. Three were dropped because they decreased the scale's reliability when included. All but two of the remaining eight items have been reverse scored so higher values are associated with stronger beliefs in the value of intentional teaching.

Perceived Value of the Professional Development and Relationship With Coach/Instructor
(LoCasale-Crouch, Downer, & Hamre, 2009)

In the spring, all teachers were asked to respond to nine items regarding their perceptions of the professional development they had received that year. Sample items included: "I feel more confident in my role as a teacher than I did before this professional development" and "This professional development stimulated my enthusiasm for further learning." Additionally in the spring, teachers were asked to respond to five items addressing their relationship with and perceptions of their coach/instructor. A sample item reads: "The coach/instructor was enthusiastic about teaching/coaching." Responses on both scales ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

The chart below shows the mean responses on these two scales for each group. Teachers generally found the professional development models to be valuable and had positive perceptions of their coach/instructor. HLMs revealed that there were no statistically significant differences among the three groups.



Conclusions

Teachers in all three professional development models showed significant improvements in Instructional Support during the time they were participating in the *CLASS*-based professional development. The teachers in the two models with coaching (PLC-C and MMCI w/C) also showed significant improvements in Emotional Support, and teachers in PLC-C showed significant improvements in Classroom Organization.

The improvements in Instructional Support are important because there is some evidence that it is the domain most strongly associated with changes in children's early academic skills (Mashburn et al., 2008) and it was the primary target of all three professional development models. The fact that the teachers improved more in the targeted domain than in the other domains increases our confidence that the changes resulted from the professional development. We would expect the improvements to be comparable across domains if changes were the result of simply wanting to improve or growing familiarity with the children during the school year. Further, after accounting for pretest scores, all three *CLASS*-based professional development groups had higher posttest scores in all three domains than a group of randomly selected teachers in a control group from another study who had not received *CLASS*-specific professional development. This comparison lends further confidence to the finding that changes seen in the three professional development conditions across the year were linked to the professional development experiences.

Nonetheless, the findings must be interpreted with caution. Sites for the *CLASS*-Related PD project were selected for participation based on directors' interest and consultants' ability to provide the supports in their region. Thus, we cannot be certain that these same types of results would be seen if these supports were provided on a broad scale to many teachers of various levels of commitment. Additionally, these same teachers might have shown equivalent improvements during this year if they had received DECAL's standard professional development or no professional development at all. Many Georgia's Pre-K teachers are familiar with the *CLASS* and the importance of Instructional Support, so motivated teachers might find ways of improving in that domain even without these professional development activities. Although the comparison with the control group from the Georgia's Pre-K Professional Development Evaluation are interesting, they too must be interpreted with caution because that control group was from another study, during a different academic year and using different *CLASS* observers.

Provision of these professional development supports demonstrates DECAL's ongoing commitment to high-quality teacher-child interactions in Georgia's Pre-K classrooms. The fact that teachers showed improvements while participating is encouraging. While all three groups demonstrated increases in Instructional Support scores, at the end of the year those scores remained at the low end of the mid-range. Similar findings resulted from a more tightly controlled study of MTP and MMCI published in 2014 (Early et al., 2014). Although these results are promising, continued work is needed to create and implement models that will result in all pre-k teachers engaging in high-quality interactions with their students.

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