
# JOURNAL OF SCHOOL CONNECTIONS

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# *Journal of School Connections*



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# *JOURNAL OF SCHOOL CONNECTIONS*

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# *JOURNAL OF SCHOOL CONNECTIONS*

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## CONTENTS

# Editors' Introduction

Welcome to the inaugural issue of the *Journal of School Connections (JSC)*! Launching any scholarly journal is a tremendous undertaking that requires rigor, commitment, persistence, and time. However, without the necessary support and collaboration, *JSC* would not have been debuted. We are particularly grateful to President Dawood Farahi of Kean University for his support, and to Dr. Frank Esposito (former interim dean of the College of Education) for initiating the idea of establishing a refereed journal that would advance from a well-established but college-based journal known as *School Connections* (founded by Dr. Dorothy Hennings, a Kean professor emerita). Hence, it is only fitting that we named this new scholarly publication *Journal of School Connections* with the mission to publish high-quality articles devoted to enhancing student learning and teaching practices from preschool through high school. We are honored to have been appointed by Dr. Esposito to serve as founding co-editors of this important journal.

In a knowledge-demanding era, the thirst for wisdom is ever burgeoning. As a refereed journal, *JSC* provides another outlet for intellectual contribution and knowledge dissemination to reach national and international audiences of both academics and practitioners. The achievement of this inaugural issue is a result of a collaborative effort. We gratefully acknowledge our Editorial Review Board and guest reviewers whose expertise has ensured that *JSC* publishes papers of the highest quality. We also thank our authors whose scholarly contributions have introduced *JSC*.

As you will read, the four articles constituting this issue were derived from quantitative as well as qualitative research using a variety of methodologies, such as observations and questionnaires. The research findings presented clearly help advance knowledge of topics bearing great significance to advancing teaching and learning in the U.S. and elsewhere: from Lam and Lau's quest to understand factors contributing to Hong Kong teachers' acceptance of peer coaching as a professional development strategy; Freedson's investigation of the role of literacy instruction in the early literacy outcomes of young Spanish-speaking, English language learners from low-income families; Viscovich, Eschenauer, Sinatra and Beasley's quasi-experimental study of the effects of various organizational structures on children's critical thinking; to Brown's case study of teachers' use of comprehension strategies during core instruction.

As *JSC* aspires to continue making significant contributions to the education field by publishing fine articles, we invite you to join our efforts by participating as an expert reviewer of manuscripts or a contributing author. Your support as a reader will also play an important role in realizing the mission of *JSC*. Together, we can help advance knowledge and translate research into practice, thereby enhancing the learning of educators and students alike.

**JENNIFER J.-L. CHEN DIANE H. TRACEY**

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# Teachers' Acceptance of Peer Coaching: Impact of Collegiality and Goal Orientation

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*Two studies were conducted to examine how collegiality and goal orientation affected teachers' acceptance of peer coaching as a means of professional development. A total of 335 Hong Kong teachers participated in these two studies (N = 70 for Study 1; N = 225 for Study 2). The teachers completed a questionnaire that measured their acceptance of peer coaching, perception of collegial school culture, and goal orientation. It was found that collegiality and learning goal orientation were positively associated with acceptance of peer coaching. Both studies showed that when teachers perceived higher collegiality in their schools and preferred learning to performance goals, they were more willing to participate in peer coaching and evaluated it more favorably.*

**KEY WORDS:** teacher development, peer coaching, collegiality, goal orientation

To remain viable and productive in a society with constant changes, organizations and individuals alike depend greatly on the ability to learn. Schools and teachers are no exception. In 2001, the Hong Kong government initiated a series of large-scale education reform measures that cover all stages of education from early childhood to continuing adult education (Education Commission, 2001). This reform is in line with the large-scale education reforms that have been developing since the 1990s in some western (Fullan, 2000) as well as Asian countries (Kim, 2004). It is propelled by a strong demand from society emphasizing that students should learn how to meet the challenges of an increasingly knowledge-

based and fast-changing world. New curricula in Hong Kong are required to promote not only subject area knowledge but also general skills in students (Curriculum Development Council, 2001). These skills include collaboration, communication, and problem-solving skills. Under the mounting pressure to provide quality education in this era of changes and reforms, schools can no longer just rely on mechanisms for recruiting competent teachers to meet new challenges. "Learning for life" is definitely an answer to the challenges in this time of knowledge explosion and rapid changes. Teachers need to learn, refresh, and polish their teaching skills continuously.

Among various forms of staff development activities, peer coaching has been studied and recognized as an effective means to enhance teaching quality (e.g., Bowman & McCormick, 2000; Gottesman & Jennings, 1994; Hasbrouck, 1997; Hasbrouck & Christen, 1997; Joyce & Showers, 1983). Peer coaching is a process of teachers helping teachers to reflect on present practices, learn new skills, and solve classroom-related problems through mutual goal setting, classroom observation and collegial feedback (Dalton & Moir, 1991; Galbraith & Anstrom, 1995). This form of professional development was first advocated by Showers (1984), who was concerned about the transfer of professional learning experiences to classroom practices. Traditional teacher development activities are usually in the form of one-shot workshops or refresher courses that are conducted outside of the school day. However, many educational researchers (e.g., Fullan & Stiegelbauer, 1991; Gottesman & Jennings, 1994; Loucks-Horseley, Hewson, Love, & Stiles, 1998; Mousa, 2002) have been doubtful about the effects of these isolated professional learning experiences that fail to provide on-site support for and continual feedback on classroom practices. Brown, Collins and Duguid (1989) argued that skills and strategies cannot transfer well if they are not learned in situated contexts. In view of the inadequacies of traditional professional learning activities, researchers and practitioners need to seek alternative methods that support a teaching community's development and sustain continual professional growth for teachers (Glazer, & Hannafin, 2006). One such alternative is peer coaching.

Peer coaching is different from traditional activities which do not provide on-site continual coaching. In contrast, it is based on continuous, collegial interaction and support in the schools. Many researchers have found that the use of peer coaching could maximize the transfer of professional learning to actual practice in the classroom (Bowman & McCormick, 2000; Hasbrouck, 1997; Hasbrouck & Christen, 1997; Joyce & Showers, 1983; Kohler, Crilley, Shearer, & Good, 1997; Morgan, Menlove, Salzberg & Hudson, 1994; Showers, 1984; Sparks, 1988). For example, using a multiple baseline design, Morgan et al. (1997) found that peer

coaching increased the effectiveness of the pre-service teachers' teaching as indicated in students' mastery of the learning task. Similarly, Kohler and his colleagues (1997) found that peer coaching helped elementary school teachers make more improvements in instructional approach and these improvements were sustained in a follow-up or maintenance condition.

Despite the wide recognition of its effectiveness in teacher development, peer coaching is often received by teachers with lukewarm support and even outright resistance. Lam (2001) conducted a questionnaire survey with about 2,400 teachers in Hong Kong and found that over 25% of them indicated that they did not welcome colleagues observing their classes. There is a subtle resistance from teachers against having another adult in their classrooms. Perhaps classroom isolation is one of the most pervasive characteristics of teaching. Teachers in separate classes are usually isolated and detached from one another's work. An interesting remark made by Gottesman and Jennings (1994) aptly described the isolation mentality of teachers: "Just give me my students and let me close the door and teach my students" (p. 19). Isolation may protect teachers from inspection and intrusion, but it also deprives them of the opportunities to reflect on crucial aspects of learning that they could otherwise learn from and share with one another.

The resistance to peer coaching, ironically, contradicts the recognition of its effectiveness in teacher development. This irony calls for attention from educators and researchers who are concerned with continuing teacher education. Since improving teaching quality is a pressing concern, there is a need to identify the factors that may influence the extent to which teachers support the practice of peer coaching so as to capitalize on its benefits in teacher development. The present two studies attempted to investigate such underlying factors.

### *School culture and collegiality*

To understand the factors that affect teachers' acceptance of peer coaching, we cannot study teachers' perception and behaviors in a vacuum and ignore the wider social context of the schools. Hargreaves (1988) argued that teaching quality is very much a product of the school context and teacher personal factors. He further pointed out that teachers' behavior is often affected by the environment around them. According to Hargreaves, "teachers are actively interpreting, making sense of, and adjusting to, the demands and requirements their conditions of work place upon them (p.211)." This suggests that school environment, culture and atmosphere may have a positive or negative impact on teachers' behaviors and responses which in turn affect their teaching performance.

In studying school conditions that foster organizational learning,

Leithwood, Jantzi and Steinbach (1998) found that a collaborative and collegial school culture was a significant factor contributing to school learning. Drawing on intensive case studies of mathematics and English teachers in American high schools, Little (2003) also found that norms of mutual support among teachers, informal sharing of ideas and materials, respect for colleagues' ideas and willingness to take risks in attempting new practices were all important aspects associated positively with teachers' own learning. The interactions among teachers that focus on actual classroom performance are potentially the most useful, and yet also the most demanding because they subject teachers to peer scrutiny. These interactions place teachers' self-esteem and professional respect on the line. If there is a lack of collegiality among teachers, peer coaching can be a threatening experience. We therefore expect that collegiality is an important organizational factor that determines teachers' acceptance of peer coaching as a means of professional development. When the collegiality level is high in the school, teachers are more likely to practice peer coaching. Conversely, when collegiality in the school is lacking, teachers are reluctant to let other teachers into their classrooms. They will neither open their teaching for observation and discussion, nor seek help from other teachers when faced with difficulties and challenges.

### *Goal orientation*

While collegiality is an important organizational factor that fosters the practice of peer coaching, goal orientation may be an essential personal factor that determines its acceptance among teachers. As peer coaching exposes how teachers teach to the scrutiny of their peers, it can impose tremendous psychological pressure on those who have high concerns about getting a positive evaluation of their performance. They will spend much time finding resources and preparing teaching materials in order to perform better and look good in front of their peers. Lam's survey (2001) revealed that many Hong Kong teachers felt the psychological pressure to perform well when their teaching was being observed by colleagues.

Teachers' pressure to perform well in front of their peers may be a consequence of their goal orientation. Dweck and her associates (Cain & Dweck, 1995; Dweck, 1986; Dweck & Leggett, 1988) posited that people may have different goal orientations in learning. Some people adopt performance goals aimed at getting positive evaluations and avoiding negative evaluations of their work, whereas others may adopt learning goals targeted at achieving higher levels of competence instead of documenting them. People who are more performance-oriented tend to avoid challenges for fear of losing face when they are not sure of definite success (Dweck

& Legget, 1988, Grant & Dweck, 2003). They perceive negative feedback as an indication of their low ability and thus will reduce effort and even withdraw from the activity if they receive negative feedback. On the basis of the above findings in goal orientation (Cain & Dweck, 1995; Dweck, 1986; Dweck & Leggett, 1988; Grant & Dweck, 2003), we expect that when performance-oriented teachers are not sure of definite success, they are more likely to reject peer coaching, which requires them to be observed and open to others' comments. In contrast, we expect that learning-oriented teachers tend to welcome challenges even though they are not sure of definite success. They tend to perceive feedback, either positive or negative, as an input for growth and development. Compared to performance-oriented teachers, they are more likely to persist and strive under difficult conditions.

Depending on their goal orientation, teachers may perceive peer coaching as either an opportunity to grow or a burden that requires them to do much preparation and makes them subject to others' appraisal or evaluation. In the present studies, we expected that teachers who espoused learning goals would accept peer coaching more readily than their counterparts who espoused performance goals. In other words, acceptance of peer coaching would be positively associated with learning goals but negatively with performance goals.

### *Overview of the two studies*

To investigate how collegiality as an organizational factor, and goal orientation as a personal factor, are related to teachers' acceptance of peer coaching, we conducted two studies with teachers in Hong Kong, a place where large-scale education reform has been launched in recent years. On the one hand, the reform has highlighted the importance of professional development and has urged Hong Kong teachers to learn, refresh, and polish their teaching skills continuously. On the other hand, the emphasis on accountability has pressured Hong Kong teachers to meet performance standards and might have thereby encouraged the attainment of performance goals. In view of these developments, it is meaningful to examine how teachers in Hong Kong perceive and receive peer coaching in a society where education reform is intensive.

The present research comprises two studies. The participants of Study 1 were the teachers of two schools that had previously participated in an action research project on peer coaching (Lam, Yim, & Lam, 2002). These teachers had tried peer coaching for a year and then were evaluated on this particular form of professional development at the end of the project. Study 2 was a survey project with teachers who might not have practiced peer

coaching before. The participants of Study 2 were selected by a random sampling procedure from various schools in Hong Kong. Although the two studies targeted different teacher populations, we expected that teachers' acceptance of peer coaching would be associated with collegiality and goal orientations. It was assumed that the findings would be robust if both studies indicated similar patterns of positive association among collegiality, learning goals, and teachers' acceptance of peer coaching.

## Study 1
## Method

In this study, we investigated how collegiality and goal orientations associated with teachers' acceptance of peer coaching in two schools that had implemented peer coaching.

### *Sample and procedures*

The project was initiated by a research team from the University of Hong Kong and the Education Convergence. The Education Convergence is an active educational body formed by a group of front-line educators in Hong Kong. In response to a note of invitation in the newsletter of the Education Convergence, four schools volunteered to participate in the project. The research team visited all four schools that had indicated interest. In each of these meetings, the principal and department heads of the school were present. Different parties expressed their understanding and expectations of peer coaching. Eventually only two schools were selected because of their readiness for peer coaching and their compatibility of beliefs and values with the other parties of the project. The principals and department heads of these two schools had gained general support from their teachers for the project. All the involved parties agreed to develop peer coaching as a means of professional development detached from staff appraisal. The principals were not involved in the classroom observation and no records of the observation were filed in the appraisal or personnel archives of the teachers.

The participating schools consisted of a primary school with 560 students and 38 teachers, and a secondary school with 900 students and 50 teachers. Both were government subsidized schools with students coming primarily from low to middle socioeconomic backgrounds. Most of the students resided in public housing estates.

This was a year-long project with an evaluation at the end of the school year. The peer-coaching activities taking place in these two schools were similar to the "lesson study" practiced by many Japanese teachers in professional development (Fernandez, Cannon, Chokshi, 2003; Lewis &

Tsuchida, 1998; Shimahara, 1998). In a typical peer-coaching activity, four or five teachers from the same department (e.g. science or language art) discussed and reflected on their classroom teaching, designed and planned teaching materials together, and, finally, were observed by and learned from one another. These teachers first identified an instructional unit (e.g. learning how to write expository articles) to study and then jointly drafted a detailed lesson plan. One of them would teach the lessons to his or her students, while the others observed. After the instructional unit was completed, the teachers would meet to discuss their observations and ideas for how to improve the lessons. This activity was used solely for staff development purposes and was entirely independent from staff appraisal. There were 28 peer-coaching activities in the primary school and 17 in the secondary school during the year. Each peer-coaching activity, as indicated earlier, comprised collaborative preparation for an instruction unit, in-class observation of that instruction unit, and review discussion after that instruction unit was over. The number of peer-coaching activities in each school was decided by the teachers in consultation with their department heads. All of the primary school teachers (N = 30) and about 80% of the secondary school teachers (N = 40) participated at least once in the peer-coaching activities.

After a year of experimenting with peer coaching as a means of professional development, a questionnaire survey was conducted with the teachers from both schools to evaluate the effectiveness of the project. In the primary school, 30 teachers completed the questionnaires (response rate = 75%); in the secondary school, 40 teachers completed them (response rate = 80%). The participants were assured that no personal data would be collected and that their identities would be kept anonymous. Hence, no data about the participants' age and gender were collected for the survey. However, we did collect information about their teaching experience and ranks. They had an average of 6.32 years of teaching experience (range = 1-25 years; SD = 6.43 years). About 29% of them held senior positions, such as department heads, in their schools.

### *Measures*

The questionnaire was written in Chinese and included items that measured the teachers' evaluation of the peer-coaching activity, their willingness to participate, their perception of collegiality in their schools, and their goal orientation. Except for the measure of goal orientation, the teachers were requested to indicate, on a 6-point Likert-type scale, their level of agreement or disagreement with a given statement in each of the measures (from 1 = Strongly Disagree to 6 = Strongly Agree).

*Perceived collegiality.* This scale consisted of 10 items such as "there are trustworthy colleagues I can turn to for advice if I have problems." These items measured friendship, collaboration, trust, and respect among colleagues. They were adapted from the Social Provision Scale developed by Baron and his colleagues (1990) and the Collegial Support Index developed by Schonfeld (1990). The Cronbach's alpha of this scale in this sample was .81, indicating a good level of internal consistency.

*Teachers' goal orientation.* The goal orientation of teachers was measured by three hypothetical scenarios adapted from a staff development program designed by Lam, Law, and Cheung (2000). In each scenario, the teachers were asked to make a choice that would indicate their goal orientation. For example, the teachers were asked what action they would take if they were enrolled in a course on classroom management and the instructor required them to video-tape one of the lessons they teach for class discussion. Two choices were available: 1) "To video-tape a class with a better learning attitude and classroom discipline so as to obtain some episodes with good teaching performance;" and 2) "To video-tape a class where the teacher did not have full confidence in managing the discipline so as to seek the instructor's and fellow classmates' opinions for improvement." The former choice reflected an orientation of performance goals, whereas the latter reflected an orientation of learning goals. The former choice indicated a tendency to sacrifice learning for better performance and positive evaluations. In contrast, the latter choice indicated a desire to learn although one's performance was on the line and negative evaluations from others might be received. One point was assigned if the teachers chose an action that reflected the espousal of learning goals, and no point was assigned if they chose an action that reflected the espousal of performance goals. The points of the three scenarios were aggregated to indicate the extent to which the teachers endorsed learning goals versus performance goals. The scores for this measure ranged from 0 to 3, with a higher score indicating a higher endorsement of learning goals and a lower endorsement of performance goals. The Cronbach's alpha of the three scenarios was .55 for this sample, indicating an acceptable but not high level of internal consistency.

*Teachers' acceptance of peer coaching.* This construct was measured by two sets of questions. The first set pertained to the teachers' evaluation of the peer coaching activities with which they had experimented in their schools, whereas the second set was about their willingness to participate in the activities. To measure their evaluation, the teachers were requested to indicate to what extent they agreed with the following two statements: 1) "The peer coaching activities have enhanced our teaching quality

effectively;" and 2) "The peer coaching activities have enhanced our mutual communication and understanding." To measure the teachers' willingness to participate in the activities, they were asked to indicate their agreement with the following three statements: 1) "Despite the time constraint and difficulty in scheduling, I am willing to participate in peer coaching;" 2) "Considering the time I have spent and the psychological pressure I have encountered, I am still willing to support my school in the development of peer coaching;" and 3) "Given the freedom to choose, I shall not participate in similar activities." The third statement was reverse coded for the measurement of the construct of teachers' acceptance of peer coaching. A negative statement was included in the scale to minimize the acquiescent response style problem (Ray, 1979). The average rating of the five statements was used to indicate the teachers' level of acceptance of peer coaching. The Cronbach's alpha of these five statements for this sample was .85, indicating a high level of internal consistency.

## Results

The correlation coefficients among the variables are presented in Table 1. All three variables were correlated positively. The more the teachers perceived collegiality in their schools and the more the teachers endorsed learning goals, the more they would accept peer coaching. The correlation coefficients ranged from .35 to .47, indicating medium-sized effects.

TABLE 1. Correlations of the Variables

| | 1 | 2 | 3 |
|---|---|---|---|
| 1. Perceived collegiality | - | .14* | .19** |
| 2. Teachers' goal orientation | .35** | - | .26** |
| 3. Acceptance of peer coaching | .47** | .40** | - |

**p < 0.01 * p < 0.05

Note. The correlation coefficients below the diagonal are results of Study 1 whereas the correlation coefficients above the diagonal are results of Study 2.

To test the predictability of perceived collegiality and teachers' goal orientation on teachers' acceptance of peer coaching, we performed a multiple regression analysis. The results are presented in Table 2. It was found that teachers' acceptance of peer coaching significantly predicted their perception of collegiality in their schools ($\beta = .38$, $p < .01$) as well as their goal orientation ($\beta = .26$, $p < .05$). That is, for every one unit

increase of acceptance of peer coaching, there would be .38 unit increase of perceived collegiality and .26 unit increase in learning goals. Teachers who perceived stronger collegiality in their schools and adopted learning goals more than performance goals tended to have higher levels of acceptance of peer coaching, as indicated by their better evaluations of the activities and higher levels of willingness to participate in peer-coaching activities.

TABLE 2. Summary of Multiple Regression Analyses for Perceived Collegiality and Goal Orientation Predicting Acceptance of Peer Coaching

| Independent Variables | B | SE B | β |
|---|---|---|---|
| | Study 1 | | |
| Perceived collegiality | .72 | .21 | 38** |
| Teachers' goal orientation | .30 | .13 | .26* |
| | Study 2 | | |
| Perceived collegiality | .21 | .08 | .17** |
| Teachers' goal orientation | .24 | .06 | .24** |

**p < 0.01 * p < 0.05

*Note*. R2 = .24 for Study 1; R2 = .10 for Study 2.

## Discussion

The participants in Study 1 were teachers from the two schools who had previously experimented with peer coaching. The variation of collegiality, the organizational factor, was restricted because only two schools were involved. Moreover, these two schools were different from typical schools because they had a year-long trial on peer coaching, a novice form of professional development that is seldom practiced in Hong Kong. Lam (2001) found that half of the Hong Kong respondents in her survey indicated that they had never practiced classroom observation; that is, they had never observed their colleagues' teaching and neither had their colleagues observed them in teaching. For the rest who responded that they had such practice, their so-called observation was mostly an appraisal activity done by supervisors about their teaching. Peer coaching is something new and unfamiliar to most teachers in Hong Kong. To test if the findings of Study 1 could be generalized to other schools that had not experimented with peer coaching, we conducted a survey with teachers selected by a random sampling procedure. We would be able to confirm the positive associations among collegiality, learning goal, and teachers' acceptance of peer coaching if the results of Study 2 could replicate those of Study 1.

## Study 2
## Method

In this study, we investigated how collegiality and goal orientations associated with teachers' acceptance of peer coaching in a randomly selected sample of teachers who might not have had prior experience with peer coaching.

### *Sample and procedures*

The Hong Kong Professional Teachers' Union is the largest professional body of teachers in Hong Kong. A sample of 600 teachers was selected randomly from its membership of 70,000. Questionnaires were mailed to 300 primary school teachers and 300 secondary school teachers. The respondents were requested to return the completed questionnaires in the stamped envelopes provided by the researchers. Anonymity was guaranteed for the survey. The participants were assured that no personal data would be collected and their identities would not be known. The response rate to the questionnaire was 42.5%, and 255 questionnaires were collected. Among the 255 respondents, 43.3% were secondary school teachers and 56.7% were primary school teachers. Their average teaching experience was 13.53 years (range = 1-35 years; SD = 9.31 years). About 38% of them held senior positions, such as department heads, in their schools.

### *Measures*

Except for the measures of teachers' acceptance of peer coaching, all measures used in Study 1 were applied again in Study 2. They included teachers' perceived collegiality and learning orientation. All the items in the questionnaire were presented in Chinese.

Unlike the teachers in Study 1, the teachers in Study 2 might not have experienced peer coaching previously. Many of them might not have known what peer coaching exactly meant. To avoid any misunderstanding, peer coaching was defined clearly in the questionnaire instructions. The following definition was presented to the teachers: *"In peer coaching, teachers talk about and reflect on their classroom teaching, design and plan teaching materials together, are observed by and learn from one another. The activity is different from the usual practice of classroom observation that is for staff appraisal. The focus is not on the performance of individual teachers but on how teachers can pool their efforts to improve classroom teaching. The observers and the observed can prepare a lesson together before the observation and discuss their experience afterwards."*

The teachers were asked to evaluate the viability of peer coaching in their schools and estimate how successful the activities would be if

practiced in their schools. Unlike in Study 1, we did not measure teachers' evaluation of the peer coaching they had practiced in the previous year. Instead, the teachers were asked to indicate their level of agreement and disagreement with the following statements: 1) "I doubt if peer coaching can improve teaching quality in my school;" and 2) "I believe that peer coaching can enhance mutual communication and understanding among colleagues in my school." The first statement was reversed in coding. To measure the teachers' willingness, we asked them to indicate their willingness to participate if their schools launched similar activities. They were requested to indicate their levels of agreement and disagreement with the following statements: 1) "If my school tries peer coaching, I shall support it." 2) "If my school tries peer coaching, I am willing to let my colleagues observe my teaching." 3) "Considering the time I may spend and the psychological pressure I may encounter, I am still willing to support my school in the development of peer coaching." 4) "Given free choice, I shall not participate in similar activities." The fourth statement was reversed in coding. Negative statements were also included in the scale to minimize the acquiescent response style problem. It is always a good practice to avoid one-way worded scales (Ray, 1979). The average score of the above six items was used to indicate the teachers' acceptance of peer coaching. The Cronbach's alpha of these six items in Study 2 was .92, indicating high internal consistency.

## Results

The correlation coefficients among the variables are presented in Table 1 (see page 11). The coefficients.. The coefficients ranged from .14 to .26. All of the variables were correlated positively, although the magnitude was smaller than those in Study 1. To test the predictability of collegiality and goal orientation, we regressed teachers' acceptance of peer coaching on these two variables. The results are presented in Table 2 (see page 12). It was found that teachers' acceptance of peer coaching was predicted significantly by their perception of collegiality in their schools ($\beta = .17$, $p < .01$) as well as their goal orientation ($\beta = .24$, $p < .01$). For every .17 unit increase of perceived collegiality and .24 unit increase of learning goals, there would be one unit increase of acceptance of peer coaching. Teachers who perceived stronger collegiality in their schools and adopted learning goals more than performance goals tended to have higher acceptance levels of peer coaching. They had higher expectations of the activities and were more willing to participate in them. In summary,

the results of Study 2 replicated those of Study 1 even though the two studies targeted different populations.

## Discussion

Unlike the participants in Study 1, the teachers in Study 2 might not have had prior experience with peer coaching. Their responses to the questionnaire concerning peer coaching were based primarily on the descriptions provided in the instructions. With reference to the hypothetical scenario that peer coaching might be practiced in their schools, the participating teachers estimated the effectiveness of this practice and expressed their willingness to participate in it. The psychological process involved in Study 2 was prospective instead of retrospective. In contrast, the participants in Study 1 had practiced peer coaching for a year and were asked to examine their experiences retrospectively. The participants in Study 2 were asked to project their thoughts into the future, while the participants in Study 1 were asked to review their practice in the past. Despite the differences regarding the subjects' exposure to peer coaching as a novice staff development activity, the results of the two studies were consistent (see Figure 1). They converged to show that teachers' acceptance of peer coaching was positively associated with their perception of collegiality in their schools and their goal orientation.

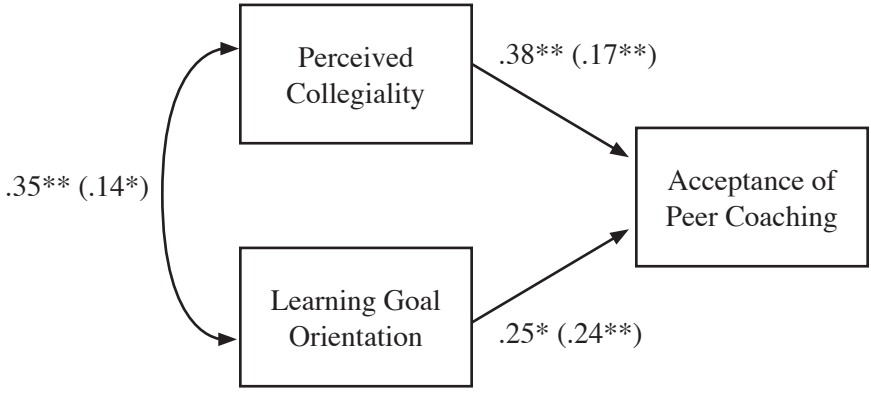


FIGURE 1. The path diagram explaining the impact of perceived collegiality and goal orientation on teachers' acceptance of peer coaching.

*Note*. Coefficients not in parentheses are results of Study 1 whereas coefficients in parentheses are results of Study 2.

## General Discussion

The results of the two studies were consistent with our hypothesis that teachers would be more likely to accept peer coaching as a form of professional development if they perceived strong collegiality in their schools. This is consistent with the findings of previous studies that collegial school culture was a significant factor contributing to school learning (Leithwood et al., 1988; Little, 2003). The findings of the present studies provide educators with insights about the conditions under which to implement peer coaching in the schools to render it effective.

Peer coaching is a form of professional development based primarily on continuous collegial interaction and support. If teachers do not see collegiality in their schools, they are more likely to reject peer coaching. As a result, when peer coaching is implemented in a school culture that lacks collegiality, the chances of its success would be slim. Imposing peer coaching administratively on teachers in a weak collaborative culture will only result in contrived collegiality. In his micro-political critique of collegiality, Hargreaves (1994) pointed out that contrived collegiality is administratively regulated, compulsory, and implementation-oriented. Under the conditions of contrived collegiality, teachers are required to work together to implement the mandates from school administrators. Instead of being empowered, teachers in contrived collegiality feel that they are being coerced to conform. Therefore, the so called "peer coaching" is not a genuine collaboration among teachers, but an empty shell of administrative formality. In the worst case, it may induce an administrative apparatus of surveillance and control under the aegis of professional collaboration (Hargreaves & Dawes, 1990). However, in an era of rapid educational reforms that value accountability and standards (Sheldon & Biddle, 1998), there is a strong incentive for school leaders to promote peer coaching without considering fostering a culture needed for it to be successful. As stated by Little (1990), attempts at initiating collaboration will not be successful if the school culture is incongruent with collaboration. The results of the present studies are reminders of this reality to educators. Peer coaching, or any other specific forms of induced collaboration, will not be accepted wholeheartedly by teachers when they do not perceive their school cultures as collaborative.

Some scholars (e.g., Little, 1990; Leithwood et al., 1988; Ponzio, 1987) have argued that an essential prerequisite for effective peer coaching is the existence of a set of collegial relationships among teachers who display qualities of trust, support and sharing. Does this argument imply

that educators should not initiate collaboration when school collaborative culture is weak? We think that the answer depends on the deliberate attempts on the part of the initiators. Grimmett and Crehan (1992) posited that any attempt at initiating collegiality is inevitably contrived because it must be engineered by some people, mostly administrators, in a place where collegiality is not yet present. However, they also make a clear distinction between an administratively imposed type and an organizationally induced type of contrived collegiality. The former is undesirable, but the latter could lead to a genuine collaborative culture.

Administratively imposed collegiality consists of "top-down" attempts to manipulate teachers' collaborative behaviors directly. Teachers are mandated to collaborate. In contrast, organizationally induced collegiality is characterized by "top-down" attempts at fostering "bottom-up" problem-solving approaches to school improvement. This is achieved through careful manipulation of the environment instead of teachers' behaviors such as compliance. Many strategies can manipulate the environment, for example by adopting a small-scale trial before any large-scale change, implementing peer coaching at a slow pace that corresponds with teachers' acceptance, reducing teachers' workload so that they have time to engage in the activities, and ensuring that peer coaching differs from staff appraisal.

So far, the literature on contrived collegiality has mostly been developed in the western cultures (Grimmett & Crehan, 1992; Hargreaves, 1994; Hargreaves & Dawes, 1990; Little, 1990; Leithwood et al., 1988; Ponzio, 1987). Nevertheless, it has a certain degree of universality across western and eastern cultures and seems to apply well in Hong Kong. Like many western countries, Hong Kong has recently launched a large-scale education reform. Teacher professional development is inevitably a top concern and the teachers in Hong Kong are under pressure to engage in peer coaching if their school administrators are eager to enforce changes. Without knowing the factors that contribute to teachers' acceptance of peer coaching, one may develop contrived collegiality that is not genuine collaboration among teachers but an empty shell of administrative formality. Fortunately, the advice of Grimmett and Crehan (1992) about the distinction between administratively imposed and organizationally induced types of contrived collegiality also applies well to Hong Kong. With the careful manipulation of the environment in which the school culture develops, Lam and her colleagues (2002) successfully helped teachers in two Hong Kong schools develop practices in peer coaching and turn organizational induced contrived collegiality into genuine collegiality.

As shown in the results of the present studies, collegiality is essential for teachers' acceptance of peer coaching. However, it does not necessarily mean that it is a prerequisite for the success of peer coaching. The causality between the collegiality and peer coaching may not be linear. Clarke and Hollingsworth (2002) argued that teacher changes are a cyclic process with multiple entry points. They put forward an interconnected model of professional growth in which circular causality is assumed. It is possible that changes in school culture may lead to changes in practice of professional development such as the adoption of peer coaching. Likewise, it is also possible that changes in practices of professional development may lead to changes in school culture. Collegiality in the schools may be enhanced after teachers have experimented with peer coaching. In fact, most teachers in Study 1 agreed with the statement that peer-coaching activities had enhanced their mutual communication and understanding with colleagues. Their average agreement with this statement was 4.99 on a 6-point Likert scale. It was possible that peer coaching had enhanced their collegiality, which in turn would further facilitate their acceptance of peer coaching.

In both studies, we found positive path coefficients between teachers' goal orientation and their acceptance of peer coaching. The results showed that when teachers endorsed learning goals more than performance goals, they tended to be more accepting of peer coaching. These results support Dweck's (1986) claim that people who endorse learning goals are more motivated to master new and difficult tasks despite the risk that their competence may be judged negatively. To open one's teaching for observation and discussion can facilitate learning, but it can also incite insecurity. The insecurity would be most intense for the teachers who espouse performance goals because they are aimed at gaining positive judgments and avoiding negative judgments from others. To avoid negative judgment of their competence, they may choose not to participate in peer coaching. In contrast, teachers who endorse learning goals are aimed at increasing their competence. As a result, they would see peer coaching as an opportunity for learning and thus would be more receptive to it.

Our findings about goal orientation bear similarity to those of Fernandez et al. (2003), who attempted to develop lesson study among a group of American teachers. They found that teachers might not benefit from lesson study if a "researcher lens" was not applied to the examination of lessons. When teachers play the role of researchers, their goal is to investigate ways that can improve their lessons so that students can learn

better. However, Fernandez et al. (2003) reported that a number of teachers in their study objected to selecting topics commonly taught at their grade level. They argued that these topics were dry and boring. Instead, they preferred selecting original topics that might be more entertaining and perhaps more engaging for their colleagues who would observe the lesson. Fernandez et al. (2003) commented that the preference of these teachers indicated that they lost sight of the researcher lens. The presence of the researcher lens is similar to learning goals in which making improvement instead of impressing others are the focus. The current findings show that when teachers are concerned with impressing their colleagues rather than seeking ways collaboratively to improve their lessons, they are subscribing to performance goals instead of learning goals.

The interpretation of the results about teachers' goal orientation, however, should be made with the caveat that teacher changes are a cyclic process with multiple entry points. The relationship between goal orientation and collegiality may be circular. Teachers' goal orientation can affect the collaborative culture in their schools but collaborative culture can also affect teachers' goal orientation reciprocally. How teachers behave is often determined by the environment around them (Hargreaves, 1988). Pressure from keen competition and high-stake evaluations may force teachers to adopt performance goals in lieu of learning goals. Lam, Yim, Law, and Cheung (2004) found that Hong Kong students adopted performance goals when they were under the pressure of normative evaluation. The same psychological mechanism may also apply to teachers. The results of the Lam's survey (2001) revealed that over 60% of classroom observations in Hong Kong were conducted in the format of supervisors observing subordinates. When classroom observation involves staff appraisal, teachers may endorse performance goals involuntarily. As peer coaching is decoupled from staff appraisal, teachers are not pressured to focus on performance goals. They may favor learning goals more after experiencing this new form of non-threatening staff development. In the present studies, teachers' goal orientation was correlated positively with perceived collegiality. This shows the intricate relationship between personal factors and organizational factors.

## Limitations and Future Directions

There are several limitations of the two studies. First, both are correlational with cross-sectional data. According to Clarke's and Hollingsworth's (2002) interconnected model of professional growth, we

speculated about circular correlations among personal and organizational factors. However, the results of our studies did not provide evidence of any causal relationship. Correlational data from cross-sectional studies can only provide information about the degree of association among the variables being investigated. To determine changes over time, future studies may collect longitudinal instead of cross-sectional data. Study 1 had the potential to collect longitudinal data as it was a year-long project that witnessed the development of peer coaching in two schools. Data collected in the beginning of project can be compared with those collected at the end of it. However, to perform lag-time analyses, the anonymity of the teachers would be compromised because pre- and post- project data must be matched by identity. To counteract any psychological pressure on teachers that might jeopardize the development of peer coaching in the two schools, the research team decided not to collect information about their identity. In addition, the lack of complete demographic data, such as gender and age, might limit the interpretation of the results. It is unknown if gender and age would be correlated with the outcome variables under examination. Furthermore, it is unclear whether the teachers' prior experience with their school principals impacted their acceptance of peer coaching.

Another limitation of the present studies lies in the measures of variables. All of the data were self-reports from teachers. Self-report data are not necessarily inferior, particularly when they pertain to the attitudes, beliefs, and feelings of the participants. In the present studies, it is legitimate to measure the teachers' goal orientation and acceptance of peer coaching by the self-report method. However, the measurement of the collegiality would have been stronger if it were complemented by methods other than teachers' reports. Future studies may consider other methods such as third-party observations and ratings.

Despite these limitations, the present studies have contributed to the existing body of knowledge on peer coaching. Both studies produced similar results, showing that collegiality and learning goals were associated positively with acceptance of peer coaching among teachers in Hong Kong. It was found that teachers who perceived strong collegiality in their schools and adopted learning goals were more inclined to accept peer coaching, a professional development activity that is based mostly on continuous collegial interaction and support in the schools. Findings from our studies are helpful to educators who are interested in developing peer coaching for more effective teaching in this time of education reform.

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# Supports for Dual Language Vocabulary Development in Bilingual and English Immersion Pre-kindergarten Classrooms

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*The links between high-quality preschool language and literacy experiences and vocabulary growth are increasingly well-documented for monolingual English-speakers from low-income backgrounds. This article explores language and literacy instruction and bilingual vocabulary gains in preschool classrooms serving low-income Spanish-speaking English language learners (ELLs). Group language and literacy instruction was observed in six full-day pre-kindergarten classrooms representing three broad instructional models: predominantly Spanish-language bilingual instruction, mixed Spanish-English bilingual instruction, and English immersion instruction. The fall and spring receptive vocabulary of 53 Spanish-speaking 4- to 5-year-olds was measured in Spanish and English to determine the classrooms in which children made the greatest vocabulary gains in each language. Children made the greatest Spanish vocabulary improvements in bilingual classrooms with strong supports for Spanish language development that included reflective read-aloud conversations and explicit teaching of Spanish vocabulary. English vocabulary gains were greatest when teachers scaffolded student participation in English language instruction and provided Spanish language support. Implications for practice and future research are discussed.*

**KEY WORDS:** bilingual, preschool, low-income, Spanish-speaking English language learners

The last decade has seen the rapid expansion of publicly-funded preschool services accompanied by growing diversity in the U.S. preschool

population. In July of 2007, an estimated 4.9 million children under age five – nearly one in four – were of Hispanic origin (U.S. Census Bureau, 2007). Among Hispanic children in this age group, a large proportion comes from homes where Spanish is the primary language spoken and thus begin school as English language learners (ELLs). Extrapolating from the available data, ELLs of Hispanic backgrounds represent an estimated 23% of Head Start and 18% of current state pre-kindergarten enrollments nationwide, and these numbers are projected to increase well into the future (Collins & Ribeiro, 2004; Hamm & Ewen, 2005). Disproportionately and persistently high rates of academic underachievement complicate long-term prospects for this population of young learners (Garcia, Jensen & Cuellar, 2006). Hispanic children tend to begin school with fewer literacy-related experiences and skills (Goldenberg, 2001; Lee & Burkam, 2002; Vernon-Feagans, 2001) and to score well below their non-Hispanic White and Asian-American peers in reading throughout the school years, ending up on average about four years behind (August & Hakuta, 1997; August & Shanahan, 2008; Schnieder, Martinez & Owens, 2006).

Participation in high-quality preschool offers one of the most potentially beneficial redresses to help close the gap in reading achievement. Preschool programs that provide rich language and literacy environments have been shown to enhance acquisition of many early literacy skills that reliably predict later reading achievement – oral language, phonological awareness, and print knowledge – with stronger effects observed for more economically disadvantaged and Hispanic children (Dickinson & Sprague, 2001; Gormley, Gayer, Phillips, & Dawson, 2005; NELP, 2007; IRA-NAEYC, 1998; Snow, Burns & Griffin, 1998).

This research examined preschool practices that support Spanish-speaking ELLs development in one key early literacy domain – vocabulary. The links between vocabulary size and literacy development are increasingly well documented in the literature on reading and language development in monolingual English-speakers (NELP, 2007; Snow, Burns & Griffin, 1998). Children with larger vocabularies typically have more developed phonological sensitivity as preschoolers (Burgess & Lonigan, 1998) and better reading comprehension as they progress through the elementary grades (Hart & Risley, 1995; Snow, Roach, Tabors & Dickinson, 2001). A recent review of more than 300 empirical studies by the National Early Literacy Panel produced average correlations between receptive vocabulary in children five and under and later decoding and comprehension skills of .35 and .32 respectively (NELP, 2007). Large social class differences in children's vocabulary knowledge have been documented starting at age three and represent a challenge for preschool educators (Hart & Risley, 1995).

Though far less is known about early literacy in bilingual children, there is accumulating evidence that oral language skills broadly construed, and vocabulary specifically, are also foundational to literacy development in young Spanish-speaking bilinguals (Manis, Lindsey & Bailey, 2004; Rinaldi & Paez, 2008). Reese, Garnier, Gallimore and Goldenberg (2000) found that children with greater emergent Spanish literacy skills, including oral story comprehension, and greater oral proficiency in English at kindergarten entry, attained higher levels of English reading achievement in middle school, suggesting that early proficiencies in both languages impact long-term literacy outcomes. This conclusion is supported by the work of Rinaldi and Paez (2008) who found that both English and Spanish vocabulary in preschool predicted English word reading ability in first grade. Not surprisingly, limitations in depth and breadth of vocabulary are implicated in many of the difficulties older ELLs experience with English text comprehension (August, Carlo, Dressler & Snow, 2005). Educational practices that can help close the substantial vocabulary gaps between low-income, Spanish-speaking bilinguals and their monolingual peers are therefore worthy of attention (Snow & Kim, 2001; Tabors, Paez & Lopez, 2003).

One of the primary impetuses for the current preschool expansion is the potential impact of high-quality preschool experiences on language and literacy learning. Specific preschool practices linked to better language outcomes among ethnically diverse, low-income English speakers include reading books aloud (Arnold & Whitehurst, 1994; Dickinson, 2001; NELP, 2007), vocabulary-rich teacher-child interactions (Dickinson & Smith, 1994), and opportunities for meaning-focused free play (e.g. dramatic play, playing with blocks, etc.) (Connor, Morrison & Slominski, 2006). The best-researched of these practices is reading aloud, which has been shown to have a consistently positive impact on vocabulary acquisition, particularly when children's active participation is encouraged using practices such as dialogic reading (Arnold & Whitehurst, 1994; NELP, 2007) and analytic book conversations (Dickinson, 2001).

Unfortunately, the literature offers far less guidance on effective preschool literacy practices for ELLs. Existing research on ELL preschool instruction tends to fall into three categories: 1) experimental or quasi-experimental evaluation studies focused on language of instruction, 2) qualitative studies of classroom communication, and 3) intervention studies of specific practices to enhance early literacy acquisition. From the language of instruction research, there is emerging evidence that bilingual instruction can enhance children's language and literacy outcomes in both the home language and English (e.g. Barnett et al, 2007; Campos, 1995; Gormley, 2007). For example, Barnett et al. (2007) reported on

an experimental comparison of a two-way bilingual immersion preschool program in which native Spanish-speaking children alternated weekly between English and Spanish classroom environments, and a monolingual English immersion program that used English as the primary medium of instruction. Barnett et al. found no significant differences between the two groups of children on measures of English receptive vocabulary or other English literacy skills, while children in the bilingual program made significantly greater gains on Spanish language measures. In these and other such studies (e.g. Campos, 1995; Gormley, 2007; Paul & Jarvis, 1992), however, researchers have focused on general program components (e.g. use of Spanish instruction measured broadly) rather than on literacy instruction per se. Such studies shed little light, then, on the specific classroom literacy practices that account for children's learning.

Several qualitative studies have addressed this void by offering rich descriptions of teacher practice. The best-known of such studies, based on Tabors' (1997) year-long observation in a Boston-area ESL preschool classroom, describes the communication strategies with which teachers supported children's acquisition of English. These included using simplified language, extending and expanding children's talk, and fine-tuning communication to the child's level of English proficiency. Because these studies do not include systematic data on children's learning, however, it is impossible to know to what degree the practices they identify actually support language development.

Several recent intervention studies have demonstrated that, as with native English speakers, explicit vocabulary discussions and direct comprehension instruction during English language read-alouds may be effective supports for English vocabulary acquisition in ELLs, even when children's oral proficiency in English is limited (Collins, 2005; Roberts & Neal, 2004). These interventions were offered only in English, however, and thus ignore the possibility that children may derive even greater benefits when some native language support is provided.

Surprisingly absent from the preschool ELL literature are rich descriptions of the naturally occurring classroom practices of teachers who effectively support children's bilingual early literacy development, combined with measures of children's learning. Whether some approaches to the use of Spanish and/or English in the context of specific literacy practices produce more vocabulary growth than others is as yet unknown. The current study brings a "language of instruction" perspective to bear on an examination of early literacy instruction by investigating how effective preschool teachers of Spanish-speaking English language learners support children's learning of vocabulary under a variety of linguistic

arrangements. Combining data on children's vocabulary gains over the course of their pre-kindergarten year in both Spanish and English with qualitative analysis of group literacy instruction in six classrooms, this study offers insight into how teachers might best organize instruction to optimize Spanish-speaking ELL's vocabulary learning.

## Method

### *Setting and participants*

The study was conducted in a large urban, predominantly Hispanic school district in the southwestern United States where state-funded pre-kindergarten was available to all 4-year-old children with a primary home language other than English. Forty-two percent of the district's pre-kindergarten children had limited proficiency in English; 91% of these children spoke Spanish at home. Of the district's 179 school-based pre-kindergarten classrooms, 83 were bilingual programs while 10 were English as a Second Language (ESL) programs, the primary difference being the availability of a bilingual teacher or lack thereof. The selection of classrooms for the study began with the nomination by district-level early childhood supervisors of 10 teachers in both program types who were perceived to offer high-quality literacy instruction. This procedure was used in order to control to the degree possible for classroom quality. Nominated teachers were contacted by phone and asked to describe their teaching in terms of the approximate amount of English- versus Spanish-language instruction they provide. From among the eight teachers who had at least 5 ELL students and who agreed to participate in the study, six full-day classrooms were selected to represent a range of broad policy-related models of teacher language use: two bilingual classrooms with a strong emphasis on Spanish (identified from here forward as classrooms SB1 and SB2), two bilingual classrooms with a fairly balanced, mixed use of Spanish and English (MB1 and MB2), and two ESL (English immersion) classrooms with predominantly English language instruction (EI1 and EI2). This sampling procedure would allow for the study of teacher supports for vocabulary learning under a variety of "language of instruction" arrangements.

The six classrooms were located at four school sites, each in a working class, predominantly Hispanic neighborhood. Between 78% and 87% of students at each campus were identified as economically disadvantaged. Classrooms were of comparable size but differed in student composition with respect to home language. Classrooms SB1, SB2 and MB2 were composed of all Spanish-speaking ELLs; classrooms MB1, EI1 and EI2

each had a cluster of English-dominant or English-only children along with a cluster of Spanish-speaking ELLs. These differences meant children in the six classrooms would have differing opportunities to interact with native-Spanish and native-English-speaking peers, a factor I would need to consider in my interpretation of findings, though my focus would remain primarily on teacher practice.

Within each of the six classrooms, potential child participants for the study were identified based on results of the district-administered Preschool IDEA Oral English Proficiency Test (Pre-IPT) as limited- or non-English speakers. All children whose parents returned consent forms were included in the study. The final child sample, after accounting for the attrition of 5 participants due to family relocation, consisted of 53 Spanish-speaking 4-year-olds of Mexican-descent backgrounds, all of whom qualified for the free school lunch program under federal poverty guidelines. Table 1 describes teacher and child language backgrounds, official program type and language of instruction model, and number of child participants for each of the six selected classrooms.

### *Child outcomes measures*

To measure children's dual language receptive vocabulary, instruments were chosen that met three basic criteria: 1) they offered parallel though not psychometrically equatable versions in English and Spanish; 2) they were appropriate for use with 4-year-old children, and 3) they were used in previous research allowing for direct comparison with child outcomes in other studies. Children's receptive vocabulary was assessed in English using the Peabody Picture Vocabulary Test-Revised, Forms A (pre-test) and B (post-test) (PPVT-R; Dunn & Dunn, 1981) and in Spanish using the Test de Vocabulario en Imagenes Peabody (TVIP) (Dunn, Padilla, Lugo & Dunn, 1986). For each item on these procedurally identical tests, children are asked to point to the picture among four picture plates that represents the vocabulary word spoken by the examiner. Scaled (standard) scores were used in all analyses. It should be noted that age-norms for both of these vocabulary tests are based on the abilities of monolingual children, and thus use of the standard scores involves comparison of bilingual children in the sample with monolingual peers of the same age. These instruments have nonetheless been used widely in research with both monolingual English-speakers and bilingual Spanish-speakers. The PPVT also serves as the principal measure of children's learning by which preschool programs funded under the federal government's Early Reading First program are evaluated (US Department of Education, 2008).

TABLE 1. Teacher and Student Language Background, Program Type and Child Sample in Six Pre-kindergarten Classrooms

| | Classroom | | | | | |
|---|---|---|---|---|---|---|
| | SB1 | SB2 | MB1 | MB2 | EI1 | EI6 |
| Teacher language background | Native English speaker, bilingual | Native Spanish speaker, bilingual | Native Spanish-English bilingual | Native English speaker, bilingual | Native English speaker, some Spanish proficiency | Native English speaker, monolingual |
| Student language background | 17 ELL Spanish speakers | 14 ELL Spanish speakers, 2 Spanish-English bilinguals | 9 ELL Spanish speakers, 6 native English speakers, 2 native bilinguals | 18 ELL Spanish speakers | 9 ELL Spanish speakers, 9 native English speakers | 8 ELL Spanish speakers. 10 native English speakers or native bilinguals |
| Official Program Type and Language of Instruction Model | Bilingual (Predominantly Spanish) | Bilingual (Predominantly Spanish) | Bilingual (Mixed language) | Bilingual (Mixed language) | ESL (English immersion) | ESL (English immersion) |
| Child Sample | 9 | 9 | 9 | 10 | 8 | 8 |

### *Procedures*

To measure achievement gains in vocabulary, children were assessed near the beginning and end of the school year by trained bilingual research assistants. Assessment sessions were held one-on-one at the school sites within a two-week period between late September and early October, and again in mid- to late-May. To foster children's comfort with the assessment situation, tests were administered first in the children's stronger language, Spanish, then in English. Instructions for the PPVT were presented in both English and Spanish to ensure that incorrect responses or failure to respond to particular test items could not be attributed to a misunderstanding of the task itself.

Teachers' use of English and Spanish in the context of early literacy instruction was explored during classroom observations. Five day-long observations were conducted by me in each classroom at approximately one-month intervals from November to May. Data were collected in the form of written field notes and the audio-recording of morning circle time (a whole-group event that occurred daily in all six classrooms) and any additional literacy-related group instruction that occurred during the visit. During classroom visits, the researcher assumed the role of "privileged observer" (Wolcott, 1988), observing instruction from one unobtrusive spot in the classroom and interacting with teachers and children as little as possible. Verbatim transcripts of group instruction in each classroom were completed shortly after each observation.

## Data Analysis

In order to investigate early literacy teaching practices under varying "language of instruction" arrangements, it was first necessary to validate use of the three dual language categories that guided the selection of sample classrooms. This was accomplished using the transcripts of group instruction completed after the first two observation visits. For each transcript, each of the teachers' "public" utterances was coded by language – either English or Spanish – allowing language of instruction to be quantified. Utterances in Spanish were tallied and calculated as a percent of the total teacher utterances for each classroom observation. Based on this analysis it became clear that the six classrooms could indeed be categorized according to three language of instruction models: Spanish-emphasis bilingual instruction (more than 70% Spanish); fairly balanced bilingual instruction (45-65% Spanish instruction), and predominantly English instruction (less than 15% Spanish instruction). Language of instruction coding was completed for each remaining classroom visit,

allowing for the calculation of an average daily percentage of Spanish- versus English - language teacher talk during language and literacy instruction for each classroom. Results of this analysis are presented in Table 2.

TABLE 2. Average Daily Percent of Spanish versus English Language Teacher Talk During Group Language and Literacy Instruction

| | Teacher's Instructional Talk | |
|---|---|---|
| Classroom | Total % Spanish | Total % English |
| SB1 | 73.4 | 26.6 |
| SB2 | 86.9 | 13.1 |
| MB1 | 66.4 | 33.6 |
| MB2 | 53.4 | 46.6 |
| EI1 | 13.0 | 87.0 |
| EI2 | 0.5 | 99.5 |

Following each classroom observation, written field notes were matched to verbatim transcripts of instruction to provide as complete a picture of literacy teaching practice as possible. These composite representations were then coded using an iterative process by which coding categories were generated to describe: 1) the nature of the group activity (e.g. reading aloud, music and movement); 2) the literacy focus (e.g. general language and comprehension, explicit vocabulary-building, letter-sound relationships); 3) the approach to dual language use (e.g. concurrent translation, predominantly Spanish - separation of languages, English-only); 4) the instructional materials used; 5) type of comprehension scaffold (e.g. open-ended questions; hands-on activity or movement; explaining or defining), and 6) level of ELL student engagement. These categories were the basis for development of descriptive profiles of each classroom.

Children's gain scores representing change between pre-test and post-test were calculated for receptive vocabulary in Spanish and English. For both measures, each classroom was given a rank order, ranging from one (designating the classroom in which children made the greatest vocabulary gains, on average) to six (designating the classroom in which children made the lowest vocabulary gains, on average). These rankings were then used to determine the three higher-achieving classrooms and three lower-achieving classrooms for vocabulary development in Spanish and English. Children's pre-test, post-test, gain scores, and ranking for Spanish and English receptive vocabulary are presented in Table 3.

TABLE 3. Mean Receptive Vocabulary Scores and Classroom Rankings

| | | Spanish Receptive Vocabulary | | | | English Receptive Vocabulary | | | |
|---|---|---|---|---|---|---|---|---|---|
| Classroom | N | Pre-test | Post-test | Gain | Classroom Rank | Pre-test | Post-test | Gain | Classroom Rank |
| SB1 | 9 | 93.4 | 104.5 | 11.1 | 3 | 55.8 | 72.0 | 16.2 | 3 |
| SB2 | 9 | 87.2 | 106.2 | 19.0 | 2 | 58.4 | 77.2 | 18.8 | 2 |
| MB1 | 9 | 88.1 | 95.0 | 6.9 | 4 | 57.6 | 70.9 | 13.3 | 4 |
| MB2 | 10 | 79.7 | 99.3 | 19.6 | 1 | 52.2 | 52.0 | -0.2 | 6 |
| EI1 | 8 | 92.2 | 86.4 | -5.8 | 6 | 59.2 | 78.4 | 19.2 | 1 |
| EI2 | 8 | 78.5 | 80.2 | 1.7 | 5 | 48.3 | 59.6 | 10.3 | 5 |

Higher-achieving classrooms  Lower-achieving classrooms

Returning to the classroom profiles and following an analytic strategy similar to that used by Pressley and colleagues in their study of effective first grade reading instruction (Wharton-McDonald, Pressley & Hampston, 1998), I was able to determine instructional supports for vocabulary development found in all six classrooms, as well as the ways in which teachers varied in provision of those supports. Examination of the profiles coupled with more in-depth examination of classroom discourse in the higher- and lower-achieving classrooms was then used to identify possible explanations for the greater effectiveness of some teachers over others.

## Results

### *Common features of instruction across classrooms*

Instruction in the pre-kindergarten classrooms in the study had numerous features in common. In all six classrooms, teachers provided a significant amount of teacher-directed instruction with a focus on language and literacy. This instruction was conducted exclusively in a whole-group setting in all but one classroom and was organized around several core activities, each with the potential to contribute to children's language development. These included a morning greeting and calendar routine, music and movement time, a teacher-led book reading session, explicit phonics instruction of some kind, and independent center play. Within the context of these activities, all six teachers selected materials based on particular themes or topics of study and addressed to varying degrees the domains of language and literacy outlined in voluntary state pre-kindergarten curriculum guidelines, including vocabulary development. In this section, I briefly describe each of these core activities and the dimensions along which instruction varied within each.

In all six classrooms, teachers began each day gathering children for a morning circle. This activity involved some type of greeting routine, management of class business (such as taking attendance and assigning classroom jobs), and updates to calendar and weather charts. In each classroom, teachers orchestrated these activities in a highly ritualized manner and emphasized basic concepts such as days of the week, numbers, and weather terms. Teachers differed, however, in their approach to the use of English and Spanish, in the relative emphasis they placed on language versus print skills, and in the strategies they used to both encourage and scaffold children's active participation.

In all six classrooms, teachers also engaged children in language learning through the singing of songs, fingerplays and chants. Selections included greeting songs, nursery rhymes, calendar or weather songs, and

concept songs (e.g. alphabet, numbers, body parts) from various children's collections. While singing, teachers highlighted key vocabulary through the use of gestures and movements. They differed to some degree in their choice of language, with teachers in bilingual classrooms more often including Spanish or bilingual songs than English immersion classroom teachers. More than any other activity, however, music and movement was used by all six teachers to build English language skills, even in the classrooms where teachers otherwise emphasized Spanish language development.

Reading aloud occurred daily in each classroom and served as the focal activity around which many language learning opportunities were organized. All six teachers chose theme-related books, used an animated reading style, helped children connect their own life experiences to book topics, and stopped on occasion while reading to discuss new concepts and word meanings. Teachers differed, however, in the amount of time devoted to reading, the types and quality of books they read, the language of instruction, the teaching strategies they used to scaffold ELL's comprehension and build vocabulary, and in the level of student engagement among ELLs that resulted.

All six teachers provided explicit instruction in letters, letter-sounds, and decoding. This instruction sometimes took the form of phonological awareness training, with children clapping syllables or identifying beginning sounds in familiar words. In several bilingual classrooms children recited a daily alphabet chant using a Spanish-language phonics chart and completed simple worksheets. Some teachers used a letter-of-the week approach, providing multiple, hands-on opportunities for children to learn letter names and sounds. Others focused more on teaching these skills in context, for example, helping children apply knowledge of letters and sounds to reading and writing simple words in the morning message. In some classrooms, children were taught letter names and sounds exclusively in Spanish or exclusively in English, while in others they were given opportunities to learn alphabet skills in both languages.

Finally, children in all six classrooms spent a portion of the day engaged in free play at independent centers. Most classrooms included centers for dramatic play, block play, book-reading, puzzles and games, emergent writing and art, and science exploration. Because the focus of this study was group instruction, however, children's independent play will not be discussed at greater length.

In the sections that follow, I identify the three classrooms that were most effective in supporting children's gains in Spanish and English receptive vocabulary and describe characteristics of literacy instruction that distinguished these higher-achieving classrooms from their less

effective counterparts. Key characteristics of literacy-related instruction in each classroom are summarized in Table 4 (See Appendix A).

### *Higher-achieving classrooms: Spanish receptive vocabulary*

The greatest gains for Spanish receptive vocabulary were made by children in classrooms MB2, SB2, and SB1, where standard scores on the TVIP improved by an average of 19.6, 19.0 and 11.0 points respectively. These gains represent dramatic vocabulary growth for an 8-month period, and brought children, most of whom began the school year nearly a full standard deviation or more below age norms for Spanish vocabulary, to meet or exceed those norms by year's end (average post-test TVIP scores in Classrooms MB2, SB2, and SB1 were 99.3, 107.3, and 104.5, respectively; the population average is 100). By contrast, children in lower-achieving classrooms (MB1, EI1 and EI2) gained no more than 7 points on this measure, on average, and, in the case of the two English immersion classrooms, either made no progress or loss ground relative to age norms.

In addition to the practices that teachers in the higher-achieving classrooms MB2, SB2, and SB1 held in common with the other pre-kindergarten teachers, there were several features of language and literacy instruction in these classrooms that distinguished them in ways that may account for children's substantial growth in Spanish vocabulary.

### *Lots of read-aloud time*

The coding of teachers' instructional talk by activity indicated that teachers in the higher-achieving Spanish vocabulary classrooms (MB2, SB2, and SB1) devoted a greater proportion of instruction to reading aloud and discussion of books - 25%-34% of observed instruction - compared with 19% or less in lower-achieving classrooms. These teachers read to their students more often (usually at least two books per day), and spent more instructional time engaged in before-, during- and after-reading discussions than teachers in the lower-achieving classrooms.

### *Language of instruction*

The teachers in classrooms MB2, SB2 and SB1 were all bilingual and provided students with a significant amount of instruction in Spanish. At the same time, these teachers' dual language practices differed in several noteworthy ways. First, the proportion of Spanish language talk they used during language and literacy instruction ranged from a high of 87% in classroom SB2 to just 53% in classroom MB2. Second, while the teacher in SB2 was a native Spanish speaker of Mexican descent, the teachers in

SB1 and MB2 were native English speakers of European descent who had learned Spanish as adolescents or adults. This difference was reflected in the quality of teachers' Spanish-language vocabulary, grammar, and pronunciation, with the native speaker modeling a more lexically rich Spanish with more native-like pronunciation than her counterparts. Finally, teachers varied in the models of dual language instruction they enacted. In classroom SB2, the teacher practiced a strict separation of languages, choosing either all Spanish or all English for particular activities but rarely mixing languages. In classroom MB2, the teacher used a concurrent translation approach, translating most of her talk during book-reading and other instructional activities either from English to Spanish or Spanish to English, one utterance at a time. The teacher in classroom SB1 chose something of a middle path: She used a sequential bilingual approach during explicit vocabulary instruction and calendar time (for example, conducting each segment of the calendar routine first in Spanish, and then in English), and later shifted to a Spanish-only approach for the more cognitively challenging task of book-reading and related discussion.

While interesting, these differences were apparently less important for children's language learning than the mere provision of significant amounts of Spanish language instruction in all three higher-achieving classrooms (MB2, SB2, and SB1). By contrast, the two lowest-achieving classrooms on this measure were the English immersion settings (EI1 and EI2) where the teacher spoke little or no Spanish. The remaining features of instruction in the three higher-achieving Spanish vocabulary classrooms must be considered in light of their occurrence through a largely Spanish-language medium.

### *High quality Spanish language reading materials*

While all teachers attempted to choose books preschool-aged children would find engaging, teachers in the three higher-achieving Spanish vocabulary classrooms (MB2, SB2, and SB1) read children high quality Spanish-language books from a wide variety of genres, including translations of classic English-language children's literature and content-rich informational texts. In classroom SB2, for example, during a thematic unit on bugs, the teacher read Eric Carle's *La Oruga Muy Hambrienta* (The Very Hungry Caterpillar) in the morning, followed by the reading of an informational big book on spiders, Como *Viven Las Arañas* (The Life of Spiders) in the afternoon. In classroom MB2, children read Ruth Krauss' *The Carrot Seed,* followed later that morning by Eric Carle's informational story *The Tiny Seed*, both of which the teacher translated page by page into Spanish. These selections afforded children immersion in both the literary

language and rich vocabulary of high-quality storybooks and exposure to related content and vocabulary in non-fiction texts.

By contrast, teachers in lower-achieving Spanish vocabulary classrooms (MB1, EI2 and EI1) either relied primarily on Spanish-language predictable books and language experience charts containing a limited breadth of vocabulary, or used books exclusively in English that afforded children few opportunities to broaden their repertoire of words and concepts in Spanish.

### *Instructional talk focused on building comprehension*

Teachers in all three higher-achieving Spanish vocabulary classrooms (MB2, SB2, and SB1) used instructional talk during Spanish-language or bilingual read alouds to build comprehension and reinforce children's learning. They asked a combination of closed- and open-ended questions, made comments, and offered explanations that served at once to scaffold and closely monitor children's understanding of key details from the text, but also to encourage analysis of character's feelings, story events and new information. The following Spanish-only dialogue is an example of one such language-rich exchange from Classroom SB1. Here the teacher used both known-answer and predictive-interpretive questions, as well as explanation of key plot details, to help children comprehend a scene from a Spanish translation of the children's classic, *Curious George:*

T: El libro dice: "Los bomberos asaltaron a las bombas de incendio y las escaleras. Ding dong, ding dong. Bajense todos. A prisa, a prisa."En donde están saliendo? (The book says, *"The firemen grabbed their firehoses and ladders. Ding dong. Everyone down. Quickly, quickly!" Where are they going?*)
C1: A la casa de Jorge. *(To George's house)*
C2: Está quemandose? *(Is it on fire?)*
C1: No!
T: Piensen que está quemando de verdad? *(Do they think it's really on fire?)*
Cs: Si. *(Yes!)*

[After the firefighters discover that George's house is not really on fire.]

C: Estan enojados. *(They're angry.)*
T: Porqué están enojados? *(Why are they angry?)*
C: Ellos pensaban que estaba quemandose pero no era cierto. *(They thought it was burning but it wasn't true.)*

T: Verdad? Porque el estaba jugando con el telefono, verdad. Qué piensan que van a hacer los bomberos ahora? *(Right, because he was playing with telephone, wasn't he. What do you think the firemen are going to do now?)*

Of particular note in the above sequence is the ease with which children ask questions and share ideas about the story, likely a result of the opportunity they had to do so using their stronger language, but also of the regularity with which book conversations occurred in these classrooms. During most observation sessions, ELL children in the higher-achieving Spanish vocabulary classrooms were highly engaged during book-reading, so eager to comment or respond to questions that at times chaos ensued, requiring teachers to issue constant reminders of the rules of participation.

In lower-achieving classrooms EI1 and EI2, by contrast, children's participation in sophisticated book conversations was hampered by their limited English abilities. In the lower-achieving bilingual classroom (MB1), on the other hand, children's participation in analytic book discussions was hampered not by language but by the types of materials read. For small-group literacy instruction, this teacher typically chose either predictable books too restricted in story elements or informational content to generate the kinds of higher-level conversations we see above, or language experience charts that were limited in complexity by children's own 4-year-old Spanish language abilities, and thus afforded few opportunities for comprehension building.

Teachers in the higher-achieving Spanish vocabulary classrooms (MB2, SB2, and SB1) also supported comprehension by making children conscious of their own learning. During the shared reading of a Spanish-language informational text about spiders, for example, the teacher in Classroom SB2 read a passage that explained how spiders suck the blood of insects they trap rather than eating them. The teacher followed this passage by pointing out to children that "ya aprendimos algo que no sabiamos" *(now we learned something we didn't know),* encouraging children to repeat in Spanish the gruesome yet fun new fact they had learned. Similar kinds of metacognitive teacher talk have been associated with language and literacy gains among young English-speaking monolinguals (Dickinson, 2001).

### *Explicit discussions of Spanish vocabulary*

Teachers in the higher-achieving Spanish vocabulary classrooms (MB2, SB2, and SB1) placed a consistently strong emphasis on Spanish vocabulary development across all classroom activities and particularly in

the context of book-reading. While all six teachers also supported learning of English vocabulary, these three teachers engaged children in explicit, Spanish-only or bilingual discussions of new words and concepts. During read-alouds, they used teaching strategies that included both higher-level discussion of word definitions and less complex labeling talk in which children were asked simply to name or describe objects in book illustrations. The following is an example of definitional talk, in which the teacher in classroom SB2 uses a think-aloud strategy to guide children toward an understanding of the word 'enemigos' *(enemies).*

T: [Reading from the informational text on spiders]. "Tienen enemigos las arañas." ¿Qué quiere decir 'enemigos'? *("Spiders have enemies." What does 'enemies' mean?)*
C1: Pajaros. *(Birds.)*
T: Enemigos son pajaros? *(Enemies are birds?)*
C2: No, los pajaros comen las arañas. *(No, birds eat spiders.)*
T: Entonces, si yo veo este retrato, veo que el pajaro está comiendo una araña y yo sé que no está jugando con la araña, verdad? *(So, if I look at this photo, I see that the bird is eating a spider, and I know it's not playing with the spider, right?)*
Cs: No.
N: Yo no sé qué son enemigos pero si yo miro y leo aqui, me doy cuenta de que el pájaro no es amigo de la araña. Vamos a verla ahorita. "Las avispas son enemigos de las arañas." Las avispas son amigas? *(I don't know what "enemies" are but if I look and read here, I realize that the bird is no friend of the spider. Let's read more. "Wasps are enemies of spiders." Are wasps their friends?)*

In another classroom, the teacher previewed theme- or book-related words before reading. During one observation, she gave definitional clues to help children guess the "Christmas" words on her list (e.g. North Pole, polar bears, reindeer). Each word was printed in Spanish and English, color-coded by language, and accompanied by a drawing.

In Classroom MB2, the teacher's vocabulary talk was less complex, involving more naming and describing of objects in book illustrations than giving definitions, but nevertheless densely packed with opportunities for both word-learning and comprehension-building, as in the following discussion from the reading and translation of *The Carrot Seed:*

T: Dice, "A carrot came up." Es una zanahoria, verdad? La zanahoria... la parte anaranjado es el raiz, verdad? It's the root of the plant. Y aqui

están las hojas. Y cómo creen que siente este niño ahora? *(It says, "A carrot came up." It's a carrot, right? The carrot... the orange part is the root, right? And here are the leaves. And how do you think the boy feels now?)*

Cs: Bien! *(Good!)*

C: Feliz *(Happy.)*

T: Porqué? *(Why?)*

C: Porque creció la zanahoria. *(Because the carrot grew!)*

T: It was a carrot. Mira qué tan grandote es. It's huge! It's enormous! Just as the little boy had known it would. El siempre sabia que su zanahoria iba a crecer. *(...Look how huge it is! It's huge! It's enormous! He always knew that his carrot was going to grow.)*

Finally, in those instances where teachers lacked knowledge of a word in Spanish, they often enlisted students' help to resolve their uncertainties. This practice brought Spanish vocabulary learning into children's conscious awareness while positioning the teacher as a second language learner, thereby establishing children's status as Spanish-language experts.

### *Higher-achieving classrooms: English receptive vocabulary*

The greatest gains for English receptive vocabulary were made by children in classrooms EI1, SB2, and SB1, where standard scores on the PPVT improved by an average of 19.2, 18.8 and 16.0 points respectively. These gains were comparable in magnitude to the Spanish vocabulary gains made by children in the higher-achieving Spanish vocabulary classrooms (MB2, SB2 and SB1) and, in two of three cases, occurred in the same classrooms (SB2 and SB1). Although these gains are substantial, because the children in the study began the school year so much further behind age norms in English than in Spanish, their gains were not sufficient to bring children on par with native English speakers.

It should be noted that in all but one of the six classrooms, children made significant gains in English vocabulary according to criteria set by the U.S. Department of Education, at least seven points on the PPVT. Interestingly, it was the concurrent translation bilingual classroom (MB2), the classroom with the highest Spanish vocabulary gains, in which children made no measurable progress in English vocabulary relative to age norms.

### *Language of instruction*

Classrooms in which children made the greatest English vocabulary gains varied widely with respect to language of instruction. Classroom

EI1 was an English immersion setting in which the teacher used English for the vast majority of group instruction (87% of all teacher utterances were in English). However, unlike the teacher in classroom EI2 (a lower-achieving English vocabulary classroom) who spoke exclusively in English, this teacher also wove the use of Spanish into her instructional talk. During music and movement time, she included songs with Spanish lyrics. During the calendar routine, she asked her Spanish-speakers how to say the day of the week or date in Spanish. And in the context of book-reading and other group activities, she occasionally translated key phrases or asked children "how do you say x in Spanish?" The teacher's use of Spanish, though limited, served several purposes: 1) it signaled the worth she attributed to her ELL students' home language; 2) it scaffolded children's participation in instructional conversations, and 3) it positioned ELL students as language "experts" capable of helping both the teacher and the English-only students in the classroom learn Spanish. The following brief excerpts illustrate this approach:

Excerpt 1 [Introducing a new book]
T: Does anybody have a guess what this book could be about?
C1: I know what it is!
C2: I know what it is!
T: Raise your hands without screaming out.... Maria... qué es este libro? What do you think this book is about? Maria?
C3: Animals
T: Animals. Very good. This book is about animals. It's called "Peek-a-Boo at the...
Cs: Zoo!

Excerpt 2 [From a lesson on sorting]
T: Let me show you what I have today. Do you know what this is? [showing children plastic apples, oranges, grapes, and bananas]
Cs: Fruit
T: Fruit. Cómo se dice en español?
C1: Fruta
C2: Fruta
T: Fruta. Okay. We need to sort it, okay. We need to put it in groups that look the same. Necesitan grupos con la misma cosa. We're gonna put it in groups that have the same thing.

Interestingly, the other two higher-achieving English vocabulary classrooms were both predominantly Spanish-instruction bilingual settings.

The teachers in classrooms SB2 and SB1 used English for just 13% and 26% of instructional talk, respectively. While limited in quantity, English-language instruction in these classrooms was organized strategically to maximize children's literacy-related language learning. For example, in classroom SB2 the teacher used English for afternoon science or social studies lessons related to the current theme. In adherence to this teacher's preferred "separation of languages" model, these lessons covered content in English which overlapped with that of the Spanish-language story and information books the class had read in the morning. This approach harnessed children's conceptual familiarity with content they had already explored in Spanish, affording opportunities to revisit or expand children's background knowledge while building English-language vocabulary.

In Classroom SB1, English language learning was infused into a wider array of instructional routines, directly adjacent to (but not concurrent with) the teaching of the same content in Spanish. For example, the teacher conducted each segment of the highly repetitive calendar routine first in Spanish, and then in English. She also taught theme-related vocabulary, introducing and discussing each word first in Spanish, and then in English. Rather than simply translate each utterance, however, she raised children's conscious awareness of learning concept labels in two languages using the "en ingles se dice" *(in English we say)* or "¿Cómo se dice .....en ingles? *(How do you say that in English?)* form.

By contrast, teachers in the bilingual classrooms where English vocabulary gains were more limited –classrooms MB1 and MB2– provided English language instruction primarily within the context of a concurrent translation model. Books in English or Spanish were translated one line or page at a time; the calendar routine was translated one utterance at a time, and so forth. This approach likely had the unintended consequence of training children to limit their attention during English language teacher talk in anticipation of the Spanish translation that was sure to follow.

### *High-density English-language vocabulary instruction*

Teachers in all three higher-achieving English vocabulary classrooms (EI1, SB2 and SB1) provided a density of opportunities for English vocabulary learning. While book reading was a primary vehicle for teaching new words in all three classrooms, teachers took advantage of every activity context to draw children's attention to words and to explain word meanings. In classroom SB1, the teacher orchestrated a discussion of eight to ten theme-related words that included definitions and synonyms in

Spanish as well as English translations before reading aloud each morning, and then revisited related words and concepts in English using a photo library each afternoon. In classroom SB2, the teacher used a combination of English-language concept songs (e.g. songs about body parts, action words, etc.) and big books with science or social studies themes to support learning of both more and less common words gleaned from the songs or texts. And in classroom EI1, the teacher emphasized vocabulary learning during English-language phonics instruction, giving meaning-based clues to help children guess words beginning with particular letter sounds. Throughout the instructional day, teachers missed few opportunities to explain concepts, define words, and raise children's awareness of their own English language word learning.

### *Multiple scaffolds to support comprehension and acquisition of English*

Teachers in the higher-achieving English vocabulary classrooms (EI1, SB2 and SB1) used multiple scaffolds to support ELL's comprehension of instructional content in English and English language acquisition. These scaffolds included: 1) translating key words or content into Spanish; 2) modeling of word-meanings using actions, gestures, and facial expressions; 3) encouraging children's mirroring of teacher movements to reflect English language talk; 4) applying real-life objects or pictures referents; 5) using simplified language, repetition, and expansion of children's talk; 6) using praise and non-threatening corrective feedback; 7) focusing talk on the present activity context (rather than distant or abstract topics) and meaningful topics to children (e.g. family); 8) carefully sequencing teacher talk to break learning into small, comprehensible steps; 9) targeting questions to the English language abilities of individual ELL children, and 10) refocusing and drawing individual ELL children into instructional activities by name. While some of these strategies were used by teachers in all six classrooms, teachers in the higher-achieving classrooms used most or all of them, often enacting several strategies simultaneously. During one lesson in Classroom SB2, for example, children listened to a tape recording of an English-language story with highly repetitive text *(We're Going On a Bear Hunt),* while the teacher read along from an accompanying big book. As she read, she pointed to the illustrations and modeled each action in the story as the children mirrored her movements. The teacher also explained key words and phrases from the text in Spanish and corrected children's movements when necessary.

The following excerpt from Classroom EI1 provides an example of these many overlapping scaffolds from a predominantly English-language classroom context. The teacher used instructional talk that was carefully sequenced and highly explicit. She focused on concrete and meaningful referents (e.g. the sky seen through the classroom window, Mommy, birthdays) and created frequent, well-structured spaces for ELL children's participation targeted at individual levels of English ability. For example, she provided one child with a brief oral list of options from which to choose and another with a yes or no question. She also expanded on children's utterances and built extensive repetition into instruction in the form of patterned questions and a repetitive song. Furthermore, she translated a few key phrases into Spanish and constantly referred to individual ELL children by name, offering praise and drawing them into the instructional conversation.

[From the morning calendar routine]
T: Somebody has a...
Cs: Birthday
T: A birthday... and she's raising her hand. Who has a birthday on that day?
Cs: Alex
T: Alex. I think we might have to celebrate Alex's birthday on Friday. Alex, we'll have to talk to Mommy about that. Alex, do you know what you would like to bring on your birthday? Cupcakes, a cake, ice cream? What would you like to bring?
C: Cake.
T: Cake. Sounds good to me. Maybe we'll have a cake on Alex's birthday. Are you all ready to sing the weather song?
Cs: Yes.
T: I need somebody up here to help me lead the weather song.
C: Me, me, me
T: [Picks an ELL child who didn't raise her hand] Tomasita. Go look outside. Let's see Tomasa. Is it raining outside? You know what. Let's ask Tomasa if it's cloudy outside.
Cs: Is it cloudy outside? [No response from child]
T: Let's ask Tomasa is it foggy outside?
Cs: Is it foggy outside?
C: No
T: Is it snowing outside? [Pointing to the picture on her weather wheel?]
Cs: Is it snowing outside?
C: No

T: Is it sunny?
Cs: Is it sunny?
C: [Shakes head]
T: No sun. No hay sol. No. Is it cloudy outside?
Cs: Is it cloudy outside?
C: [Nods yes.]
T: Está nublado. Okay. C'mon up here Tomasa. Let's sing to Tomasa. You ready to sing to her and she's gonna tell us what the weather is like today. Here we go.
All: [singing] What's the weather like today, like today, like today. What's the weather like today? Today is...
C: Cloudy
T: Cloudy. Very good. And up here we're already on cloudy so we're not going to change it.

During a subsequent read-aloud, this teacher played a tape of animal sounds, had children guess the animal, pointed to illustrations of the animal, and had children act out the animal with body movements, all of which ensured the active participation of ELL students.

Interestingly, children in the other English immersion classroom (EI2) made far more limited English vocabulary gains, despite the relatively greater proportion of English language instruction to which children were exposed. In this classroom, the teacher used many practices known to support language development in native English speakers. She engaged children in high-level instructional conversations about lexically rich storybooks. She explained book content, asked both closed- and open-ended questions, expanded upon children's talk, and provided feedback. The following is an example from her discussion of the book *Whale Song,* by Diane Sheldon:

T: [Reading the last line of the book]. "Then far away on the breath of the wind she heard...Lily....Lily... The whales were calling her name." Did you hear the whales? That's why some people call it singing. They don't really say words but it sounds like music. Why do you think the whales were singing?
C1: Cause they were saying 'Thank you.'
T: What does the little girl give to the whales? Do you remember?
C2: A flower.
T: She had dropped that flower into the ocean. So Laura thinks that the whales were singing as a way of telling her, 'Thank you.' What do you think?
C3: I think because she's believin' in the whales, probably they just gave

her a present for the whales to show up.

T: Oh, you think that the present that they gave her was just showing up because she waited and waited, didn't she. She dropped her flower and then she went down and waited until it got dark. And she didn't see any whales. But they came during the night.

While the above conversation was both analytic and interactive, none of the child comments was made by an ELL student. Instead, many of the Spanish-speakers in this classroom were observed during this activity and others to be largely disengaged from instruction, possibly due to difficulties comprehending the teacher's complex English language talk, and the teacher did little to refocus them. Despite the presence of many elements known to support vocabulary development in native-English speakers, the teacher's read-aloud talk in Classroom EI2 offered relatively few of the scaffolds necessary to ensure participation and learning by ELL students.

## Discussion

As growing numbers of Spanish-speaking English language learners enter publicly-funded preschool programs, how to best organize preschool instruction to support emerging bilingual children's literacy success is being increasingly debated by researchers, policy-makers, and practitioners alike. Missing from the literature to guide this debate has been systematic research on the everyday instructional practices of preschool teachers who effectively support literacy-related learning in this population of young children. The present study sought to address this gap by investigating the practices of preschool teachers who provide varying combinations of English and/or Spanish language and literacy instruction, and the receptive vocabulary growth of their Spanish-speaking ELL students in both languages. The study's findings point to several conclusions about effective preschool vocabulary supports for young bilingual learners.

Children who experienced the greatest gains in Spanish receptive vocabulary were privy to a set of instructional practices that have much in common with preschool practices known to support English vocabulary development in native English speakers. They were read to often, and were read high-quality books of diverse genres that exposed them to the literary language of classic children's storybooks and informational texts. They were also exposed to instructional talk and engaged in book conversations that fostered both basic comprehension and higher-level analysis of book content. This finding is convergent with the far more extensive research literature on the contribution of literacy practices such as analytic book conversations and dialogic reading to vocabulary development in preschool

children from low-income English-speaking backgrounds (Dickinson, 2001; Hargrave & Senechal, 2000; NELP, 2007; Whitehurst, et al., 1994). It is also consistent with the early childhood read-aloud practices highlighted in the IRA-NAEYC Joint Position Statement, Learning to Read and Write (1998), which recommends that teachers "ask predictive and analytic questions" and foster conversations that induce higher-level thinking (p.7).

Unique to the present study was the finding that in order for these practices to support Spanish vocabulary development in young ELLs, a substantial portion of teachers' instructional talk must be in Spanish, though it need not be exclusively so. Also unique to this study was the finding that children made the greatest Spanish vocabulary gains in classrooms where teachers provided a great deal of incidental exposure to and explicit discussion of Spanish vocabulary, particularly in the context of Spanish-language book-reading. Children in classrooms whose teachers enacted these practices experienced average improvements in standard TVIP scores of between 11.0 and 19.6 points, gains that are quite large compared with those reported in other recent preschool studies of Spanish-speaking ELLs (Barnett, et al. 2007; Winsler, Diaz, Espinoza & Rodriguez, 1999). Given emerging evidence that the early Spanish literacy skills of Spanish-speaking ELLs, including Spanish vocabulary, are associated with both short- and long-term English reading achievement (Reese, Garnier, Gallimore & Goldenborg, 2000; Rinaldi & Paez, 2008), this finding should certainly give pause to those who would advocate for an English-only approach to preschool literacy instruction.

Interestingly, a somewhat different set of instructional practices was associated with the largest vocabulary gains in English. Children's PPVT standard scores improved the most not in the ESL classroom with the most cognitively challenging book discussions or the most semantically rich teacher talk, as the literature on high-quality language and literacy preschool environments would lead us to expect (Dickinson & Sprague, 2001), nor was it the classroom in which the teacher spoke the greatest amount of English overall. Rather, the greatest improvements occurred in the ESL classroom in which the teacher provided the most strategic and multi-layered scaffolding of English language and literacy instruction. In addition to the occasional use of Spanish translation, these scaffolds included the use of gestures, objects and pictures, simplified language and repetition, talk focused on topics related to the present activity context, repetition and the expanding of children's talk, the targeting of questions at or just slightly above the English language abilities of individual children, and provision of feedback. These types of scaffolds are a central feature

of some widely recommended language and literacy practices, such as Whitehurst and colleagues' dialogic reading model (Whitehurst et al., 1994) but not necessarily of others, as seen in the highly analytic and interactive book discussions in Classroom EI2, which nevertheless tended to exclude participation of ELL students. It is noteworthy that similar scaffolds were identified by Tabors (1997) as facilitative of English language acquisition. By providing empirical evidence of children's actual vocabulary growth, not measured in Tabors' research, the current study has helped validate the contribution of such scaffolds to children's English language learning. The current study also points to the value of using Spanish in English immersion classrooms in a manner that goes beyond the "low-level communicating" during the first weeks of school that Tabors (1997) observed, to actually support children's comprehension of instruction on an on-going basis.

Of relevance to the language of instruction debate is the finding that two of the three classrooms that produced the greatest English vocabulary gains were bilingual classrooms with the highest overall proportions of Spanish language instructional talk. While teachers in these classrooms also provided multiple scaffolds to support children's participation in English language literacy activities, it is nonetheless remarkable that children should have learned as much English as they did given their limited exposure to English relative to other classrooms. Amount of exposure to a second language is known to be one factor that explains children's progress in second language acquisition (Tabors & Snow, 2001). These results contribute to the growing body of evidence that preschool language and literacy environments rich in Spanish language teacher talk can foster the learning of English by Spanish-speaking ELLs as well as or better than English-only environments, provided children also experience some support for English acquisition, while also fostering children's ongoing development of Spanish (Barnett et al., 2007; Campos, 1995).

The potential impact of English immersion preschool experiences on the home language skills of English language learners has been the subject of ongoing controversy. Some researchers have suggested that language-minority children who attend either monolingual English or bilingual preschool programs rapidly lose proficiency in their native language (Wong Fillmore, 1991) while others argue this is not the case (Winsler, Diaz, Espinosa & Rodriquez, 1999). This study provides further evidence that language minority children from Spanish-speaking backgrounds are not likely to gain, and may well lose proficiency in Spanish receptive vocabulary when placed in a predominantly English language preschool setting (see also the findings of Barnett et al., 2007). It is also noteworthy that the

concurrent translation bilingual classroom produced the most limited English vocabulary gains of all the classrooms in the study. The shortcomings of concurrent translation vis-a-vis English acquisition have been noted in prior research with elementary-aged Spanish-speakers (Legaretta, 1979; Ulanoff & Pucci, 1999) but never before with preschool children.

## Limitations and Conclusions

The use of qualitative analysis of preschool language and literacy instruction combined with quantifiable measures of children's vocabulary learning has provided insights into effective language and literacy preschool practices for Spanish-speaking ELLs not found in prior research. Mixed methods studies of this nature offer a much needed inside-the-classroom perspective on how sometimes subtle differences in teachers' instructional use of language – be it their approach to the use of English and Spanish or their scaffolding of children's comprehension of storybooks – may impact bilingual children's language and literacy development in both languages. Findings from this study must be considered in light of several limitations, however. First, though it seems certain that differences in language and literacy instruction did impact children's learning, because my classroom-level analyses were descriptive in nature, it is not possible to determine which combination and to what degree the varying dimensions of instruction identified in the study contributed to the differential gains in ELL children's dual language vocabulary growth. Experimental studies that compare the impact of key early literacy practices (e.g. analytic discussions of story content, explicit vocabulary discussions) when offered under differing language of instruction arrangements should be pursued to shed further light on the effects of varying instructional configurations on children's bilingual literacy development. In addition, the study did not explore children's home literacy environments, precluding explanation of differences in learning as a function of their out-of-school experiences. Finally, because the student composition in the six classrooms differed by home language, analyses focused on teachers' instructional talk alone did not account for the impact of children's exposure to varying amounts of English and Spanish in their interactions with peers. The fact that all of the students in the three higher-achieving Spanish vocabulary classrooms were Spanish-speakers, for example, may help explain children's greater Spanish vocabulary improvements in those classrooms. Only research designs which either match classrooms by student composition or statistically control for exposure to peer language will allow us to determine

the contribution of instructional differences alone.

The study nevertheless identified potentially critical instructional supports for Spanish-speaking preschool ELL's vocabulary development. It also shed light on the manner in which these supports may differ depending whether the program goal is English language learning or truly bilingual development, and whether instruction is offered in English, Spanish, or some combination of the two. Given the role bilingual vocabulary development likely plays in Spanish-speaking children's literacy success, the evidence provided in this study is particularly important. Policy-makers and teacher educators committed to enhancing preschool quality for this population of young learners can use such evidence to prepare teachers with a full repertoire of strategies to support ELL's bilingual vocabulary learning, and thus help ensure that children have a solid linguistic foundation with which to face future educational challenges.

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## APPENDIX A

TABLE 4. Characteristics of Language and Literacy Instruction in Six Pre-kindergarten Classrooms Serving Spanish-Speaking English Learners

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| SB1 | Morning greeting / calendar<br>Music & movement<br>Shared writing<br>Reading aloud<br>Skills worksheets<br>Phonics instruction (Letter of the Week)<br>Explicit vocabulary instruction<br>Assigned center play<br>D.E.A.R. time | Predominantly Spanish; Mixed language use (sequential) during calendar, music & movement, and vocabulary lessons; Spanish-only instruction during read-alouds and phonics instruction<br><br>73% Spanish-language teacher talk | Teacher-centered, didactic, theme-based whole group literacy instruction; semantically rich, cognitively challenging Spanish-language teacher talk; some child-initiated talk; extended read-alouds with closed and open-ended comprehension questions, vocabulary discussions; opportunities for Spanish-language peer interaction during group time and independent play | Closed & open-ended questions<br>Physical movement with English songs<br>Some translation of English<br>Teacher modeling<br>Pointing to book illustrations<br>Vocabulary charts<br>Repetition<br>Refocusing children during English instruction | Teacher and student-made calendar charts: bilingual/color-coded<br>Teacher-made vocabulary charts: bilingual. color-coded<br>Spanish language storybooks ( translations of English-language classics) and informational texts<br>phonics worksheets |

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| SB2 | Morning greeting / calendar<br>Phonological awareness training<br>Morning message with embedded phonics instruction<br>Music & movement<br>Books on tape<br>Reading aloud<br>Self-selected center play | Predominantly Spanish; strict separation of languages; English language instruction during music & movement and afternoon science and social studies lessons;<br><br>87% Spanish-language teacher talk | Semantically and grammatically rich Spanish-language teacher talk; open-ended discussion of vocabulary and book themes during read alouds, focus on comprehension, metalinguistic development and Spanish language print skills in contexts of use; opportunities for child initiated talk and Spanish-language peer interaction during group times and independent play. | Predictable routines<br>Closed & open-ended questions<br>Physical movement with English songs<br>Occasional translation of English<br>Teacher modeling<br>Meaningful content connections<br>Pointing to illustrations<br>Repetition<br>Refocusing children during English instruction | Spanish language storybooks (translations of English-language classics) and informational texts, many in big book format; teacher and student-made comprehension charts (Spanish); children's name-cards for phonemic awareness and phonics instruction; dry-erase board for morning message |

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| MB1 | Morning greeting / calendar<br>Music & movement<br>Shared reading of big books<br>Phonological awareness training<br>Shared writing / News of the day with embedded phonics instruction<br>Individual language experience<br>Assigned and self-selected center play<br>Alphabet worksheets | Mixed language use with whole group (concurrent translation) for music & movement, calendar, science & math;<br>Spanish-only small group literacy instruction with ELLs for read alouds, phonological awareness and phonics instruction, shared writing<br><br>66% Spanish-language teacher talk | Carefully scaffolded, though less semantically rich Spanish language teacher talk; opportunities for child-initiated talk during book reading and shared writing, independent play; emphasis on oral vocabulary and expressive language development in Spanish; phonological awareness and embedded phonics instruction | Predictable routines<br>Closed & open-ended questions<br>Physical movement with English songs<br>Meaningful content connections<br>Occasional translation of English<br>Pointing to book illustrations<br>Repetition | Spanish-language big books with predictable formats (English-language versions used with English speakers)<br>Child-dictated language experience charts (Spanish or bilingual, depending on activity context). color-coded by language; multicultural children's literature with Hispanic themes |

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| MB2 | Morning greeting / calendar<br>Music & movement<br>Reading aloud<br>Self-selected play at literacy-enriched centers<br>Book-making and craft projects<br>Explicit instruction in letters, numbers, colors, shapes | Mixed language use (concurrent translation) during most instruction, slightly favoring Spanish; teacher translation of English-language books; all readiness skills, including phonics taught in both languages<br><br>53% Spanish teacher talk | Language and comprehension focus during theme-related read alouds;<br>Emphasis on bilingual vocabulary development;<br>Use of close-ended questions and oral cloze strategy to label book illustrations;<br>Limited emphasis on alphabet skills; Extended opportunities for Spanish-language peer interaction during center play | Predictable routines<br>Closed & open-ended questions<br>Physical movement with English-language songs<br>Concurrent translation of English<br>Pointing to book illustrations<br>Repetition | Spanish- and English-language versions of classic children's storybooks and informational texts; Spanish language phonics chart; teacher-made calendar materials: bilingual, color-coded by language; overhead projector for alphabet instruction |

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| EI1 | Morning greeting / calendar<br>Music & movement<br>Reading aloud<br>Explicit instruction in letters, numbers, colors and shapes<br>Assigned independent center play<br>D.E.A.R. time | Predominantly English with occasional translation of key words and phrases; teacher requests for Spanish-language vocabulary from children; mixed-language table and center groupings | Emphasis on traditional readiness skills and English vocabulary<br>Letter-of-the-week approach to phonological awareness and phonics instruction<br>Highly explicit teacher talk using simplified language and carefully sequenced instruction<br>Thematic approach | Predictable routines<br>Closed or known-answer questions addressed to individual ELL levels of English proficiency<br>Physical movement with English-language songs<br>Occasional translation of English<br>Teacher modeling<br>Pointing to book illustrations<br>Repetition, extending ELL talk<br>Refocusing children during English instruction | English language storybooks related to theme;<br>English-language calendar materials;<br>Interactive phonics board<br>Dry-erase board for skills instruction |

| Classroom | Literacy Activities | Language of instruction | Literacy Focus and Discourse Environment | Comprehension Scaffolds | Instructional Materials |
|---|---|---|---|---|---|
| EI2 | Morning Greeting / calendar<br>Music & Movement<br>Morning message with embedded print concepts & phonics skills<br>Content/theme-related lessons<br>Reading aloud<br>Shared writing<br>Graphing activities<br>Self-selected center play | English only; mixed-language table and center groupings | Semantically rich, extended teacher talk with emphasis on building metacognition<br>Analytic book conversations<br>Emphasis on theme-related content vocabulary<br>Highly scaffolded, embedded phonological awareness and phonics instruction,<br>Some cooperative learning | Predictable routines<br>Many open-ended questions<br>Physical movement with English-language songs<br>Teacher modeling<br>Pointing to illustrations in books | Vocabulary-rich English language story and information books related to theme; English-language calendar materials and other functional print charts (e.g. jobs chart); interactive phonics board; dry-erase board for morning message and alphabet skills instruction |

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# Connecting Critical Thinking, Organizational Structures and Report Writing

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**KEY WORDS:** Critical thinking, organizational structures, I-Chart, graphic organizer, outline, assessment

*This quasi-experimental study was conducted with six fifth grade classes to determine the connection of three organizational structures to critical thinking while performing a report writing task. Each class was randomly assigned to one of three instructional conditions: traditional outline, graphic organizer, and inquiry chart (I-Chart). Each participant completed a research report on a famous American which served as a Phase One assessment. Following instruction on one of the organizational structures, a Phase Two assessment research report was completed. Using a rubric formulated by the New York State Education Department, a team of practitioners graded both reports. An ANOVA was done on the gain scores from Phase One assessment to Phase Two assessment. The I-Chart group's gains in critical thinking were significantly higher than those for the outline and graphic organizer groups. However, a questionnaire completed by the students revealed the I-Chart group rated the likelihood of using it again significantly lower than the outline group.*

Proficient writing for middle school and young adolescent students is currently a national concern. Recent reports indicate that writing well is not occurring in our nation's schools even while good writing is essential for our students to achieve in the global workforce (Biancarosa & Snow, 2006; Graham & Perin, 2007, National Commission on Writing, 2003; 2005). The writing exam results of the 2002 National Assessment of Educational Progress (NAEP) revealed that 69% of 8th -grade students and 72% of 4th grade students performed at or below the basic level of writing while 22% to 26% achieved at the proficient level and only a few wrote at the advanced level of writing (Persky, Daane, & Jin, 2003).

Writing proficiently is especially important when done in tandem with reading. When students write while engaged in reading, they show evidence of critical thinking about what they read (Biancarosa & Snow, 2006). For over two decades, researchers and literacy educators noted that when students write while processing textual material, they are better able to understand unfamiliar content, learn new information, and reveal more complex thoughts (Newell, 1984; Newell & Winograd, 1989; Riley & Reedy, 2005; Spivey, 1990). While the practice of using text sources is a very common way that writing proceeds as well as a very common reason to engage in reading, not much research attention has focused on composing from sources (Spivey, 1990).

In the school arena, composing and writing based on informational sources are usually featured as the research report. In contrast to the story framework or the narrative structure which is generally well developed among elementary school children (Bereiter & Scardamalia, 1987; Feathers, 1998; Green & Sutton, 2003; Sinatra, Blake, Guastello, & Robertson, 2007; Scardamalia & Breiter, 1986; Venezky, 2000), upper elementary school, middle school, and young adults must now engage in even more mindful organizing, composing, and recursive writing/reading processes. They are confronted with a task that involves both brainstorming and thoughtful planning (Flower & Hayes, 1980; Page-Voth & Graham, 1999; Troia, Graham, & Harris, 1999); researching and synthesizing information from sources (Graham & Perin, 2007; Gunning, 2003); weighing the relative importance of ideas (Klein, 2000; McKenna & Robinson, 2002); organizing the information prior to and during the writing (Meyer, 2003; Meyer & Poon, 2001; Riley & Reedy, 2005; Sinatra, 2000); and completing the report in the expository mode of discourse (Pieronek, 1994; Ruddell, 2005). In order to reveal knowledge and to show that they understand, students must rework and synthesize source information into their own language, group details, and communicate through writing the ideas and information they have internalized (Gunning, 2003; National Commission on Writing, 2003).

Educators have also acknowledged that writing is a means by which students reveal their abilities to think critically (Dixon, Cassady, Cross, 2005; McKeachie, Chism, Menges, Svinicki, & Weinstein, 1994). Critical thinking may be likened to directed, purposeful thinking as contrasted to that which is routine and not grounded in goals or a purpose (Halpern, 1984). Ennis' view (1987, 1989) of reasonable and reflective critical thinking included components of formulating a key question or issue, noting similarities and differences, summarizing, and posing questions of clarification. Purposeful goal-directed activity in the report writing process is that of planning (Troia, Graham, & Harris, 1999) facilitated by the effective use of an organizational structure or schema to guide the plan while composing and writing. However, to complicate the research report genre and methodology, teachers and students do not seem to share the same collective notion of the structure and the research processes involved in arriving at the finished product (Beach, 1983; McMackin, 1994; Pieronek, 1994; White & Greenwood, 1995).

Nevertheless, national and state standards continue to acknowledge the research report to be a high-priority literacy task. Five of the 12 national English language arts standards specifically ask students to communicate effectively through writing: create, research, and discuss texts; and use a variety of sources to gather and share information (National Council of Teachers of English and International Reading Association, 1996). Two of the four English Language Arts (ELA) Standards of New York State ask students to think deeply; form relationships and generalizations; gain, interpret, and transmit information; and analyze ideas, information and issues (New York State Education Department, 1996, 2005). Achieving these standards becomes a complex task with which many students require help (Laase, 1996), in that they need to be shown how to develop their thinking abilities to organize expository/informational content on paper (Meyer, 2003; Sinatra, Blake, Guastello, & Robertson, 2007). In short, engagement in the research report not only encourages critical thinking about a topic under study but also provides a procedural way to connect and apply reading skills to reference sources (Roe, Stoodt-Hill, & Burns, 2007).

## Related Research on Organizational Structures

Through the years student writers have been encouraged to use various organizational structures to help them in the planning and writing process. These have included linear- and nonlinear - organizational patterns reflecting how different content - specific patterns of knowledge and conceptual structures are organized (Hyerle, 1996). Such structures have been known as outlines, graphic or visual organizers, and inquiry charts.

*The outline*. The outline has been used as a traditional structure to harness vast amounts of information for reading and writing purposes (Hyerle, 1996). Informational texts display the outline structure in the Table of Contents, and many word processing programs contain an outline feature or capacity (Gunning, 2003; Roe, Stoodt-Hill, & Burns, 2007). An important feature of outlining is weighing the relative importance of ideas and classifying concepts into categories and subcategories (Gunning, 2003; McKenna & Robinson, 2002) while giving attention to logical presentation of expository prose prior to writing (Pieronek, 1994). To achieve this logical presentation, the degree of importance given to ideas and concepts is done by letters, numbers, and indentation of entries (Roe, Stoodt-Hill, & Burns, 2007).

*Graphic Organizers*. The graphic organizer has served as a non-linear structural outline and planning alternative to the traditional outline. Also known as semantic and concept maps, the graphic organizer is a visual diagram or model representing how key concepts and supporting information are related and connected to each other (McKenna & Robinson, 2002). Students have been taught and encouraged to use the visual plan to assemble information from text and show it in an organized pattern that represents a "whole" (Sinatra, 2000) while vividly displaying key concepts that jump out from the page (Robinson, 1998).

Such visual maps and organizers have been used as prewriting plans (Ruddell, 2005), as organizational frameworks for the production of compositions and reports (Wong, 1997), and as a decision-making strategy for making thinking visible (Beyer, 1998). Researchers have reported that students with and without learning problems have improved in reading comprehension, planning for writing, and quality of writing when they have been shown how text ideas are organized in narrative and expository readings and when they have been provided with visual models of text organization (Blake & Sinatra, 2005; Davis, 1994; Guastello, Beasley, & Sinatra, 2000; Swanson & DeLaPaz, 1998; Vallecorsa & deBettencourt, 1997; Wong, 1997). While conceding that traditional outlining and concept mapping are somewhat similar in their representation of concepts, Ryder and Graves (2003) pointed out that an important distinction between the two is that because the maps are more visual in form, they can display multiple and coordinating relationships through graphic symbol usage and users can display information from their background knowledge.

*Inquiry Chart (I-Chart)*. Hoffman (1992) proposed an organizational structure called the inquiry chart or I -Chart for use by elementary level teachers as they assisted their students in exploring ideas related to a central topic. Essentially the chart was constructed as a grid system on a

sheet of paper. Across the top of the grid key questions related to the topic were posed and down the left column the reference materials were listed that provided information in answering each question (see Appendix B).

Hoffman (1992) combined features of Ogle's (1986, 1989) K-W-L (what students *Know,* what they *Want* to know, and what they *Learned*) chart and McKenzie's (1979) data charts into the I-Chart. Ogle's chart enabled students to record and examine the relationship between prior knowledge and newly acquired knowledge, whereas McKenzie's chart allowed students to record and compare information among various resources. Hoffman (1992) contended that students could use the I-Chart framework to develop written reports, and that concepts such as organization and paragraph structure, so difficult for many students to grasp, are readily learned through support of the I-Chart.

Moreover, according to Hoffman (1992), the I-Chart nurtured critical thinking through its inquiry process of question answering. A unique feature of the I-Chart is that it gives students the opportunity to compare answers from various sources as well as to compare information with their prior knowledge. The I -Chart procedure is organized around three phases: planning, interacting, and integrating/evaluating. The first phase involves note-taking, whereas the latter two require both exploration of prior knowledge and beliefs as well as comparison and evaluation of information that might be conflicting (Hoffman, 1992).

While the I-Chart strategy is grounded in theory regarding its influence on critical thinking, the use of prior knowledge, and metacognitive awareness, no published research providing evidence of its usefulness existed until Randall (1996) attempted an action research project with her eighth graders. Using a modified I-Chart procedure with an interdisciplinary unit on the environment, she found that the procedure allowed students to visualize the task confronting them, provided a tool for the organization of formal research, and guided them to continuously evaluate their progress. Initially, McKenzie (1979) reported that teachers and librarians claimed that the quality of pupil reports was vastly improved when students used research charts such as this as an intermediate step between the assignment and writing up the report. To date, this claim has only been discussed in theory and not as empirical research to determine the effectiveness of such chart use as an organizer for research reports.

## Rationale

A review of the research revealed no empirical studies that investigated the effects of comparing the I -Chart with other planning and organizational techniques on students' thinking processes while engaged in report writing.

Furthermore, a secondary search of three well-known data bases revealed no empirical studies or dissertations on the use of outlines as an aid in the writing of the research report although the strategy has been well documented by literacy authors (Anderson & Armbruster, 1984; Gunning, 2003; Kiewra & Robinson, 1995; McKenna & Robinson, 2002; Pieronek, 1994; Roe, Stoodt-Hill & Burns, 2007; Ryder & Graves, 2003; Santa, Havens, & Maycumber, 1996). The National Reading Panel (National Institute of Child Health and Human Development, 2000) did include 11 empirical studies on graphic organizers in their scientific review of the research literature on text comprehension and noted that children who would benefit most from graphic organizer instruction needed to have skill in both writing and reading. Thus the purpose of this present investigation was to determine the effectiveness of three organizing tools; the traditional outline, the graphic organizer, and the inquiry chart (I-Chart), in helping fifth-grade students think critically while preparing and writing the research report, a task designated by the school district as an important reference point in each child's reading and writing growth.

## *Research questions*

Three major research questions were generated as follows with some containing sub-questions.

1. Are there variations in the *critical thinking abilities* of fifth-grade students as a function of different organizational structures use?

   Based on the components of the modified New York State scoring rubric, the following sub-questions were generated: Are there differences in *understanding, analysis,* and *idea development* among fifth-grade students when they use one of the three organizational structures?

2. Is there an *ability* for *critical thinking* by organizational structure interaction?

   Sub-questions were generated for low-ability writers and high-ability writers as they applied critical thinking abilities when using one of three organizational structures: Are there differences in *critical thinking abilities* among fifth-grade between *low-ability writers* and *high-ability writers* when they use one of the three organizational structures?

3. What are students' perceptions regarding the three organizational structures on their thinking and writing abilities?

## Method

### *Research design*

A quasi-experimental, nonequivalent control design was used in this study. Six of the seven heterogeneously grouped fifth-grade classes that participated in the study were randomly assigned to each of the three instructional conditions. To eliminate teacher bias, the seventh class, the primary researcher's own class, did not participate in the study. The six participating classes made up three groups of equally distributed students. They were equally distributed based on the previous year's teachers' rankings of the children's ability based on classroom performance and the fourth-grade ELA assessment (1999). The principal then separately compiled all of the teachers' high, medium, and low students and randomly distributed the children of various abilities to each of the seven classes to make classes of equally-distributed heterogeneous groupings. The six participating classes received instruction in identical content over the duration of the study according to the instructional condition to which they were assigned. The primary researcher taught the three groups in all six classes according to the appropriate instructional condition over a three week period.

### *Participants*

This study was conducted in a grades 2 – 5 elementary school in an affluent suburb on Long Island, New York. This school was chosen because it was both accessible and because many of the students had demonstrated high competency with writing, a condition that would impact the writing of the research report. One hundred and forty three students were invited to participate in the study but only 135 returned the necessary consent forms. Eight of these students did not complete either the Phase One or Phase Two report and were therefore eliminated from the study. Of the 127 predominantly Caucasian fifth-grade students who participated, 103 were of average to high average ability in writing competency based on the fourth grade New York State English Language Arts (ELA) Testing Program (New York State, 1999). These students scored at level "3" (acceptable writing standard) and a level "4" (advanced writing proficiency). Of the remaining students, 18 were enrolled in the remedial reading program and 6 others were identified as resource room students. The remedial reading and resource room students scored at or below level "2" (below acceptable standards) on the New York State ELA testing procedure.

### *Measures*

Two measures were used to obtain quantitative and qualitative data. To evaluate the students' critical thinking abilities, the researchers used a modification of the Scoring Rubric for New York State Elementary English Language Arts Assessment (New York State Education Department, 1996, 2005). This four-point rubric was used to assess how well students engaged in critical thinking. This rubric evaluated students' critical thinking processes in the three areas of understanding, analysis, and idea development while engaged in the task of reporting about a famous person of American history (see Appendix A). Included in the weighted areas of the rubric were the thinking skills of evaluating critical information, elaboration, interpretation, analysis, and drawing meaningful connections.

A second instrument, a student questionnaire, was designed to assess students' attitudes and perceptions regarding the three organizational structures. The first part of the questionnaire contained three questions, each of which was rated on a four-point Likert scale containing choices (1) not at all helpful, (2) somewhat helpful, (3) very helpful, and (4) extremely helpful. The three questions were: (1) How helpful was the organizational structure you used for your thinking while researching and writing your report? (2) How helpful was the organizational structure you used for actually writing your research report? (3) How likely is that you will use this organizational structure again to help you write a research report? The second part, requiring a written response, asked students to explain how their organizational structure helped with their thinking and writing of the research report.

### *Study variables*

The dependent variables in this study were the scores on the critical thinking rubric: (a) understanding, (b) analysis, and (c) idea development. The major independent variable was the organizational instructional condition: (a) outline (see Appendix B), (b) graphic organizer (see Appendix C), and (c) I-Chart (see Appendix D). The research report for all three groups was famous Americans in history, a topic that complemented the New York State social studies curriculum as well as the school district's portfolio criteria.. The district had designated the research report to be included as a benchmark portfolio item in each student's cumulative file.

### *Procedure*

On days one, two, and three, all three groups were given three separate packets containing identical information on the famous American, Charles Lindbergh, and were asked to write a report on him. The packets held an encyclopedia citation, an internet article, and a book, and were 2, 2, and 16 pages respectively. No instructions were given on preplanning. Students worked on these reports during these three days only for the 40-minute period each day that the researcher was present. Students did not have access to any resources on Charles Lindbergh other than the identical packets provided to each student by the researcher during the 40-minute period. The completed Charles Lindbergh reports served as the Phase One assessment. On the fourth day, the researcher again provided the students in all three groups with the aforementioned information on Charles Lindbergh. She modeled how to transform this information into a research report using each group's respective structure. The researcher intentionally used the Charles Lindbergh information again because the students were familiar with the material and would be able to contribute to the modeling. Students also received instruction in differing levels of questioning. Students were shown that a literal question dealt with information explicitly stated in text sources, whereas a higher-level thinking question required students to think critically about information stated and inferred in text sources. The completed organizational structures shown in Appendix B were created by the primary researcher with each respective group on Day 5. The structures served as a model of how to create topics and questions and how to utilize the structure as a thinking and organizing tool for the writing of a research report.

In addition, on the fifth day, students were allowed to select the name of a famous American from a list of 25. The list included such famous Americans as Elizabeth Blackwell, Amelia Earhart, Benjamin Franklin, Martin Luther King, Jr., Helen Keller, John F. Kennedy, and Eleanor Roosevelt. During days 6-15, students researched information regarding their chosen famous American, arranged that information into their respective organizational structure, and used their completed structure to write the research report. The completed Charles Lindbergh reports served as the Phase One assessment. The completed famous American research reports served as the Phase Two assessment.

Two days after the intervention was completed, students were given the questionnaire to determine if and how their respective structure aided them in their thinking, organizing, and writing of the report. The primary researcher was present while each class completed the questionnaire and

assisted while reading and explaining each question and answering student questions. The results of the questionnaires were subsequently analyzed.

### *Scoring procedures*

The students' Phase One assessment and Phase Two assessment research reports were graded anonymously by a team of practitioners comprised of the primary researcher, the school reading specialist, and a fifth-grade teacher, according to the three areas of critical thinking rubric (New York State Education Department, 1996, 2005). All three raters had been involved the previous year in the mandatory training of the holistic scoring of the New York State ELA Assessment Program. The primary researcher graded all 254 research reports using the critical thinking rubric and the two other raters graded about 50-60 research reports each, half in collaboration with the primary researcher and half on their own. The voluntary nature of the scoring of all of this study's research reports demanded a great deal of time which cooperating teachers distributed in the best interest of the study. Inter-rater reliability was assessed at .923.

## Results

The Charles Lindbergh research report was used as the Phase One assessment for each of the three conditions. An ANOVA was conducted on the Phase One assessments for overall critical thinking ability ($F = .691$, $p = .503$), and for the analytic components of understanding ($F = 1.91$, $p = .15$), analysis ($F = .247$, $p = .781$), and idea development ($F = 1.152$, $p = .319$). In each case, the results indicated no significant difference among the Phase One assessments.

To examine the effect of the three organizing structures on the critical thinking of fifth-grade students writing a research report, a one-way analysis of variance (ANOVA) was conducted on the gain scores of each of the dependent variables. The gain score analysis was chosen because the research questions focused directly on growth between the Phase One and Phase Two assessments. The independent variable, organizing structures, included three levels: outline, graphic organizer, and I-Chart. The dependent variables included the gain scores, i.e., differences between the Phase One and Phase Two assessments for critical thinking ability, and for the analytic components of understanding, analysis, and idea development. For each measure, post hoc multiple comparisons using the Tukey HSD were used to identify significant differences among the specific organizational structures. Cohen's *d,* with pooled standard deviations, was computed on the gain scores as a measure of effect size.

The results of score gains among the overall critical thinking variables are summarized in Table 1. The results indicated that students in the three

instructional conditions scored similarly on the critical thinking Phase One assessments. However, on the critical thinking Phase Two assessments, the I-Chart group scored higher than either the graphic organizer or the outline group. The Gain Score Analysis ($F = 20.43$, $p < .05$) suggested that there is a significant difference among the three instructional conditions. Tukey's HSD test for pair wise comparisons shows that the I-Chart group gained significantly more on critical thinking than both the graphic organizer and outline groups. Cohen's d was also computed ($d = 1.14$) and indicated that the I-Chart group gained more than 1 standard deviation above the other two groups combined. The outline group evidenced the smallest gain of the three instructional groups.

TABLE 1. Phase One Assessment, Phase Two Assessment, and Gain Scores for Critical Thinking Variable

| Critical Thinking | Phase One assessment | Phase Two assessment | Gain |
|---|---|---|---|
| Variable | *M (SD)* | *M (SD)* | *M (SD)* |
| Outline (n = 35) | 2.04 (0.49) | 2.06 (0.68 ) | 0.02 (0.59) |
| Graphic Organizer (n = 43) | 2.15 (0.45) | 2.05 (0.52) | -0.09 (0.47) |
| I-Chart (n = 49) | 2.14 (0.37) | 2.69 (0.63) | 0.55 (0.50) |

The results of three components of the critical thinking rubric are summarized in Table 2. Students in the three instructional conditions scored similarly on understanding on the Phase One assessment, but on Phase Two assessment, the I-Chart group scored higher on understanding than either the graphic organizer or the outline group. The Gain Score Analysis ($F = 7.25$, $p < .05$) indicated a significant difference among the three instructional conditions. Tukey's HSD test for pair wise comparisons revealed that the I-Chart group gained significantly more on understanding than both the graphic organizer and outline groups. Cohen's d was also computed ($d = .79$) and suggested that the I-Chart group gained almost 4/5 of a standard deviation more than the other two groups combined. The graphic organizer group evidenced the smallest gain of the three instructional groups in the component of understanding.

TABLE 2. Phase One Assessment, Phase Two Assessment, and Gain Scores for Critical Thinking Rubric Elements

| Rubric Element | | Instructional Condition | | |
|---|---|---|---|---|
| | | Outline | Graphic Organizer | I-Chart |
| | | *M (SD)* | *M (SD)* | *M (SD)* |
| Understanding | Phase One assessment | 1.83 (0.51) | 2.06 (0.57) | 2.07 (0.59) |
| | Phase Two assessment | 2.06 (0.78) | 2.14 (0.60) | 2.64 (0.75) |
| | Gain | 0.24(0.70) | -0.08 (0.59 ) | 0.56 (0.58) |
| Analysis | Phase One assessment | 2.29 (0.67) | 2.24 (0.47) | 2.21 (0.38 ) |
| | Phase Two assessment | 2.06 (0.65) | 2.07 (0.59) | 2.90 (0.61) |
| | Gain | - 0.24 (0.74) | - 0.17 (0.68) | 0.68 (0.67) |
| Idea Development | Phase One assessment | 2.00 (0.59) | 2.14 (0.53) | 2.12 (0.44) |
| | Phase Two assessment | 2.06 (0.78) | 1.95 (0.72) | 2.52 (0.74) |
| | Gain | .06 (0.78) | - 0.19 (0.67) | 0.41 (0.67) |

Students in the three instructional conditions scored similarly on analysis on the Phase One assessment but on the Phase Two assessment, the I-Chart group scored higher on analysis than either the graphic organizer or the outline group. The Gain Score Analysis ($F$= 24.56, $p < .05$) pointed to a significant difference among the three instructional conditions. Tukey's HSD test for pair wise comparisons revealed that the I-Chart group gained significantly more on analysis than both the graphic organizer and outline groups. Cohen's effect size ($d$ = 1.25) indicated that the I-Chart group gained 1⅓ standard deviations more than the other two groups combined. In the analysis component the outline group evidenced the smallest gain of the three instructional groups.

On the idea development component of the critical thinking rubric, similar results were found. Students in the three instructional conditions scored similarly on idea development of the Phase One assessment, but on the Phase Two assessment, the I-Chart group scored higher than either the

graphic organizer or the outline group. The Gain Score Analysis ($F = 8.32$, $p < .05$) pointed to a significant difference among the three instructional conditions. Tukey's HSD test for pair wise comparisons suggested that the I-Chart group gained significantly more on idea development than both the graphic organizer and outline groups. Cohen's effect size ($d = .68$) indicated that the I-Chart group gained almost 7/10 of a standard deviation more than the other groups combined. The graphic organizer group evidenced the smallest gain of the three instructional groups on idea development.

Regarding the second research question, it appears that the students in the I-Chart condition evidenced gains regardless of their ability. The gain scores of the other instructional conditions were dependent on ability level (see Figure 1). When using the outline approach, low achieving writers evidenced a decrease in their scores while average to proficient writers evidenced a positive gain. Average to proficient writers made less improvement while low achieving writers evidenced higher gain scores when using the graphic organizer.

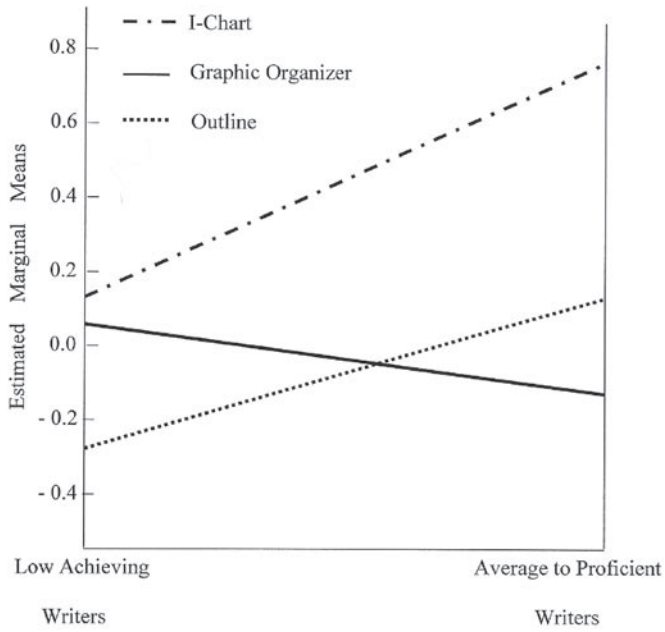


FIGURE 1. Interaction of instructional condition and ability of writers.

In order to determine students' perceptions regarding the three organizational structures on their thinking and writing abilities, the questionnaire was administered to all 127 students and their responses were analyzed. For question 1: *How helpful was the organizational structure you used for your thinking while researching and writing your report?* the I-Chart group ($M$=3.22, $SD$= 0.68) rated their organizational structure significantly higher [$F$=6.905, $p$<.001] than the graphic organizer ($M$=2.81, $SD$= 0.66) and outline ($M$=2.74, $SD$= 0.61) groups. For question 2: *How helpful was the organizational structure you used for actually writing your research report?* the difference in ratings was not [$F$<l] statistically significant. For question 3: *How likely is it that you will use this organizational structure again to help you write a research report?* there was a significant [$F$ = 4.311, $p$ =.015] difference. Tukey's HSD showed that the outline group ($M$ = 2.83, $SD$= 0.86) rated this likelihood significantly higher than the I-Chart group ($M$ = 2.32, $SD$= 0.91), whereas the graphic organizer group ( $M$ = 2.70, $SD$ = 0.74) was not statistically different from either one of the other two groups.

In summary, the results revealed that although the students in all three groups scored similarly on the critical thinking Phase One assessment, the I -Chart group gained significantly more than both the outline and graphic organizer groups on critical thinking and in all categories of the critical thinking rubric. That is, the I-Chart participants scored significantly higher on understanding, analysis and idea development on the Phase Two assessment.

## Discussion

In this study, the I-Chart group's gains from Phase One assessment to Phase Two assessment on *critical thinking* and virtually all of their respective categories were significantly higher than the gains for the outline and graphic organizer groups. The significantly higher gains in all of these areas could be a result of the I-Chart's unique structure and characteristics. First, resources listed down the side with cells corresponding to each question filled in according to each resource could have led to improvement in the *idea development* realm of critical thinking. While filling in the cells, students had to extract information about every question from every single resource, thus providing them with more facts and details to be included in their reports. This premise is supported by the significant difference between the I-Chart group's and the outline group's responses to Question Three on their questionnaires and by the I-Chart group's written statements on their questionnaires. Question 3 asked how likely it would be that students would use this organizational structure again to help them write a research report. The I-Chart group rated the likelihood of using their

organizational structure again significantly lower than the outline group ($F = 4.31, p = .015$). Their reasoning was evident in two of the questionnaire responses where ten students of the 49 explained that it took too long to fill in the whole chart, and eight students complained about having to write the same information over "so many times." In fact, one student claimed that the I-Chart "gave me headaches" and another stated that repeating the information "was a waste of time." Still others exclaimed that they would not use it again unless they had a lot of time to complete it, "like a month!" One student went so far as to say that (s)he would only use the I-Chart under one circumstance, "if it counts A LOT for my grade." While they complained, the students in the I-Chart group were directed in their thinking to answer the questions from multiple sources but this task may have proved to be too repetitive and too time consuming in reporting the researched information.

Secondly, the guiding questions listed across the top of the I-Chart might have caused higher gains in the *understanding* and *analysis* categories of critical thinking insofar as they required the addressing of questions rather than the recording of information. Students might have delved more deeply into the material, gaining understanding, making judgments, and giving opinions. One I-Chart student stated the following on his/her response in the questionnaire, "The I-Chart helped me to think while researching because when I read the resources, I had to think what was important, and when I put down all the information, it helped me verify facts." Another student asserted that if there were more than one answer, "I would have to think about which answer would go in the report." The open-ended questions on the questionnaire required that students explain how the organizational structure helped them with their thinking and writing of the research reports. Thirteen students in the I-Chart group maintained that the I-Chart enabled them to write "a lot of different information," "a ton of data," "more than I thought I needed." One student admitted, "I couldn't have written as much without the 1- Chart." The children's responses quoted above support the premise that the significant difference in gains among I-Chart, graphic organizer and outline groups could be due to the fact that the I-Chart students had no choice but to include a multitude of information from various resources whereas the others could have gotten away without doing so.

Conflicting information between resources about a question in close proximity to each other on the I-Chart might have led to increases in the analysis sphere of critical thinking, making it easier for students to find conflicts between and make comparisons across resources because the information was visually obvious by being listed in the same column. One

student wrote this in his response, "All the information was in one column, making it easy to compare." Another added, "for example, if one book said the person was born in 1960 and another said 1920, 1'd compare and see how many books said 1960 and how many said 1920."

While students in all three groups had access to the same informational sources, students in the outline and graphic organizer groups may have been placed in situations whereby they were limited or constricted in their abilities to develop ideas, analyze and evaluate source materials. As a structural aide, the outline has posed problems for some students as it requires them to take time to plan and think through the logical arrangements of a text while representing meaning in the outline structural form (Anderson & Armbruster, 1984). Students in the outline group may have profited from planning and idea developing if they were shown how to increase indentation and make additional entries on the Charles Lindbergh model. More in-depth explicit teaching and practice in the shell structure formation of letters and numbers may be needed (McKenna & Robinson, 2002). This kind of instruction may be especially helpful to middle school students as they become initiated into the report writing process.

Previous researchers had noted that the graphic organizer has been an effective tool in improving student planning, idea development, and writing (Blake & Sinatra, 2005; Guastello, Beasley, & Sinatra, 2000; Hyerle, 1996; Reynolds & Hart, 1990; Sinatra, 2000). The present investigation did not reveal these benefits for this organizational structure. In this study, students had to use the model structure of the graphic organizer done on the life of Charles Lindbergh to develop ideas and create topics for explanation about a second famous American gathered from a variety of text sources. Like the outline group participants, the graphic organizer students may have felt limited by the organizer structure itself in that it only revealed so many topic and sub-topic categories in its model planning form. By showing students, especially those somewhat talented in writing ability, how to expand the organizer model with additional topic and sub-topic categories of information, students may have been sufficiently motivated to research, connect and analyze information, and write more about a famous American.

## Limitations

The results of this quasi-experimental, nonequivalent control design may only be generalized to similar populations as the sample (i.e., primarily white fifth-grade students in an affluent elementary school, since there was no random selection of subjects). Attrition was a threat to the internal validity of this study. Eight students, seven of whom were in the graphic organizer instructional group, were eliminated after the study

began because they failed to complete either the Phase One or the Phase Two assessment research reports. This attrition potentially affected the results. Thus due to the difference in sample size, the effects of the I-Chart were potentially overestimated.

Moreover, because the task in this study required such writing skills as developing and organizing a topic, elaborating with content, and appropriately using language and writing conventions, teacher differences may have impacted the students' writing outcomes. Teachers may have different opinions regarding the use of a rubric in scoring organization and development of a paper and the weight given to content, language, and mechanics. Another potential problem involves differences in how raters use rubrics to score students' pre- and post-written assessments. Although inter-rater reliability is established prior to a study, differences in rater thinking that may emerge during a study can adversely affect findings.

## Implications

The I-Chart has proven to be an effective organizational structure to use for the sample in this study. It appears that the nature of the I-Chart makes it a highly effective tool for improving the writing of fifth grade students' research reports, and especially for improving these students' critical thinking when researching and writing their reports. Its effectiveness needs to be investigated with various grade levels and with different populations of students, particularly low-achieving, special education, and students experiencing difficulty in achieving quality written products in order to validate and generalize the findings of this study.

Furthermore, it is important that this study be replicated with additional, repeated trials through modeling and practice with different populations in order to assess the differential effectiveness of the instructional strategies. Perhaps the continued successful use of one organizational structure would facilitate students' incorporating the use of that planning tool into their own style of planning and report writing. Such incorporation could prompt students to do more than just research information, rather, it could lead them to start thinking critically about how to organize and analyze the information.

The use of small, cooperative learning groups has been shown to be effective in other areas of literacy, primarily reading comprehension (National Institute of Child Health and Human Development, 2000). Small group configurations composed of students researching information and planning for writing warrant further investigation. Given the fact that there is limited research on the I-Chart, future researchers can also focus on small groups of students interacting to complete the I-Chart. Whether such interaction and completion of the I-Chart would lead students to become better critical thinkers and writers remains to be determined in future investigations.

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APPENDIX A

Critical Thinking Rubric*

| Quality | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Understanding | • Presents information with limited or no explanation | • Presents some information explaining about the famous person, but may be missing critical information | • Includes critical information explaining about the famous person with some elaboration and explanation | • Includes a broad range of critical information explaining about the famous person |
| Analysis | • May contain factual errors and/or misinterpretations | • May contain a completely literal interpretation of text | • Contains some evidence of interpretation and analysis | • Goes beyond the factual information presented in the text to interpret and analyze |
| Idea Development | • Develops ideas in fragmentary manner without using supporting details from the text and/or includes random information and personal details unrelated to the topic<br>• May be off-topic or task completely<br>• Draws little or no meaningful connections | • Ideas are stated simply with few supporting details from the text<br>• May wander from the topic or task<br>• Draws few meaningful connections | • Develops ideas clearly with some supporting details from text<br>• Draws some meaningful connections | • Develops and elaborates ideas clearly and fully using many supportive and relevant details from the text<br>• Draws meaningful connections between ideas |

* Modified from the Scoring Rubric for New York State Elementary English Language Arts Assessment (New York State Education Department, 1996, 2005).

## APPENDIX B

Outline

Charles Lindbergh

I. Early Years
   - A. Significant Events
   - B. Influence on Later Life

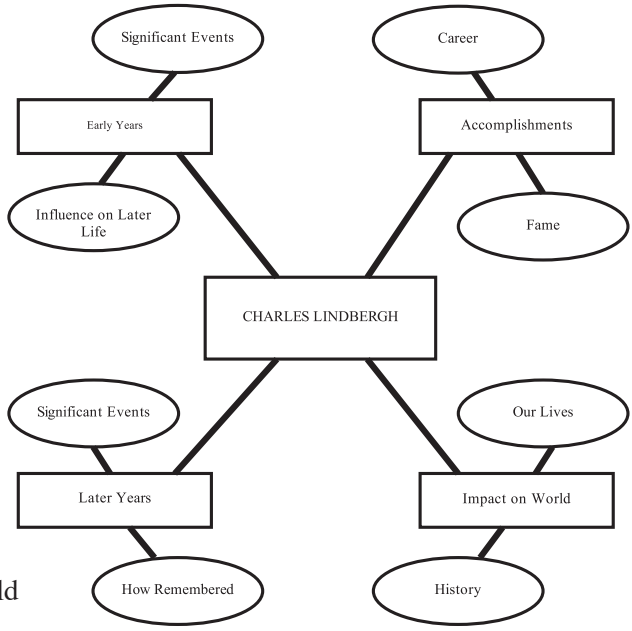
II. Accomplishments
   - A. Career
   - B. Fame

III. Later Years
   - A. Significant Events
   - B. How Remembered

IV. Impact on the World

## APPENDIX C

Graphic Organizer




## APPENDIX D

| I-Chart | | | | | |
|---|---|---|---|---|---|
| Charles Lindbergh | What were the significant events in his early life? | How did these early events influence his accomplishments? | What were his career and fame accomplishments? | What were the significant events in his later years? | How would history and our lives be different if he had not lived? |
| What I Know | | | | | |
| World Book | | | | | |
| Encarta | | | | | |
| Internet | | | | | |
| Audio-Visual | | | | | |
| Library Book | | | | | |
| Summary | | | | | |

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# Teachers' Attempts to Teach Comprehension Strategies Explicitly During Core Instruction

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*Although many calls exist in professional texts and literacy research to teach comprehension strategies explicitly, this type of instruction often receives scant attention in schools. One possible reason for this state relates to the challenges posed by this instruction. This study explored two professional development approaches designed to support teachers during their initial learning of a framework known as transactional strategies instruction (TSI), which features explicit strategies instruction. Over the course of a semester, sixteen teachers in four elementary schools received one of two types of professional development: 1) annotated model lessons drawn from professional literature, or 2) small-group coaching provided once per month. Qualitative analysis revealed several challenges teachers faced as they attempted to integrate TSI with their core reading instruction. In addition, data analysis led to the identification of specific integration patterns that described teachers' trajectories in learning TSI.*

**KEY WORDS:** reading, comprehension strategies, instruction, teaching strategies

The explicit teaching of a small set of powerful strategies is considered a vital component of comprehension instruction (NRP, 2000; Pressley, 2002). Given this fact, basal publishers have rushed to include comprehension strategies instruction in their delivery programs. Yet, to date, widespread observations of elementary instruction indicate that effective comprehension instruction is not regularly observed in schools, whether (or not) teachers use basals for core reading instruction (Pressley, Wharton-McDonald, Mistretta, & Echevarria, 1998; Taylor, Pearson, Clark, & Walpole, 2000).

Previous research has revealed considerable information about the nature of skilled comprehension and effective strategies instruction (NRP, 2000). For one, proficient readers are metacognitive, motivated readers (Pressley & Afflerbach, 1995). They evaluate texts and respond to them, not just intellectually, but also emotively and aesthetically (Duke

& Pearson, 2002). Good readers also enact comprehension strategies by actively predicting, questioning, clarifying, visualizing, determining importance, summarizing, and connecting to prior knowledge. What is more, skilled readers orchestrate their use of strategies, taking into account their interests and prior knowledge when responding to text cues.

Teachers can promote effective strategies instruction through a research-supported model that promotes gradually releasing responsibility for strategies use over time (Pearson & Gallagher, 1983). During initial instruction, teachers provide explicit declarative, procedural and conditional information, which addresses what the strategy is, why it is beneficial, and when, where, and how to use it under diverse conditions (Almasi, 2003; Duffy, et al., 1986). In addition, teachers model personal use of strategies while talking through their thinking. For example, a teacher might read aloud the first few paragraphs of a text, explaining how the text triggered a memory, which paralleled an experience of the main character. This teacher then describes several ways in which the recollection helped her better understand the character's feelings. By making connections to prior knowledge as well as revealing how the strategy aided her comprehension, the teacher models the benefits of using a strategy in a particular circumstance.

As teachers shift responsibility for the use of strategies to students, they engage in shared modeling and practice. The process continues with teachers employing various scaffolds to guide students' use of strategies as they construct well-supported interpretations of text. As students assume greater control, teachers provide increased opportunities for students to apply strategies with diverse genres and materials -- when reading with others, reading alone, or engaging in spirited text talk.

However, research shows that explicit teaching of strategies is multifaceted, and thereby challenging at times (Brown, 2008; El-Dinary, 2002; Hilden & Pressley, 2007). This complexity, at least in part, may account for why this instruction remains underprovided in schools. Another reason for the scarcity of effective strategies instruction is that basal series do not adopt research-based guidelines for teaching multiple comprehension strategies explicitly, despite their publishers' insistence that they do.

Dewitz (2006) explored the manner in which five basal series instantiated research-based guidelines. Dewitz and his colleagues found that, although comprehension strategies instruction was incorporated in each one, a stark discrepancy existed between the way publishers integrated explicit comprehension strategies instruction and the way researchers characterized effective instruction since the late 1980's (NRP, 2000). These programs, to varying degrees, fell short in at least three critical areas (Dewitz, 2006, 2007). First, they presented the strategies independently, in isolation from one another. This rendering departed markedly from the depiction of proficient readers in research; that is, skilled readers use strategies

flexibly as a coordinated set when responding to text cues and personal resources (Pressley & Afflerbach, 1995). Second, while all five programs emphasized the teaching of declarative strategic knowledge (i.e., what the strategy is), they were far less explicit in explaining how and when to use strategies. Third, the basal programs fell short in delivering instruction that corresponded to the gradual release of responsibility model.

Another reason for the absence of explicit strategies instruction in school may be the lack of sound and compelling professional materials for teaching them in various contexts. Published strategies-based texts like *Mosaic of Thought* (Keene & Zimmerman, 2007), *Strategies that Work* (Harvey & Goudvis, 2007), do not support the explicit teaching of strategies within basal programs. Rather, they focus on how to integrate strategies within a reader's workshop format.

The degree to which strategies instruction in basals coincides with research-based recommendations is no small matter, especially in this era of No Child Left Behind. With the increase in basal instruction arising from this legislation, teachers may benefit from learning how to compensate for the less than stellar comprehension instruction recommended in these programs. In this light, I explored how teachers might learn to teach strategies more explicitly and effectively when basal instruction is a primary part, if not the mainstay, of a reading program.

The research described here is nested in a quasi-experimental professional development study conducted in 2006-2007. This year-long study focused on how intermediate elementary teachers could be prepared to teach complex, multiple comprehension strategies well to their students in the context of ongoing instruction. This article represents the first analysis of that broader study.

This investigation extends the results of earlier programmatic research on an instructional framework known as transactional strategies instruction (TSI; Brown, Pressley, Van Meter & Schuder, 1996; Pressley, et al., 1992). Described in detail in the National Reading Panel Report (2000), the approach prepares students to use a small set of research-validated comprehension strategies that are instrumental in fostering reading comprehension (e.g., making connections, predicting, questioning, visualizing, summarizing). Students also are taught to respond personally and aesthetically to the texts they read. The ultimate goal of TSI is to teach students to use strategies independently to construct solid understandings of both fiction and nonfiction texts.

To prepare students to become more self-directed strategies users, teachers adopt a "gradual release of responsibility model", where the learning of less skilled readers is supported by the teacher and more capable peers. Since learning links directly to the social context in which it occurs, the approach is informed by Vygotskian socially mediated learning theory (1978). For one, changes in a student's thinking are linked to the interactions

that occur among readers of varying abilities and experiences. Second, the construction of meaning takes place during collaborative discussions of texts. The notion here is that active participation by various readers can lead to deeper text understandings than when students interpret texts on their own.

## Method

### *Participants and context*

*Setting and participants*. This study was conducted in four elementary schools in a small urban-suburban school district in New York State during academic year 2006-2007. Approximately 25% of the population qualified for free or reduced-price meals. The majority of students in these schools were White (about 90%), with Native Americans, Africans, Asians and Hispanics comprising the rest of the population. After recruiting meetings were held at each of the schools, 7 fourth- and 9 fifth -grade teachers joined the study (see Table 1 for information on participants). The teachers ranged in age from 26 to 57.

TABLE 1. Teacher Demographics

| Teacher | School | Age | Grade | Gender | Years Teaching | Condition |
|---|---|---|---|---|---|---|
| T1 | 1 | 32 | 4 | F | 10 | Materials |
| T2 | 1 | 52 | 4 | F | 21 | Materials |
| T3 | 1 | 40 | 5 | F | 14 | Materials |
| T4 | 1 | 38 | 5 | F | 7 | Materials |
| T5 | 1 | 56 | 5 | M | 35 | Materials |
| T6 | 2 | 52 | 5 | F | 15 | Materials |
| T7 | 3 | 53 | 4 | F | 30 | Coaching |
| T8 | 3 | 47 | 4 | F | 7 | Coaching |
| T9 | 3 | 57 | 4 | F | 35 | Coaching |
| T10 | 3 | 56 | 5 | F | 36 | Coaching |
| T11 | 3 | 33 | 5 | M | 2 | Coaching |
| T12 | 3 | 55 | 5 | M | 34 | Coaching |
| T13 | 4 | 26 | 4 | F | 4 | Coaching |
| T14 | 4 | 43 | 4 | M | 13 | Coaching |
| T15 | 4 | 39 | 5 | F | 9 | Coaching |
| T16 | 4 | 56 | 5 | F | 15 | Coaching |

As part of the larger study, teachers at each school were assigned to one of two conditions, a professional materials group or a coaching group. Teachers in the materials group received copies of the *Comprehension Toolkit* (Harvey & Goudvis, 2005), a set of resources designed to support strategies-based instruction for 3rd through 5th graders. This kit was written by Harvey and Goudvis, authors of a popular text on comprehension strategies instruction, *Strategies that Work* (2007). In addition to an explanatory overview, this package included 26 comprehensive model lessons for each of seven comprehension strategies: monitoring comprehension, making connections, asking questions, inferring meaning, determining importance and summarizing/synthesizing.

In comparison, the coaching teachers received support in the form of three coaching sessions that were approximately forty-five minutes in length in the spring. Separate coaching sessions were held in each school; teachers met as a group after school with either a doctoral research assistant or me. The coaching sessions were spaced at approximately monthly intervals and were scheduled at the convenience of teachers.

*Data sources*. Teachers' reading instruction was observed and audio-taped at least 3 times over the course of the study. On average, these observations ranged from 30 to 40 minutes in length. A doctoral research assistant or I took extensive field notes during each lesson. Afterwards, we revisited those notes to add detail and to ensure clarity; audiotapes of these tapes were available to support this process. Although lesson observations were the primary data sources, additional information was collected in the form of teacher response logs (i.e., comments or questions teachers recorded in writing or emailed me periodically to track their thinking), notes written down after conversations with teachers, and responses to items in a year-end questionnaire. These multiple methods allowed for triangulation of data.

*Procedures*. In the fall, the first lesson observation, a baseline, was conducted for all teachers. Once these observations were completed, teachers attended two after-school orientations by condition, where they were introduced to explicit strategies instruction. Content coverage in these initial sessions was identical, with the exception of logistical information that varied according to treatment. For example, in the second workshop for the materials condition teachers, one copy of The Comprehension Toolkit was distributed to teachers at each grade level in each school after the published materials were overviewed. Teachers were told to apply this resource in any way that they felt best supported their strategies-based teaching.

In the spring, lesson observations were conducted by either the doctoral research assistant or me. Teachers were observed three times, with the exception of one individual who was observed only twice due to scheduling difficulties. To the extent possible, classroom visits were counterbalanced such that the doctoral student and I took turns observing each teacher.

Topics in the first coaching session included a review of each strategy and conditional information about when, where and why to use them, a description of various techniques to scaffold students, and a discussion of ways to encourage students to use strategies to support their interpretive, critical and personal responding (i.e., asking students open-ended question such as "What are you thinking?" instead of using low-level comprehension questions following reading, such as "What part of his family did he leave or come to?" or "How long did the Pony Express take to deliver the mail?"). In the second session, the doctoral research assistant or I coached teachers in how to make improvements to their explicit explanations and modeling, using feedback from lesson observations to frame this support. The third session was devoted to explaining, modeling and providing practice for teachers in how to adapt basal instruction to better promote explicit strategies instruction. Although teachers in the coaching condition were not provided with any published materials, they were encouraged to take notes, which they could refer to during subsequent instructional planning. Teachers also were provided with handouts that highlighted key points raised in sessions.

The study concluded in late May to early June with teachers completing an end-of-year questionnaire. This questionnaire included open-ended questions about teachers' beliefs and practices concerning comprehension instruction and assessment, feedback on the professional development approach in which they participated, and Likert items that addressed aspects of teachers' comprehension strategies instruction (see Appendix A for several sample items).

## Results

Three observations per teacher were included in this analysis. For all teachers, the baseline and first spring observation were analyzed. Except for the one teacher for whom only two other observations existed, one of the two remaining lessons was selected purposefully for analysis. That is, each observation write-up was read through from beginning to end. Then, whichever lesson of the two was deemed to be stronger in terms of explicit

strategies-based instruction was selected for analysis.

I adopted a "constant comparison" approach (Strauss & Corbin, 1990) for this qualitative, case analysis that informed and complemented the broader quasi-experimental study. In the first phases of analysis, categories for coding emerged through recursive scrutiny of the data. Once the coding scheme was established, it was used to code the lessons. In the next phase of analysis, I identified two key themes by examining the relationships among categories and subcategories. The first related to challenges teachers faced as they attempted to teach strategies explicitly and the second focused on integration and development patterns.

Unquestionably, teachers encountered challenges as they attempted to integrate explicit strategies instruction with their basal instruction. The most prominent challenges involved: a) finding time for strategies instruction, b) responding to political mandates, c) distinguishing between skills and strategies, and d) dealing with various aspects of the gradual release of responsibility model.

### *Carving out time for learning and teaching explicit strategies instruction*

The approach to explicit strategies instruction adopted in this study entailed not only teaching strategies explicitly but also providing time for students to practice those strategies during collaborative, interpretive discussions of text. Given the multi-faceted nature of this instruction, teachers had difficulty finding time to incorporate TSI as well as discerning how to mesh this approach with everything else they needed to cover in their reading curriculum, including basal instruction. A comment in one of the coaching teacher's response logs summarized this situation: "I do feel frustrated because we are being pulled in too many directions."

One way that materials teachers dealt with the complexity of TSI integration (and constraints on their time) was to open up one or two slots in their weekly literacy block to accommodate The *Comprehension Toolkit* lessons. Although not optimal, this decision saved teachers from expending considerable time in figuring out how to incorporate explicit strategies instruction with ongoing instruction. Even one of the teachers who fared well with explicit strategies instruction found it initially hard to integrate it with core instruction: "I did not do it [seamlessly integrate explicit strategies instruction] directly this year....I overlapped the language whenever I could. I could not do both... some of the basal parts had to go...."

As evident in the statement above, sometimes instructional time was gained by dropping aspects of basal instruction. At other times, aspects of TSI were condensed or eliminated. For instance, although teachers usually made time for explicit explaining and/or modeling, the most neglected dimension of explicit strategies instruction tended to be interpretive discussion. In fact, few teachers ended up allotting time for students to use their strategies to jointly construct or defend interpretations. No sooner would students begin to explore an interesting nugget during reading than the lively exchange of ideas would be quashed due to basal pacing constraints. Thus, teachers often felt compelled to cut discussion short to stay on track with daily lesson plans. To compact time, teachers drew on various strategies: they read the text themselves rather than turning reading over to students, they furnished their own text interpretations rather than soliciting students' ideas, they asked tightly-controlled questions to guide students toward particular interpretations, or they curtailed discussion when students tried to explore worthwhile ideas in greater depth.

### *Political mandates*

In addition to staying on track, teachers often felt pulled between their notions of effective instruction and their basals' requirements for content coverage and pacing. Repeatedly, teachers across schools raised concerns about using basals as the primary means of reading instruction. Teachers revealed this information in one-on-one discussions, small-group coaching sessions, response log entries, and questionnaire responses. For example, in the spring, teachers in one school expressed their dissatisfaction that they would have to step up their "fidelity to the core" in the coming year. Exasperated, these teachers worried that their instruction with novels would disappear.

Furthermore, teachers in at least two schools did not want to give up literature circles since they believed this collaborative structure benefited students ("We are not allowed to use literature circles any more...unbelieveable."). Finally, one teacher expressed her dismay in a response log entry: I feel "frustrated" due to the District's rather inflexible policy of "fidelity to the core," of the basal. We're lockstepped into a sequence of comprehension skills that may or may not be appropriate for the material being covered." For all these teachers, "fidelity to the core" meant following basal instruction precisely as specified, using only texts that came bundled with the package -- a notion they intensely resisted.

### *Negotiating differences between skills and strategies*

Throughout the study, the distinction between skills and strategies baffled teachers. Skills, which are routines performed the same way each time, are learned through repetition. In contrast, strategies are goal-directed actions that readers consciously and deliberately apply to solve problems and meet the challenges of demanding texts which are read for specific purposes. A more elaborated description of the differences between skills and strategies can be found in Afflerbach, Pearson, and Paris' Reading Teacher article (2008).

Teachers often used the labels of skills and strategies interchangeably, despite attempts to clarify meanings and eliminate confusions during workshops and coaching sessions. For instance, more than once teachers dubbed the basal skill of generalizing a strategy during conversations or teaching. However, teachers never referred to specific strategies as skills.

Perceiving relationships between skills and strategies was problematic too. For instance, several teachers did not realize that they could link the skill of drawing conclusions to the strategy of inferring, even though both of these required students to produce information not stated directly in a text. Teachers also did not see that skills and strategies instruction differed according to how heuristics were used in the classroom. That is, teachers often employed "think maps" (i.e., text representational schemes), KWLs or Q-A-Rs more to facilitate understanding of text content than to promote students' strategic self-regulation. In a notable example, students in several classes learned the skill of filling in Venn Diagrams to compare information when directed to do so. However, teachers did not explain how students could adopt this approach to make connections between stories, situations, or characters (e.g., text-to-text connections) when reading on their own.

*Transitioning via the Gradual Release of Responsibility Model (GRRM).* Moving students progressively toward independent strategies use challenged teachers. Sometimes individuals forgot to provide explicit explanations or failed to do so consistently. However, despite intermittent or patchy explanations, teacher seemed to scaffold their students' short-term use of strategies more easily. Common scaffolds included clarifying confusions through responsive explanations, cuing strategies use, using concrete examples to simplify abstract concepts, re-modeling, and using sticky notes to record students' thinking.

Following *Comprehension Toolkit* models, teachers in the materials condition frequently moved their students toward independent practice within specific lessons. They accomplished this by guiding students during shared

practice in a whole group setting before releasing them to apply the strategy while reading in dyads or independently. However, only a few teachers in either condition showed evidence of gradually releasing responsibility for strategies use over time and across lessons. Few teachers also learned to explicitly teach one strategy while emphasizing its use within the context of other strategies. In effect, they found it difficult to highlight a particular strategy while modeling its role within a repertoire of strategies.

Basal instruction, of itself, hindered explicit strategies instruction. For instance, teachers spent so much time on pre-teaching vocabulary and activating background knowledge prior to reading that less time was available for explicit modeling, scaffolding, and strategies-based discussion during reading. In a telling example, students spent an entire class sorting words about basketball into several categories and then discussing personal experiences playing or observing the sport – all in isolation from text reading. As an alternative, this teacher could have created space for explicit strategies instruction during actual reading by condensing preparatory time.

The difficulties that teachers experienced with basal integration became even more pronounced when juxtaposed with other program components. This became evident through analysis of both observations and teachers' responses to questionnaire items. For instance, teachers blended strategies instruction much more fluidly when teaching novels, such as when they engaged in interactive read-alouds ("Read-alouds were the easiest, the most wonderful way/place to use strategic instruction"). In addition, strategies-based teaching sometimes paired more naturally with literature circles since teachers had experience preparing students for discussion roles such as connection makers, text visualizers, or content summarizers. However, including literature circles in core instruction did not ensure ease in teaching strategies explicitly. One teacher who experienced great difficulty with strategies instruction utilized literature circles. In contrast, others, who did not adopt the approach, demonstrated far greater growth as strategies-based teachers.

### *Patterns of integration and development*

Whereas the first theme dealt with challenges teachers experienced, the second one related to patterns of integration and professional growth, including actions teachers took to help themselves learn to teach strategies explicitly. For one, teachers scaffolded their learning by utilizing provided models. In the Comprehension Toolkit condition, the teachers initially

found it too hard to integrate explicit strategies initially with their ongoing instruction. Therefore, after conferring amongst themselves, teachers decided that they would select a lesson from the Toolkit and append it to their instruction. Instead of applying the lessons learned from the Toolkit, they literally chiseled out time from their ongoing instruction and inserted the modeled lesson as a supplementary, discrete element in their teaching. As proof that teachers selected specific days of the week to cover the *Comprehension Toolkit* curriculum, teachers made sure they would teach those lessons on days when they knew that I or research assistant would observe their teaching. Consequently, these strategies lessons remained intact and, for the most part, disconnected from basal -- or any other reading instruction.

The materials teachers were not the only ones who initially relied on models. During a coaching session, teachers in one school observed a live model of how to integrate visualizing with basal instruction. After that session, I was told that the teachers collectively decided to try this basal-integration lesson with their students, teaching it during an upcoming observation. Similar to the materials teachers, an early integration strategy for these coaching teachers was to simply slot in modeled instruction in their own teaching, with little personalization or modification. However, unlike the materials teachers, observations indicated that these teachers attempted to integrate the visualizing strategy with the remainder of their lesson, after first replicating the model.

This episode demonstrated another strategy teachers used to scaffold themselves. At times, teachers in each group decided to work together, either in or across schools (for individuals in the same condition) in order to deepen their understanding of or practice in explicit strategies instruction.

*Integration prototypes*. Part of this analysis entailed identifying teachers' professional development along a continuum of proficiency in strategy teaching over time. Three lesson transcripts for each teacher were evaluated holistically on the basis of several criteria related to explicit strategies instruction (i.e., emphasizing strategies instruction, using a gradual release of responsibility model for teaching, promoting socially mediated learning, and fostering interpretive discussion).

Our approach to triangulation involved achieving greater precision in rating than by having a single person interpreting findings. Initially, three reviewers read through each transcript independently, considering the criteria above, and made independent judgments about each lesson. Then, we discussed each lesson in turn, expecting to negotiate differences to reach

consensus about development/integration patterns. Since our opinions were surprisingly consistent, only two of us, the research assistant and I, continued to rate the remaining transcripts. Via this process, teachers' professional development was described as falling along a continuum of integration from low to high, reflecting the way their facility with explicit strategies instruction grew over time. Within this continuum, prototypical patterns of change and integration were identified. To highlight differences among teachers in terms of integration, the raters came up with qualitative labels for the observed patterns. These are described below.

At the lower end of the strategies integration scale, the raters portrayed one teacher in the coaching condition as a *chunker.* That is, from baseline through the third observation, this teacher tended to teach strategies instruction as a separate block without attempting to merge it with basal or any other reading instruction. Also on the lower end of the scale was the *manual swapper.* During the baseline lesson, this materials teacher taught directly from the teacher's edition of the basal. As time progressed, this individual essentially swapped the *Comprehension Toolkit* manual for the basal teacher's edition when it came to teaching comprehension strategies. However, even these teachers demonstrated some proficiency in strategies instruction, although their development was constrained by the manner in which they implemented strategies instruction.

Several teachers' progress fell in the middle part of the continuum. Known as *transitioners,* 8 teachers dabbled with various aspects of explicit strategies instruction. Either they progressed in one dimension or demonstrated several precursor moves, but remained inconsistent in their attempts. Another observed pattern in the middle part of the scale was the *generalizer.* From the baseline observation onward, this teacher was highly explicit – whether teaching skills or strategies. The tendency to teach both strategies and skills was evident, not just in observations, but also in one response log entry in which the teacher mentioned that she felt she needed more "modeling" of one of the basal comprehension skills, which is generalizing. However, while explicit with both skills and strategies, this teacher made uneven progress in other dimensions of TSI such as releasing control to students to practice strategies during interpretive discussions.

Two *threshhold crossers,* higher on the continuum, integrated several aspects of explicit strategies instruction successfully. Strongest of all, 3 teachers qualified as *consistent, capable practitioners*. During observations, these individuals made the most progress in teaching strategies explicitly, as an integrated set, using the gradual release of responsibility model in

the context of rich, varied text discussions.

## Discussion

This case study documented the challenges and changes teachers experienced as they integrated strategies instruction in reading programs that featured basals as a core, instructional component. This work both confirmed findings from previous studies on explicit strategies instruction and extended that research base.

Similar to teachers in previous TSI teacher studies, these participants faced several challenges. For instance, teachers had concerns about the instructional decisions they made, the texts they used, the time they required for teaching strategies explicitly, and the ways they integrated various instructional approaches (Benson-Griffo, Kohansal & Pearson, 2007, El-Dinary, 2002; Hilden & Pressley, 2007). Yet, despite these challenges, several teachers demonstrated that explicit strategies instruction can be integrated effectively with basal instruction and that learning to do so can be accomplished, with varying degrees of proficiency, over the course of one year. This outcome is significant because previous studies have indicated that it can take up to three years for educators to learn to become highly capable and committed explicit strategies teachers (Brown, 2008).

Past studies also have revealed that TSI is not universally embraced or practiced effectively by all teachers who attempt its use (El-Dinary, 2002). Although researchers in earlier studies detailed several factors for lackluster acceptability, they did not explore patterns that described how teachers, new to the approach, integrated TSI within the context of an existing program (i.e., chunker, manual swapper, transitioner, generalizer, threshold crosser, and consistent, capable practitioner).

Although teachers started their professional development together (and even though some of them experienced the same professional development condition), there was little uniformity in integration. Of the 10 coaching and 6 materials participants, two teachers, one from each condition, developed least in TSI learning. Their lesser progress related, at least in part, to the fact that they missed at least one critical component of professional development (i.e., one could not attend the second of two initial workshops, and the other was absent from two coaching sessions). In the next and largest contingent of teachers, *transitioners,* 6 were in the coaching group and 2 were in the materials groups. Finally, of the five teachers who made the most progress (2 *threshold crossers* and 3 *capable*

*practitioners*) three were materials teachers and two were coaching teachers. Thus, across both conditions, participants demonstrated great variability in instructional practices, with representatives from each group exhibiting both high and low levels of proficiency in teaching TSI. Future analysis of the data will explore whether the number of teaching years may play a role in influencing the teachers' practice with TSI.

When viewing total progress, the teachers who worked with the *Comprehension Toolkit* seemed to make more progress over time. However, this growth needed to be evaluated relative to teachers' proficiency at baseline. When taking this information into account, both groups of teachers appeared to benefit from their respective professional development experiences. Thus, this study showed that initial workshops combined with either the provision of small-group coaching or annotated model lessons did support teachers' initial attempts at teaching transactional strategies instruction. Yet, most teachers still had far to go in integrating the various dimensions of the framework with their core instruction rather than treating it as an "add-on".

Overall, the observational analysis provided a lens through which to better understand differences in teachers' progress. That is, the findings suggested that teaching practices evolved relative to multiple dimensions and interacting factors, both within the teacher and in the external environment. Internal factors included a teacher's depth of knowledge about TSI as well as that individual's ability to translate that knowledge into practice. Factors external to teachers included the type of professional development in which they participated, the features of their ongoing reading programs, and the school/district mandates with which they complied.

The interplay between these internal and external factors had much to do with the basal integration. For instance, managing the tensions between learning explicit strategies instruction and following a basal's curriculum and pacing guidelines was not easy. For successful integration to occur, teachers, at a minimum, had to know which strategies to teach in which contexts to which students. They needed to know specific information about when, where, and why to use the strategies. They also had to provide explicit explanations, to model their strategic thinking, and to scaffold students' understanding and application of the strategies. At times, they had to curtail their teacher talk to provide students with opportunities to construct and defend text interpretations in collaborative discussions. Keeping track of all these factors constituted an immense juggling act.

Yet, for integration to occur successfully, teachers also had to remain cognizant of the basal's scripted lessons and pacing guidelines.

Another compelling finding was that knowing why, when, where and how to make modifications to basal instruction was more difficult than integrating strategies instruction with other reading program components. Teachers in both conditions generally had fewer difficulties integrating explicit strategies instruction when they taught with non-basal texts and with literature circles. We (i.e., the doctoral research assistant and I) speculated that it was easier for teachers to teach strategies explicitly in these circumstances because: 1) the teachers did not have to comply with scripted guidelines, and 2) other aspects of the instructional program seemed a more natural fit with strategies instruction.

At least in the foreseeable future, teachers will continue to face challenges when learning TSI. Most probably, basal programs will continue to figure prominently in the classroom; and, it is unlikely that publishers will revise their programs to align more closely with research-supported guidelines at any time soon. With strict adherence to "fidelity to the core," teachers also may be limited in their attempts to blend more effective teaching of comprehension strategies with their basal instruction. As such, more research is needed to understand how to support teachers as they provide multi-componential strategies instruction in a period of heightened attention to standardization and accountability.

Additionally, given the variability in learning and the complexity involved in TSI, this research suggests that manipulating the type of professional development teachers receive (such as being coached in person or being provided with high-quality model lessons) is insufficient. Professional developers of complex instructional frameworks, such as TSI, need to consider an array of internal and external variables that mediate teachers' learning.

Until such time that comprehension strategies instruction in basals improves, teachers will require help to "operate at [the] nexus of tensions between external reform forces pushing for standardized mandated change and an internal, grassroots approach to changing comprehension instructional practice" (Benson-Griffo, Kohansal & Pearson, 2007, p. 125). Without it, excellent strategies instruction may remain largely absent in schools and students may miss the opportunity to engage in comprehension instruction that fosters independent, strategic and motivated reading.

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## APPENDIX A

Sample Items from the End-of-Year Questionnaire

Open-ended Items:

How do you define reading comprehension?
What knowledge do you need to have to teach reading comprehension well to students?
What is the difference between a comprehension skill and a comprehension strategy?
How do you believe comprehension should be taught?
Please name the comprehension strategies you taught this year.
In what ways did you find it difficult to integrate explicit strategies instruction?

Likert-style Items:

I find that explicit strategies instruction is compatible with the way I taught comprehension before the study.
*Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree*

I do not feel I really know how to teach comprehension strategies explicitly.
*Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree*

I found explicit strategies instruction challenging to integrate with basal instruction.
*Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree*

I found explicit strategies instruction challenging to integrate with read-alouds.
*Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree*

To what extent does explicit strategies instruction correspond to your beliefs about the way comprehension should be taught?
*Extensively  Moderately  Somewhat  Very Little*

To what extent was explicit strategies instruction integrated with your everyday comprehension instruction since January?
*Extensively  Moderately  Somewhat  Very Little*

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