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Promoting Student–Teacher Interactions: Exploring a Peer Coaching Model for Teachers in a Preschool Setting

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Abstract

Peer coaching provides an attractive alternative to traditional professional development for promoting classroom quality in a sustainable, cost-effective manner by creating a collaborative teaching community. This exploratory study describes the development and evaluation of the Colleague Observation And CoachIng (COACH) program, a peer coaching program designed to increase teachers' effectiveness in enhancing classroom quality in a preschool Head Start setting. The COACH program consists of a training workshop on coaching skills and student-teacher interactions, six peer coaching sessions, and three center meetings. Pre-post observations of emotional support, classroom organization, and instructional support using the Classroom Assessment Scoring System of twelve classrooms assigned to peer coaching were compared to twelve control classrooms at baseline and following the intervention. Findings provide preliminary support that the peer coaching program is perceived as acceptable and feasible by the participating preschool teachers and that it may strengthen student–teacher interactions. Further program refinement and evaluation with larger samples is needed to enhance student–teacher interactions and, ultimately, children's adaptive development.

Keywords

Peer coaching; Professional development; Student–teacher interactions; Classroom quality; Head Start; Professional learning communities

Introduction

Improving student–teacher interactions is a top priority for preschools with the goal of placing students on a positive developmental trajectory. Many professional development programs with this aim are only minimally effective and typically rely on workshop training

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Compliance with Ethical Standards

Conflict of interests The authors declare that they have no conflict of interest.

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Informed Consent Informed consent was obtained from all individual participants included in the study.

(Glazer and Hannafin 2006; Hamre et al. 2012; Pianta et al. 2008b). Consultation and coaching models are increasingly used to enhance professional development; however, these activities are varied and evaluations have been primarily descriptive and correlational (Denton and Hasbrouck 2009). Peer coaching programs provide a sustainable, cost-effective alternative by fostering a teaching community that encourages observation and reflection about best classroom practices (Denton and Hasbrouck 2009; Kurtts and Levin 2000). Thus, the aims of the current study were to describe the development of the Colleague Observation And CoachIng (COACH) program, a peer coaching program, and to explore its preliminary effects, acceptability, and feasibility in improving student–teacher interactions.

Importance of Student–Teacher Interactions in Preschool

Student–teacher interactions are vital to student development and teachers are recognized as the centerpiece or the change agent (Donnell and Gettinger 2015; Pas et al. 2014). Subsequently, new policies for monitoring the effectiveness of early education programs stress the importance of measuring and promoting classroom quality and student–teacher interactions (Improving Head Start for School Readiness Act of 2007; Tout et al. 2010). One widely-used model of classroom quality (i.e., Classroom Assessment Scoring System) has identified three domains of student–teacher interactions (Hamre and Pianta 2007; Pianta et al. 2008a). Emotional support encompasses positive student–teacher relationships and child-centered teaching practices; it is demonstrated by teachers when they acknowledge children’s feelings, support positive relationships, and emphasize children’s interests. Classroom organization reflects the degree to which the classroom is organized and managed to promote optimal learning and includes establishing clear expectations and maximizing learning time via activities and routines. Instructional support captures the effectiveness of learning strategies designed to enhance metacognitive skills through promoting higher-order thinking, providing information, and engaging in frequent conversation with open-ended questions.

Positive student–teacher interactions across the three domains have been associated with higher levels of children’s social competence, lower levels of problem behaviors, and higher academic achievement (Hamre and Pianta 2005; Lambert et al. 2002; Mashburn et al. 2008). Research suggests that children at risk of social–emotional difficulties, such as those attending Head Start preschools, benefit from high quality classrooms more than children with low risk profiles (Burchinal et al. 2010; Hamre and Pianta 2005; Johnson et al. 2013; Rimm-Kaufman et al. 2002). Yet, schools servicing disadvantaged children are often rated lower on classroom quality than the national average (Hamre and Pianta 2007; LoCasale-Crouch et al. 2007).

Effective Professional Development

Traditionally, many programs that seek to improve preschool classrooms are based on a professional development model that relies extensively on didactic workshop training, which has generally not proved effective with low rates of transfer of skills to the classroom (Glazer and Hannafin 2006; Hamre et al. 2012; Sheridan et al. 2009; Showers and Joyce 1996). By contrast, programs that combine multiple components, such as in-service training, consultation, and individualized feedback, have produced more promising and sustainable

benefits (Hamre et al. 2012; Joyce and Showers 1980; Onchwari and Keengwe 2008; Pianta et al. 2008b; Rudd et al. 2009; Sheridan et al. 2009). Pianta and colleagues (2008b) have suggested that programs designed to improve student–teacher interactions will be more successful if teachers can observe effective interactions and receive feedback. Thus, consultation models are increasingly being used; however, these models have several barriers such as limited time and resources and negative perceptions of external consultants. Teachers may view external consultants as mandated thereby reducing their autonomy and the formation of a collaborative relationship (Rust et al. 2001). Furthermore, consultation models are increasingly utilizing technological tools such as uploading videos, accessing video exemplars, and receiving electronic feedback, which raises concerns with teachers' comfort and familiarity resulting in inconsistent adherence and fidelity (Downer et al. 2009). These challenges are particularly relevant when considering the trend, both in the United States and internationally, to improve in-service training in areas where resources and access to experts and technology may be more limited (McDermott and Allen 2015; Piper and Zuilkowski 2015).

The professional development literature has identified several elements to increase effectiveness: establishing practices that are ongoing, collaborative, and embedded in school culture; providing training, practice, and feedback; engaging with the teacher as a professional; and providing opportunities for teachers to interact with peers (Garet et al. 2001; Han 2014; Wilson and Berne 1999). Additional elements, identified by Joyce and Showers (1980, 1996), include presentation of theory or description of skill or strategy, modeling or demonstration of skills, practice in simulated or classroom settings, structured and open-ended feedback, and coaching for application. The importance of collective efficacy and situated professional development is further relevant for increasing a school's capacity for sustaining continued teacher growth (Glazer and Hannafin 2006). Peer coaching provides a professional development tool that can incorporate myriad of these elements.

Peer Coaching

Peer coaching offers a professional development model that addresses the growing recognition of how active and practice-based approaches contribute to more effective teaching and better classroom environments. Peer coaching developed as one potential solution to address the low rates of transfer from typical teacher education to the classroom (Showers and Joyce 1996). Throughout the last few decades, the benefits of peer coaching as a tool that utilizes the identified components of successful learning (e.g., modeling, practice, feedback) have been consistently confirmed (Showers and Joyce 1996). Similarly, more research has continued to elaborate on the principles of the peer coaching process that promote its effectiveness (Showers 1985; Showers and Joyce 1996). Consequently, professional development models based on peer coaching are progressively being used more frequently to target teachers' skill development (Topping and Ehly 2001). For further information on the evolution of peer coaching, see Showers and Joyce 1996.

Peer coaching provides teachers with the opportunity to work together and receive support from other teachers (Anderson et al. 2005; Kurtts and Levin 2000; Lu 2010). This support may be particularly beneficial for new teachers who are likely to experience stress and low

satisfaction in the work environment (Peterson et al. 2010). Peer coaching also removes some of the evaluative and judgmental qualities that may characterize teachers' relationships with external consultants. Furthermore, peer coaching addresses the need for sustainable and cost-effective professional development models; consequently, it has started to be adopted as an in-service model in low-resource settings both in the United States and internationally (Piper and Zuilkowski 2015; Sheridan et al. 2009).

A unique feature of peer coaching is its ability to foster collaborative and supportive relationships amongst peers. These relationships are fostered through the use of supportive feedback techniques that help teachers focus on their goals, while maintaining a positive attitude toward the learning process (Neubert and McNelis 1990). This level of collaboration helps to reduce feelings of professional isolation and may also help to promote teacher affiliation and collective efficacy (Britton and Anderson 2010; Kurtts and Levin 2000). Research suggests that teachers who help and support each other feel more empowered and develop a collective efficacy, and are therefore more eager to learn and improve (Goddard et al. 2000).

Current Study

Although peer coaching has successfully been used with preservice teachers (Anderson et al. 2005; Kurtts and Levin 2000; Lu 2010), surprisingly few programs have utilized a peer coaching model for ongoing professional development. The Colleague Observation And CoacHing (COACH) program was designed to address this gap. The COACH program aimed to improve student–teacher interactions through peer observation, peer discussions, and reflection. The COACH program combines peer coaching with the elements of effective professional development, such as placing the teacher into the role of the professional and providing an ongoing, practice-oriented tool embedded in the classroom context. The current study was designed to preliminarily evaluate the effects of the COACH program on the quality of student–teacher interactions. Four Head Start schools were randomly assigned to the program with twelve teachers in the COACH condition and twelve teachers in a control condition. Independent raters observed student–teacher interactions both before and after the program. It was hypothesized that teachers participating in peer coaching would have more positive student–teacher interactions than control teachers at the conclusion of the COACH program.

Methods

Study Design and Procedures

The current study utilized a treatment–control design. The collaborative nature of the intervention at the school level prevented the random assignment of individual teachers to conditions. Instead, treatment condition was assigned at the school level. Two Head Start schools (12 classrooms) were randomly assigned to treatment (COACH program), and the other two schools (12 classrooms) were randomized to a control condition. Trained research assistants who were blind to condition collected baseline observations of classrooms during a 2-week period, approximately 2 weeks after the beginning of the school year. This delay allowed children time to acclimate to the program and teachers to become acquainted with

the children in their classroom. At this time, teachers also completed demographic questionnaires. Following the baseline data collection, teachers assigned to the COACH program participated in a workshop after school, for which they were paid \$30, and completed peer coaching over the course of a total of 7 weeks. Post-intervention observations were collected from all teachers 2 months after the baseline assessments, as well as feedback surveys from teachers who received peer coaching.

Participants

Twenty-four teachers in four urban Head Start preschools in a mid-Atlantic state participated. The four schools were located within a few miles of one another and were comprised primarily of African American and Hispanic children. The schools were randomly assigned to treatment and control conditions via a random number generator. All lead teachers (i.e., no assistant teachers) from each school were invited to and agreed to participate in the study with no exclusionary criterion (e.g., minimum years of experience). Teachers ranged in age from 25 to 68 years ($M = 43.13$; $SD = 12.81$). Teacher-reported race and ethnicity indicated that 71 % were African American, 12 % were Hispanic/Latino, and 17 % were Non-Hispanic White. Teachers indicated that 42 % had an Associate Degree, 50 % had a Bachelor's Degree, and 8 % had a Master's Degree or higher. Teachers reported having 0–35 years ($M = 15.75$; $SD = 10.11$) of teaching experience overall and 0 to 28 years ($M = 7.40$; $SD = 9.63$) of teaching experience in the particular Head Start district. The number of children per classroom ranged from 13 to 20 ($M = 17.54$; $SD = 2.17$). There were no significant differences on any teacher or classroom demographic variables between the two conditions.

The Colleague Observation And CoachIng (COACH) Program

Workshop Component—Teachers assigned to the COACH program attended two 1.5-h training sessions led by the first author. The workshop sessions had two aims. The first aim was to review the importance of student–teacher interactions and relevant strategies. Videos of preschool classrooms allowed teachers to identify specific strategies that enhance student–teacher interactions (e.g., specific praise, open-ended questions, joining in activities, involving students in tasks, personalizing communication). The second aim was to learn about and practice observing and coaching another teacher. Peer coaching training incorporated the praise-question-polish feedback technique that distinguishes four types of feedback: praise, clarifying questions, eliciting questions, and leading questions (Gottesman 2000; Kurtts and Levin 2000). For praise, peer coaches focused on what went well and why those strategies were effective. For the questioning component, peer coaches asked clarifying questions about observed strategies that they did not understand (e.g., What was your goal when...?), as well as eliciting questions to encourage exploring alternative strategies to use (e.g., What other strategies could you have used instead of...?). Lastly, for the polish component, coaches provided suggestions through leading questions (e.g., What would happen if...?). Role-plays and videos of preschool classrooms were used to provide teachers with the opportunity to practice observing and giving feedback.

Peer Coaching Component—The peer coaching component required teachers to both provide and receive coaching to improve student–teacher interactions. This component

consisted of three consecutive, 2-week periods when teachers had the opportunity to both coach and to receive coaching, resulting in teachers serving as a peer coach on three occasions and as a recipient of coaching on three occasions. Within each school, the pairing of teachers for the peer coaching sessions were rotated after each coaching period so that each teacher worked with three different teachers in order to foster more within school collaboration and to increase the sustainability of the program (e.g., turnover issues). Teachers were provided with worksheets to guide observations, self-reflection, and coaching feedback. Coaching feedback was aligned with the praise-question-polish feedback technique. No formal preparation was needed before peer coaching sessions beyond the workshop training.

Each peer coaching session lasted approximately 45 min. Sessions began with the peer coach conducting a 20-min live observation of another teacher in the classroom. The peer coaches were prompted to look for strategies that they observed to promote positive student–teacher interactions, how students responded to these strategies, and areas that can be improved. After the live observation, 5 min were allotted for the peer coach and recipient to complete feedback and reflection worksheets, respectively. The feedback worksheet instructed the peer coach to apply the praise-question-polish technique by considering praise for effective strategies, clarifying questions to increase understanding of the use of strategies, eliciting questions to prompt teachers to explore alternative strategies, and leading questions to prompt reflection for improvements. The recipients were encouraged to reflect on the effectiveness of strategies used to promote classroom quality and student–teacher interactions as well as their comfort with implementing and sustaining these strategies. Feedback was provided for 10 min following the classroom observation, using these worksheets as a guide. After the feedback session, the peer coach completed an additional 10-min live observation to allow the coaching recipient to immediately practice strategies discussed during the feedback. Peer coaches and teachers were allowed flexibility in determining where to meet for the discussion to minimize interruptions.

School Meeting Component—The third component consisted of three school-wide meetings that were attended by all teachers participating in the COACH program. These meetings were held at the conclusion of each 2-week coaching period for approximately 30–45 min and were guided by the school principal. The meetings offered teachers an opportunity to provide specific examples of strategies they had either observed or used themselves that related to promoting positive student–teacher interactions. The meetings also allowed teachers the opportunity to discuss any difficulties they were having and to consider how to improve their own coaching skills. The first author attended these meetings to provide assistance and to monitor adherence to the intervention protocol by collecting completed feedback and reflection worksheets.

Control Group

The two schools assigned to the control condition conducted teaching and professional development as usual, which consisted of regularly scheduled in-service programming provided to all schools; the treatment schools continued to receive these services as well.

Measures

Demographic Questionnaire—All classroom teachers completed a demographic questionnaire at the start of the school year. Questions included age, gender, race, ethnicity, education level, years teaching, and number of children in the class.

Classroom Assessment Scoring System—Student–teacher interactions were observed with the Pre-K Classroom Assessment Scoring System (CLASS; Pianta et al. 2008a) by nine raters. Undergraduate research assistants were trained in the use of the structured classroom observation system using a standardized manual that provided extensive descriptions of codes. Raters were trained with standard video clips previously rated by CLASS authors and they were required to reach 80 % agreement within one scale point on the global ratings before the end of the training period. At baseline and post-intervention, coders observed each classroom for four 20-min cycles over a 2-h period at the start of the day. Observers used a set of ten 7-point rating scales (1 and 2 reflect low; 3, 4, and 5 reflect mid; and 6 and 7 reflect high) in three domains: Emotional Support, Classroom Organization, and Instructional Support. To prevent drift between the two data collection periods, observers were again required to reach 80 % agreement prior to the second data collection. Two raters co-assessed 46 % of the classrooms at regular intervals throughout the data collection process at both time points. The intraclass correlations were .93 and .94 at the two respective time points, suggesting a high degree of reliability among observers. The alphas for the three domains at both time points ranged from .85 to .92 in the current study. The Pre-K CLASS has received significant psychometric support and it has been deemed to be a valid and reliable measurement tool for early childhood classrooms, including in Head Start (LoCasale-Crouch et al. 2007). The CLASS assessment has also demonstrated sensitivity to change (Hamre et al. 2012; Pianta et al. 2008b).

Acceptability and Feedback Questionnaire—After each coaching session as a recipient of peer coaching, the coached teachers completed a satisfaction questionnaire developed for the specific study. Specifically, the post-coaching session questionnaire included five questions on a scale of 1 (strongly disagree) to 5 (strongly agree) about usefulness for developing teaching, usefulness of time, comfort level, learning of new information, and progress towards personal goals ($\alpha = .78$). The final post-intervention questionnaire included seven questions on a scale of 1 (not at all useful/satisfied/comfortable) to 5 (extremely useful/satisfied/comfortable) and one question on whether they would like the program continued at their school (eight questions total; $\alpha = .72$). The questions assessed the usefulness of all three components of the intervention, as well as comfort with coaching and satisfaction with the program.

Overview of Analyses

This study provided a preliminary implementation of the COACH program to explore its effects, acceptability, and feasibility for improving student–teacher interactions. Descriptive analyses included paired samples pre-post *t* tests run separately for treatment and control teachers with regards to emotional support, classroom organization, and instructional support, as well as the comprising dimensions. Cohen's *d* effect sizes estimated the relative size of significant pre to post changes. Intervention effects were examined using repeated

measures ANOVAs to evaluate whether classrooms in the COACH condition showed more improvement in student–teacher interactions than control classrooms.

Results

Baseline Descriptive Data and Correlations

Means and standard deviations for the student–teacher interaction dimensions for each condition are presented in Table 1. There were no missing data or baseline treatment differences on any of the outcomes. Baseline observations (possible range from 1 to 7) of teachers' emotional support generally fell at the high end of the mid range (mean = 5.17; range = 3.63–6.19), classroom organization within the mid range (mean = 4.47; range = 2.75–5.58), and instructional support within the low range (mean = 2.11; range = 1.33–3.17).

Descriptive Analyses of Outcome Variables

Paired samples pre-post *t* tests compared differences in student–teacher interactions separately for the two intervention conditions (see Table 1). Teachers in the COACH program showed a significant increase in the domain of emotional support with mean observed ratings increasing from 5.13 to 5.49, $t(11) = -2.81$, $p = .017$. The significant increase was specifically observed in the positive climate and teachers' regard for student perspectives dimensions of emotional support. CLASS ratings also indicated significant improvements in the classroom organization domain for classrooms in the COACH program with mean observed ratings increasing from 4.33 to 4.92, $t(11) = -3.24$, $p = .008$. The significant improvements were observed in all three of the classroom organization dimensions: behavior management, productivity, and instructional learning formats. Classrooms in the control condition did not show significant change in pre and post classroom observations in any of the student–teacher interaction indicators, with the exception of a significant decrease in the single dimension of negative climate within emotional support. The Cohen's *d* effect sizes for the COACH condition ranged from .19 to .93. They ranged from .03 to .28 in the control group excluding the large Cohen's *d* of 1.02 for negative climate.

Intervention Effects on Outcome Variables

Repeated measures ANOVAs examined treatment condition as the between-classroom factor interacting with the repeated pre and post treatment observations of emotional support, classroom organization, and instructional support. Treatment condition did not moderate observed change on the emotional support domain, $F(1, 22) = .55$, *ns*; however, the effect of the COACH program approached significance in the expected direction on the positive climate dimension, $F(1, 22) = 4.04$, $p = .057$. The COACH program did produce a significant effect on classroom organization, $F(1, 22) = 5.34$, $p = .031$, with the COACH classrooms showing increased levels of organization compared to classrooms in the control condition. Further repeated measures ANOVA analysis of the dimensions that composed the classroom organization domain indicated that the treatment effect on classroom organization was significant for the productivity dimension, $F(1, 22) = 6.33$, $p = .02$, and approached significance both for the behavior management dimension, $F(1, 22) = 1.61$, $p = .068$, and the

instructional learning formats dimension, $F(1, 22) = 4.16, p = .054$. Lastly, treatment condition did not moderate observed change on the instructional support domain, $F(1, 22) = .22, ns$.

Feasibility and Acceptability of Intervention

Teachers receiving the COACH program attended both workshops and completed all six peer coaching sessions within the 7 weeks. After each session, recipients of coaching were asked to reflect on the session and its usefulness. Teachers reported that they agreed that the coaching was helpful across all three sessions. At the conclusion of the COACH program, all teachers indicated that they viewed the program as acceptable and useful and all indicated that they would be open to continuing the COACH program. Specifically, on a scale of 1 (not at all useful) to 5 (extremely useful), teachers rated the workshop as 4.25, coaching overall as 4.25, receiving coaching as 4.17, observing and coaching as 3.92, and the school meetings as 4.00. Teachers also reported on their comfort with serving as coaches with a mean score of 3.83 and specifically 58 % indicating that they felt very to extremely comfortable providing feedback to another teacher with the remainder feeling moderately comfortable. Lastly, overall satisfaction with the COACH program was rated as 4.25, with scores ranging from 3 to 5.

Discussion

Peer coaching provides a collaborative framework that encourages teachers to observe, reflect, and problem solve together with the goal of enhancing classroom quality and, ultimately, teaching effectiveness and student outcomes. Most research investigating peer coaching models is theoretical or correlational, and primarily targets a preservice population (Denton and Hasbrouck 2009; Lu 2010). The current findings provide some preliminary support for the effectiveness and acceptability of the Colleague Observation And CoachIng (COACH) program in a preschool setting. Classrooms of teachers who participated in peer coaching made some positive gains in student–teacher interactions, pointing to the potential benefits of the peer coaching framework and suggesting avenues for further evaluation of the COACH program.

Across the three student–teacher interaction domains of classroom quality, the COACH classrooms showed significant gains in classroom organization in comparison to control classrooms. More specifically, gains were most notable in the productivity and instructional learning formats dimensions of classroom organization. There were no significant treatment effects on the other two domains (emotional support and instructional support). However, the COACH classrooms did show significant pre-post increases in the overall domain of emotional support, and specifically gains in the positive climate and regard for student perspectives dimensions within this domain. This pattern suggests the possibility of limited power in the ANOVA analyses to detect a significant effect. By comparison, the lack of pre-post change in the three student–teacher interaction domains in the control condition supports previous research suggesting that classroom quality is relatively stable without intervention (Curby et al. 2010). Therefore, the peer coaching appears to demonstrate

potential in helping teachers to incorporate new strategies to improve interactions with their students.

The pattern of findings sheds some light on the interactions of teachers in the peer coaching condition. Research suggests that teachers, particularly less experienced teachers, are more concerned with classroom management and classroom tasks as compared to other aspects of classrooms, which results in a tendency to attend to these aspects (Star and Strickland 2008). If classroom management concerns were a high priority for the current teachers, this might account for why peer observation and discussion led to gains in productivity, which reflects routines and provision of activities. Similarly, gains in instructional learning formats reflect strategies that maximize students' interest (such as creative materials and teacher involvement) (Pianta et al. 2008a). These aspects of classroom organization are highly visible activities that are readily apparent to a peer observer and a natural topic for peer feedback and discussion and were often a topic of conversation during the school meetings.

Although there was no treatment effect on emotional support, there were significant pre-post gains in this domain for teachers who participated in the peer coaching. Emotional support is consistently rated as more stable and higher than the other domains (Curby et al. 2010; Hamre and Pianta 2007), thereby making it more difficult to detect change in a brief intervention. In the current study, emotional support was observed to be in the high end of the mid range whereas the other two domains, classroom organization and instructional support, were rated lower. As a result, gains in emotional support may have been vulnerable to a ceiling effect. Another possibility is that teachers may view emotional support as a secondary concern and less salient than classroom management and instruction. While there were no gains in instructional support, this is not surprising given the consistently low scores in this domain found across the literature and a greater focus on rote learning during preschool (Hamre and Pianta 2007).

The results also support the feasibility of implementing the COACH program in Head Start schools. All teachers in the schools assigned to the COACH program participated in the workshops and school meetings, and successfully completed all of the peer coaching sessions. Furthermore, teachers rated the program as acceptable and indicated that they would like it to continue and even expand to include additional staff and schools. These indicators of feasibility and acceptability suggest that the peer coaching model may be transportable to other preschool settings, particularly those with limited resources. Although some teachers expressed discomfort with observing and providing feedback to other teachers, this discomfort could have resulted from rotating peer coaching pairs as opposed to establishing consistent pairs or due to differences in years of experience within the pair. While comfort and trust are important for successful professional development, the variability of coaching pairs and, consequently, teaching experience within a pair, may also be important for the development of teacher affiliation and collective efficacy. Means to improve comfort level could be explored, perhaps by providing more modeling of the coaching process or by increasing the number of peer coaching sessions in order to promote familiarity.

Limitations and Future Directions

A principal limitation of this study stems from the small number of teachers and schools. The current sample of 24 teachers in four schools reduces generalizability and reduces the statistical power to detect intervention effects. Furthermore, the sampling at the level of the school fell short of true randomization and could not rule out effects that may result from differences between schools. Therefore, it would be beneficial to evaluate the COACH program in a larger number of schools to reduce the possibility of errors due to cluster sampling. Despite these limitations, this randomized preliminary study of a peer coaching model addresses a current gap in the literature and provides a foundation upon which to build subsequent research.

Several other limitations of the study design suggest avenues for future research. While all teachers completed every worksheet indicating their completion of peer coaching sessions, the current study lacked a system to measure teachers' implementation fidelity. Future research could include a qualitative component to assess what teachers focused on during observations and peer coaching as well as focus groups to allow teachers to provide additional feedback. Furthermore, follow-up observations to evaluate the maintenance of effects to assess the degree to which the COACH program has enduring effects on student–teacher interactions would further benefit the field. Finally, future studies should also link gains in student–teacher interactions that result from the COACH program to gains in children's social, emotional, and academic outcomes. While the current study did not assess student outcomes, the significant pre-post improvements among the teachers that participated in peer coaching have the potential to facilitate gains in student learning and emotional adjustment. This is supported by research describing how the beneficial effects of increases in classroom quality on children's outcomes do not simply level off after meeting a minimal classroom quality (Burchinal et al. 2010) and therefore any increase in quality, even at the higher end of the range, is important.

Conclusions and Implications

In spite of an extensive literature on coaching and consultation, questions remain regarding the best models for supporting sustainable and cost-effective professional development. Peer observation and coaching have shown considerable effectiveness among preservice teachers but have been less frequently used with in-service teachers. The current findings suggest that peer coaching has the potential to promote the quality of student–teacher interactions in a preschool setting. These preliminary findings highlight the feasibility and effectiveness of the COACH program and suggest the need for continued research into the development and refinement of the COACH program. This study lends further support to programs that incorporate coaching and peer learning networks as effective elements for enhancing classroom quality and supporting young children's adaptive development. These programs may be particularly important for teachers serving high risk, economically disadvantaged children, as well as teachers in low-resource settings, both domestically and internationally. Peer coaching, therefore, is an attractive model that warrants further scale-up efforts with significant implications for increasing the effectiveness of professional development.

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Table 1
Paired *T* test differences on student–teacher interactions for peer coaching (top) and control (bottom) conditions

	Peer coaching <i>M</i> (<i>SD</i>) <i>n</i> = 12		95 % CI of the difference		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	Pre	Post	Lower	Upper			
Emotional support	5.13 (0.67)	5.49 (0.63)	-.64	-.08	-2.81	.017*	.55
Positive climate	4.81 (0.79)	5.48 (0.75)	-1.10	-.24	-3.41	.006**	.87
Negative climate	1.42 (0.57)	1.27 (0.25)	-.18	.47	1.00	.339	.34
Teacher sensitivity	4.56 (0.78)	4.79 (0.91)	-.71	.25	-1.06	.312	.27
Regard for student perspectives	4.56 (0.95)	4.96 (0.95)	-.76	-.03	-2.37	.037*	.42
Classroom organization	4.33 (0.70)	4.92 (0.80)	-1.00	-.19	-3.24	.008**	.78
Behavior management	4.46 (0.86)	4.90 (0.77)	-.77	-.10	-2.90	.015*	.54
Productivity	4.92 (0.72)	5.52 (0.87)	-.08	-.13	-2.79	.018*	.75
Instructional learning formats	3.60 (0.69)	4.35 (0.91)	-1.33	-.17	-2.85	.016*	.93
Instructional support	2.19 (0.55)	2.28 (0.40)	-.35	.17	-.76	.462	.19
Concept development	1.94 (0.58)	2.13 (0.46)	-.55	.18	-1.13	.283	.36
Quality of feedback	2.06 (0.61)	2.31 (0.39)	-.54	.04	-1.92	.082	.49
Language modeling	2.58 (0.64)	2.42 (0.55)	-.19	.53	1.02	.331	.27
Control <i>M</i> (<i>SD</i>) <i>n</i> = 12							
	Pre	Post	Lower	Upper	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Emotional support	5.21 (0.68)	5.38 (0.58)	-.66	.33	-.74	.474	.27
Positive climate	5.00 (0.69)	5.10 (0.75)	-.55	.34	-.52	.614	.14
Negative climate	1.44 (0.45)	1.08 (0.22)	.01	.70	2.28	.043*	1.02
Teacher sensitivity	4.54 (1.02)	4.60 (0.93)	-.81	.69	-.18	.858	.06
Regard for student perspectives	4.75 (1.08)	4.90 (0.74)	-1.07	.78	-.35	.736	.16
Classroom organization	4.61 (0.55)	4.54 (0.73)	-.42	.56	.31	.760	.11
Behavior management	4.73 (0.91)	4.80 (0.78)	-.62	.50	-.25	.810	.08
Productivity	5.25 (0.51)	5.10 (0.69)	-.31	.60	.71	.492	.25

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	Peer coaching <i>M (SD)</i> <i>n</i> = 12		95 % CI of the difference		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	Pre	Post	Lower	Upper			
Instructional learning formats	3.85 (0.63)	3.73 (0.86)	-.62	.87	.37	.719	.16
Instructional support	2.02 (0.37)	1.99 (0.48)	-.47	.52	.12	.904	.07
Concept development	1.73 (0.39)	1.80 (0.52)	-.55	.42	-.28	.782	.15
Quality of feedback	2.00 (0.44)	1.88 (0.41)	-.31	.56	.64	.536	.28
Language modeling	2.33 (0.60)	2.31 (0.66)	-.69	.73	.06	.950	.03

**
p < .01,

*
p < .05