

**CO-TEACHING IN URBAN SECONDARY SCHOOL DISTRICTS TO MEET THE
NEEDS OF ALL TEACHERS AND LEARNERS:
IMPLICATIONS FOR TEACHER EDUCATION REFORM**

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In this paper, the authors address the question: what are skills, knowledge and professional dispositions that U.S. co-teachers need to balance the seemingly competing mandates of NCLB and IDEIA in order to prepare teachers for the classrooms of today and tomorrow? Based on the results of two recent studies that focused on secondary co-teacher teams (one conducted in Florida; one in California), the authors report both quantitative and qualitative data obtained through the use of surveys, interviews, and observations in California and Florida. In this paper, we extrapolate information for teacher educators as to how to prepare urban co-teachers to meet their needs and the needs of their students. Successful co-teaching practices that were observed are described and the assessed needs of current co-teachers are discussed for future planning of co-teaching preparation policies and practices.

Introduction

United States legislative changes, such as those described by federal laws such as Individuals with Disabilities Education Improvement Act (IDEIA) reauthorized in 2004 (Pub. L. No. 108-466) and the No Child Left Behind (NCLB) Act of 2001 (Pub. L. No. 107-110), require that students with increasingly diverse learning characteristics have access to and achieve high academic performance in the general education curriculum. The changing demographics of the United States have also played a role in diverse learning characteristics of the American learners in classrooms today. With an educational system that serves approximately 76,355,000 students, 30,982,000 or 40.58% are of an ethnically diverse background and 5% of school age children have a disability (U.S. Census Bureau, 2008).

These changing legal requirements and student demographics in United States educational systems combine pointing to the need for increased collaborative planning and teaching among school personnel attempting to comply with these legal mandates to serve all students fairly and equitably in general education classrooms. Co-teaching is an approach that helps educators meet both IDEIA and NCLB mandates, and is defined as “two or more people sharing responsibility for teaching some or all of the students assigned to a classroom” (Villa, Thousand, & Nevin, 2008, p. 5). In schools within the United States, co-teaching often involves general education and special education teachers working together in one classroom and used as a supplementary aid and service that can be brought to general education to serve the needs of students with (and without) disabilities through IDEIA. Co-teaching requires a re-conceptualization and revision for traditional teacher preparation.

Recent studies show the benefits of co-teaching arrangements for students, teachers, and school organizations (Nevin, Cramer, Salazar, & Voigt, 2008; Villa, Thousand, & Nevin, 2008; Schwab Learning, 2003). At the secondary level, co-teaching has been found to be effective for students with a variety of instructional needs including learning disabilities (Rice & Zigmond, 1999; Trent, 1998); high-risk students in a social studies class (Dieker, 1998) and in a language remediation class (Miller, Valasky, & Molloy, 1998). This research indicates that co-teachers can structure their classes to use more effectively the research-proven strategies required of the NCLB Act of 2001. For example, Miller et al. (1998) described how a co-teacher team (a special educator, a general educator, and two paraprofessionals) blended whole-class and small-group instruction, peer teaching, and small cooperative learning groups to provide language remediation strategies and activities within the general education curriculum resulting in increased literacy achievement for their students. Positive student learning outcomes such as these encourage administrators, advocates, and state departments of education to adopt cooperative models such as co-teaching for the effective education of students with disabilities as well as students with differentiated learning needs based on ethnicity, culture, and language barriers (e.g., Arguelles, Hughes, & Schumm, 2000).

Other researchers are cautious about the claims for effectiveness of co-teaching methods. For example, Zigmond (2004), reporting on preliminary results of co-teaching in inclusive science classrooms at six high schools, found little difference in the amount of time students spent working on task, interacting in small groups, or interacting with the teachers. Rarely have

researchers or practitioners analyzed the impact of co-teaching on other variables. Because the primary focus of this paper is on meeting teaching standards in the United States, international literature is not addressed. Interested readers are referred to UNICEF which has funded several international projects on inclusive schools and the Teaching and Learning Research Programme in the United Kingdom with its inclusive education component.

Purpose

In this paper, the authors discuss the necessary skills, knowledge, and professional dispositions that urban secondary teachers in the United States must demonstrate for effectively teaching the increasingly diverse student populations in their classrooms today. Based on the results of two studies that focused on urban secondary co-teacher teams in Florida (Cramer & Nevin, 2006) and California (Villa, Thousand, Nevin, & Liston, 2005), the authors extrapolate information for teacher education programs regarding the preparation of urban co-teachers in the United States to be effective collaborative professionals who can meet the instructional needs of their collective and diverse student body. In the following sections, we provide an overview of the original studies, a summary of the findings, a discussion of the collective findings with respect to the national standards for teachers in the United States and their respective teacher education programs, and implications for future consideration for teacher education research and practice.

Overview of the Studies

In this time of dramatic increases in new technologies, information availability, and student diversity, in-depth studies of educational practices in urban school districts in the United States can offer insight into the working fundamental principles and current instructional methodologies typically used in the United States classroom. With an emphasis on high achievement standards in secondary education, the need for new strategies and capacities, student-centered accountability, and data to stimulate change is paramount (Lachat, 2001.) Keeping in mind both the process and the structure of secondary school reform, data-driven results can serve as a tool to guide teacher educators at the district and university levels in providing teachers opportunities for scholarly and professional growth. These learning outcomes may provide new strategies to foster relationships with colleagues, students, and families as well as increased capacities to create meaningful learning experiences for their students.

High school reform efforts have been reported in several leading journals (e.g., *Educational Leadership*, *American Secondary School Journal*, and *Educational Researcher*). Reformers have recommended changes in policy at all levels (national, state, and local school district) in addition to calls for better research especially on innovative teaching practices. For example, Klekotka (2004) summarized the results of an expert panelist forum convened by the U.S Department of Education's Institute of Education Sciences to develop its High School Reform initiative, which was launched in June 2005. The panelists emphasized that high school reform should focus on changing instructional practice at the classroom level because many high school teachers rely on the lecture as their sole pedagogical technique. In 2005, the American Secondary Education Journal published a special issue on reforms being undertaken at the level of classroom

instruction. Successful inclusive education practices in middle and secondary schools were described by Villa, Thousand, Nevin, and Liston (2005).

Cramer and Nevin (2006) conducted a mixed method study utilizing two evaluation instruments that examined practices of and relationships between co-teachers. Given expected increases in co-teaching teams, principals and other supervisory personnel will be required to use different evaluation procedures as will university clinical supervisors when their teacher candidates co-teach. The Co-Teacher Relationship Scale (CRS) was developed and field tested by Noonan, McCormick, and Beck (2003) with 20 co-teachers in early childhood and special education in Hawaii. Part I consists of 10 items that focus on beliefs and approaches to teaching whereas Part II consists of 9 items that focus on the extent to which co-teachers believe they are the same or different in their personal characteristics. Noonan et al. (2003) reported an internal consistency coefficient (alpha) of .90. An example of an item from Part I is, "Indicate the extent to which you believe that you and your co-teacher are the same or different in your beliefs and approaches to teaching re the physical arrangement of the classroom."

The Are We Really Co-Teachers Scale was developed by Villa, Thousand, and Nevin (2004) from a review of the literature on co-teaching. It consists of 34 items that describe actions co-teachers might take to implement various co-teaching approaches (e.g., supportive, complementary, parallel, or team teaching). An example of an item is, "We decide which co-teaching model we are going to use in a lesson based upon the benefits to the students and the co-teachers."

Cramer and Nevin (2005) validated these two instruments with a convenience sample of elementary and secondary co-teachers in Miami-Dade County Public Schools (the fourth largest district in the United States). These schools were chosen based upon recommendation from the Florida Inclusion Network as model schools where co-teaching was being implemented across the school day. The sums of ratings from special educators and general elementary and secondary educators in Miami were similar to those obtained from a sample of early childhood specialists and early childhood educators co-teaching in Hawaii. The highest rated items on the two assessment instruments were similar in content. Interviews and observations with a subset of survey respondents corroborated the survey items. Overall, the follow-up interviews and observations corroborated and instantiated the co-teacher ratings on the survey items. For this paper, the data for secondary teachers were analyzed separately and showed that high school (grades 9-12) co-teachers ratings of the top five items on both scales showed similarities as illustrated in Table 1. Specifically, two of the top five items reflected strong disposition-based similarities: flexibility in dealing with unforeseen events and sharing responsibility through collaborating with others.

Table 1. Florida Secondary Teachers' Five Highest Rated Items on Two Surveys

Villa et al. (2004) Co-Teacher Actions	Noonan et al. (2003) Co-Teacher Beliefs
We share responsibility for deciding how to teach.	Flexibility in dealing with unforeseen events
We have fun with the standards and each other when we co-teach.	Parent involvement
We are flexible and make changes as needed during a lesson.	Ability to be supportive to colleagues and other staff
We share ideas, information, and materials.	Interest in learning new things
We are each viewed by our students as their teacher.	Dedication to teaching

Liston and Thousand (2004) reported the preliminary analysis of a longitudinal study of co-teaching in The San Diego Unified School District (SDUSD), the second largest district in California and the seventh largest in the United States. Like Miami-Dade, this district includes a diverse population of students with 29% of the student population identified as English language learners and approximately 12% of the student population identified as students having disabilities (California Report Card, 2004). Educators at President High School [a pseudonym] within SDUSD were interviewed because they had participated in Project Co-Teach (Thousand, Glynn, & Liston, 2004), a program that facilitated their collaboration in co-teaching students with disabilities in the general education classrooms. At President High School, English learners comprised 38.3 % of this high school population. Sixty-six percent came from homes where a language other than English was spoken. In addition, 200 students with disabilities received special education supports by their general education classroom teachers with special educators as co- teachers. The high school served a multicultural, multi-lingual population accounting for 96.9 percent of their population (SDUSD, 2004) with a high percentage of youth whose families qualified for free and reduced lunch.

Project Co-Teach was a comprehensive personnel development project which included a needs assessment from general and special educators, the subsequent design and implementation of instructional modules, and systematic follow-up support for practicing co-teachers that resulted in effective partnerships between district and higher education stakeholders. Educators acquired new knowledge and skills and honed their professional dispositions, e.g., collaboration, respect, and fairness. They learned to implement many exemplary practices, such as how to differentiate curriculum and instruction, how to develop agreed-upon goals when co-teaching, how to use heterogeneous cooperative learning groups, how to include students in peer-mediated instruction,

and so on. To provide an ongoing forum for systematic support, and to better understand how secondary educators facilitated inclusive education, Liston (2004) conducted individual interviews over a three-week period with 10 general educators and 10 special educators working in co-teaching relationships at President High School. Interviewees were asked to respond to a series of structured interview questions developed by Liston and Thousand and validated by the project's task force team. Questions probed their inclusive teaching practices, their observations about student and teacher outcomes, and recommendations for improvement.

Findings of the Florida and California Co-Teaching Studies

Data from both the Florida and California studies, briefly described here, show the basis for recommendations regarding the preparation of secondary co-teachers in urban schools in the United States. The Florida group interview questions grew out of a slightly different context in which the Florida statewide network to prepare co-teachers emerged. The district was responding to a state mandate from federal monitors to address the disproportionate representation of students with disabilities who were spending less than 80% of their day in classrooms with their non-handicapped peers. Thus, the questions needed to reflect that context. In contrast, the California study emerged from a city mandate to evaluate the co-teacher professional development efforts. The interview questions reflected the key stakeholders as well as questions that reflected what was known in the literature. Although different instruments were used, they offered a triangulation of the data when combined.

Florida Findings

Interviews and observations with a subset of co-teachers from one high school provided confirmation that the survey items accurately reflected their actions and beliefs. The special educator and the content teacher were interviewed separately for one co-teaching team and for the other, the co-teachers were simultaneously interviewed. Cesar Chavez High School [a pseudonym] included a multicultural and ethnically diverse population of over 4,000 students in grades 9-12 in southwestern Miami-Dade County School district. About 80% of the students were of Hispanic origin, 12% white, 5% black, and 2% from Asian or Pacific Islander heritage; 45% of the students were from families that qualified for free and reduced lunch; 8% classified as English Language Learners. At Cesar Chavez, several models of support for students with disabilities were offered: consultation and collaboration with special educators, in-class support through support facilitators and special educators who co-teach with regular educators, and specialized instructional support in resource or self-contained special classes. Faculty and administration systematically increased the percentages of students with disabilities included in general education settings from 32.7% in March 2004 to 40% in November 2004.

The four co-teachers who were observed and interviewed taught various levels of science classes. A brief summary of their characteristics is shown in Table 2.

Table 2. Florida Secondary Co-Teacher Interviewees

Co-Teaching Team 1	Co-Teaching Team 2
<p>Code 0501: Female, Hispanic, bilingual (Spanish/English), 25-35 years old, Bachelor's Degree, 0-5 years teaching experience, 1 year experience in co-teaching, 1 year teaching with current co-teacher.</p> <p>Current teaching assignment: ESE teacher of students with learning disabilities and science classes; certified in biology.</p>	<p>Code 0503: Female, Hispanic, bilingual (Spanish/English), 25-35 year old, Master's Degree, 5-10 years teaching experience, 1 year experience in co-teaching, 1 year teaching with current co-teacher.</p> <p>Current teaching assignment: ESE teacher for students with autism.</p>
<p>Code 0502: Female, Caucasian, 25-35 year old, Bachelor's Degree, 6-10 years teaching experience, 1 year of experience in co-teaching, 1 year teaching with current co-teacher.</p> <p>Current teaching assignment: General education science teacher, biology & earth sciences, and assistant activities coach.</p>	<p>Code 0504: Female, Hispanic, bilingual (Spanish/English), 36-45 year old, Master's Degree, more than 21 years teaching experience, 10 years experience in co-teaching, 1 year teaching with current co-teacher.</p> <p>Current teaching assignment: General education science teacher, agri-science; other certifications include varying exceptionalities, formerly taught students with learning disabilities, emotional handicaps, and gifted & talented designations.</p>

Co-teachers were asked to describe the students in their classrooms. Primarily, the teachers did so by describing their students by disability category (e.g., students with learning disabilities, students with other health impairments (such as Attention Deficit Hyperactivity Disorder), and students with emotional handicaps). Overall, a wide range of abilities were represented in the co-taught classes.

The interview and observation scripts were analyzed in accordance with grounded theory methodology. The researchers engaged in a constant comparative process (Strauss & Corbin, 2008) where data collected from the teachers through surveys, interviews, and observations were continuously analyzed using a recursive process. The transcripts of the interviews were turned back to the interviewees so as to verify their comments. The process of constant comparison of data led to the gradual emergence of tentative hypotheses that explained the data. The researchers attempted to show connections between survey responses, interview responses, and classroom actions. The researchers then derived common themes and differences in order to surface any discrepancies between survey responses and actual practice. The researchers searched for teacher responses related to flexibility and collaboration, the two most highly rated items on both surveys.

Evidence of flexibility

One special education co-teacher said, *“What co-teaching means to me is the ability to be flexible when the lesson needs to be adjusted. I have learned so much, in fact, the students often see me taking notes.”* Furthermore, when asked to describe the teaching strategies that co-teachers use, responses across all secondary interviewees included “ESL strategies,” hands-on activities, guided notes, graphic organizers, cooperative learning groups, real life experience, and web based learning.

Another example of flexibility shows up in the way teachers accommodated each other’s schedules in deciding what to teach. This is an important accommodation for special educators who also had responsibilities for teaching students in resource rooms for part of the day, or general educators who were away for a workshop. As another special educator stated: *We jump into one another’s lessons. We share the planning of the lessons. If I’m having a busy week because of testing (like this week has been IEP testing), my partner is aware of it and knows I have no other choice. And I’ll do the same. The majority of the time we do it together.*

A third example of flexibility is the way that co-teachers often made room for teachers’ preferences and strengths regarding teaching specific content. One high school teacher noted: *[When we first meet with our co-teachers at this high school] we explained that he or she is a curriculum or content specialist and that the special educator is the strategy specialist. It’s a matter of organizing, a matter of knowing the needs according to their disabilities, and individualized approach.* Another high school special educator explained how she used her versatility, *“I call myself the ‘rubber-band’ because I really have to go into classrooms and formulate my teaching style to another’s teaching style.”*

Evidence of collaboration

One of the science co-teacher teams described how they used a process to come to an agreement about how to teach a lesson that required the students to discuss ethical issues in genetic engineering. They listed their ideas, brainstormed the advantages and disadvantages of each, and arrived at an activity that could be implemented in the amount of time they had for the class session. As the general educator partner explained, *“I don’t know that we disagree a lot! We might have two different ideas. We don’t get much choice about what content to teach because of the scope and sequence.”*

Collaboration was also evident in the level of understanding for each other that the co-teachers developed over time. One general education co-teacher explained: *“Sometimes it’s just non-verbal language. You get to know each other so well, you can pretty much read each other’s mind after a while.”* A special education co-teacher commented: *We DO learn from each other and when I notice that my partner is teaching something in a certain way, and I think I can do it too, then I’ve benefited. At different times, I’m leading the lesson and at other times my partner is leading the activity at that moment. We do plan together; we meet with the other biology teachers; so I think all of that is part of being a co-teacher.*

A general education co-teacher illustrated how this collaboration carried over to the students: *Yes! I guess we've really set it up for our students to be co-teachers with us. Now they are preparing to teach about their special projects so that everyone in the class will know what they've discovered. They are actually doing what they have seen us co-teachers do...for example, making sure to have some hands-on activity, some visuals like a power point slide, and so on.*

Impact on students with disabilities

A general education co-teacher captured the impact that co-teaching had on her students when she shared: *I'm co-teaching with a [special education] teacher who wants her students with autism to experience social integration. What I see is that both sets of students are benefiting. For example, the students with autism are actually learning some science that they wouldn't ordinarily learn! And their peers are having their original beliefs about autism changed dramatically. They no longer expect what they thought would be 'retarded' behavior and are often surprised at what the students with autism contribute to class.*

A conversation between a general and special educator revealed both of their perspectives about the impact on students:

[Co-Teacher #1] *We've seen such growth for the students. For example, one of the ESE [exceptional student education] students was really shy about coming in to the inclusion class. He would stand outside the door looking in during the first few days of class. Now he just comes in and starts working.*

[Co-Teacher #2] *I want to add that what I've seen is how the inclusion and co-teaching has benefited all the students. We have so many low-level learners. They seem to enjoy and acquire so much more with the hands-on activities, the attention they can get from each of us, and what I think of as 'double teaching.' If I'm teaching something a certain way, my co-teacher can explain it and show it in a different way and connect with the kids that I didn't reach.*

[Co-Teacher #1] *We've asked the students how they feel about having 2 teachers. They report they like it. When the parents were given an option, no parents refused to have their student attend the co-taught class!*

To summarize the Florida study, the interviews seemed to corroborate the most highly rated items on flexibility and collaboration in the survey ratings. Similar to Keefe and Moore (2004), teachers in this study reported positive student outcomes from co-teaching as well as diverse responses about the outcomes for teachers. The teachers were most concerned about the student outcomes.

California Findings

Interview transcripts were analyzed to identify patterns and regularities, with emerging words used to create categorical themes (Bogdan & Biklen, 1998). Listen to the voices of the high school co-teachers as captured in these representative responses to the interviews, summarized in three categories: Evidence of instructional responsiveness and differentiated instructional processes and differentiated assessment products.

Evidence of instructional responsiveness

Instructional responsiveness to the individual learning needs of all students occurred, as one general educator reported, through *hands-on experiences where students are engaged in helping one another, teaching one another, and sharing their talents*. She further commented: *this far surpasses the outcomes when a student is assigned a one-on-one aide*. Another general educator remarked that, as an inclusive educator meeting the needs of all the students in the classroom, he needed to think *more deeply about how to engage all students, and give students ample opportunities to receive multi-modality instruction*. All interviewees spoke about professional dispositions, emphasizing that they experienced an *increased sensitivity to the emotional, academic, and physical needs of the students* and that this led to *“increased opportunities for students to succeed*.

Evidence of differentiated instructional processes

Co-teachers utilized principles of differentiated instruction, by adjusting the presentation of curricular content to enhance student learning. Participants considered co-teaching to be an approach supportive of all students, including the gifted, English language learners, and well as those with learning disabilities. Describing her class, one general educator stated: *We have so many students. The grouping in the middle has many English language learners that have benefited from special education strategies such as using graphic organizers and lecture guides. I'm talking about all students. All students can benefit from co-teaching*. A special educator emphasized that co-teaching was a way to assist the learning process of all children, stating: *the teacher I co-teach with is very different than I am, so I think that's a benefit to the students...Some things that my co-teacher does, students might not get, and vice versa. I think that co-teaching is a positive thing for all the students*. The differing instructional presentations gave students a second change at learning.

Moreover, the differing instructional presentation styles used by co-teachers gave students a second change at learning. One special educator emphasized that students seemed to enjoy multiple educators in the classroom: *It breaks up the presentation style, and the monotony that can happen when just one educator presents for the entire period*. Another referred to the stigmatization that can occur because students with disabilities must leave their classmates in regular classroom to attend sessions in the special education classroom which can be ameliorated in co-taught classes. She said: *When all students are included, the stigma of being in special education is removed. Quite often, peers do not know who is in special education, and who is not*.

Evidence of differentiated assessment products

Differentiating assessment products led to new insights on student learning and academic achievement. By allowing for a variety of student assessment products, evaluations became more authentic: *The general educators are looking at the whole child rather than one set of test results. They seem to see the big picture*. One special educator described a project-based assessment where students had the choice of presenting to the entire class, a small group, or (because of shyness) to the teacher alone. Reporting on the academic success of co-taught students, a general

educator shared: *With alternative assessments, students with disabilities are showing that they can keep up with the academic expectations. No, they may not be getting A's, but they are passing, and they are doing their own work. As they do better and better, they become more confident, and empowered to keep up academically.*

Discussion

In the study conducted by Cramer and Nevin (2006), only one secondary special educator reported having received training in co-teaching in their university teacher preparation programs while all co-teachers reported they had received in-service training and planning time to implement co-teaching. Liston's high school co-teachers had participated in a systematic inservice training co-taught by school district and university personnel; however, only two had received formal training in their professional teacher preparation programs. Thousand, Villa, and Nevin (2007) conducted a review of the extant research on collaborative teaching which confirmed that there is less power in co-teaching without training in selecting and planning for implementing the various approaches to co-teaching. Magiera, Smith, Zigond, and Gabauer (2005) conducted an observational study of 10 high school co-teachers so as to describe the instructional roles of the teachers. Although other forms of co-teaching were observed (e.g., station teaching), team teaching was observed in most of the co-taught classes where both teachers were active instructors. Moreover, follow-up interview results indicated that none of the co-teachers had received prior training in co-teaching.

The studies reported in this paper did not specifically track student achievement in the secondary co-teaching classrooms. Some studies are emerging to document that student progress in co-taught classrooms can be improved. Student achievement in co-taught secondary classrooms shows similar patterns for literacy gains (Miller et al., 1998). Dieker and Murawski (2009) include case studies which document the impact on student achievement within co-teaching approaches.

Analysis of National Professional Standards for Teachers in the United States

Teacher education standards are not silent about this set of knowledge, and skills, and professional dispositions. Standards from National Board for Professional Teacher Standards (2005), the Council for Exceptional Children (2005), Interstate New Teacher Assessment and Support Consortium (2005) and the National Council of Accreditation for Teacher Education (2009) were analyzed for content with respect to inclusive education and collaboration or co-teaching. As shown in Table 3, there seems to be substantial agreement among these diverse professional education organizations with respect to knowledge, skills, and professional dispositions for differentiating instruction, working collaboratively with others, and supporting the education of diverse learners. For example, INTASC Standard 3 requires teachers to understand how learners differ; Standard 4 requires teachers to use a variety of instructional strategies; and Standard 10 asks teachers to collaborate and communicate with parents, families, colleagues to support student learning.

In comparison, CEC standards for entry into the profession include competencies related to knowledge and skills in understanding characteristics of learners with different cognitive,

physical, cultural, social and emotional needs; competencies related to knowledge and skills for instructional content and practice; and professional disposition competencies related to communication and collaborative partnerships. These are strongly correlated with NBPTS standards 1 (teachers adjust their practice according to individual differences in their students), 3 (teachers show multiple methods to engage student learning and to enable students to reach goals), and 5 (teachers collaboratively work with others and coordinate services) as well as NCATE standard 1 (candidate knowledge, skills, and dispositions).

Table 3. Analysis of Standards from Professional Teacher Organizations in USA

INTASC	CEC	NBPST	NCATE
Standard 3 requires teachers to understand <i>how learners differ</i> .	Knowledge and skills in <i>understanding characteristics of learners with different cognitive, physical, cultural, social and emotional needs</i>	Teachers <i>adjust their practice according to individual differences</i> in their students.	Standard 1c requires candidates <i>consider school, family, and community contexts</i> .
Standard 4 requires teachers to <i>use a variety of instructional strategies</i> .	Competencies related to <i>knowledge, and skills for instructional content an practice</i>	Teachers show <i>multiple methods to engage student learning and to enable students to reach goals</i> .	Standard 1b requires candidates to <i>select and use a broad range of strategies</i>
Standard 10 asks teachers to <i>collaborate and communicate</i> with parents, families, colleagues, to support student learning.	Competencies related to <i>communication and collaborative partnerships</i>	Teachers <i>collaboratively work with others</i> and coordinate services.	Standard 1c requires candidates <i>collaborate</i> with the professional community/

In the results of the Florida study, co-teacher attitudes, beliefs, and actions appear to be correlated with the standards shown in Table 3. As shown in Table 1 previously, co-teacher attitudes and beliefs about learning new things was a highly rated survey item. Learning about new things seems to correspond to INTASC Standard 4 and NCATE Standard 1b (in Table 4). In addition, the highest rated attitude was "flexibility in dealing with unforeseen events" which is reflected in NCATE standard 1c and NBPST standard for teachers to adjust their practices. Similarly, as shown in Table 1, shared responsibility, flexibility, and sharing ideas and materials were survey items that co-teachers rated highly. These actions appear to correspond with the INTASC Standard 10 and NCATE standard 1g (shown in Table 3), CEC standard related to communication

and collaborative partnerships, and the NBPST standard related to teachers collaboratively working with others. The results of the California study show that high school co-teacher actions related to instructional responsiveness to individual differences as well as differentiated instruction and assessment can be correlated with INTASC, CEC, NBPST, and NCATE standards.

Analysis of Teacher Education Programs

Overall, teacher educators have not been silent about the need for more specific preparation in these areas. Historically teacher preparation programs are separated into regular and special education programs and thus have not provided pre-service teachers with the intensive training and experience they need to be effective collaborators in planning, teaching, and evaluating instruction. Although many universities have collaborative experiences for general educators and special educators, there are few empirical studies (Blanton, Blanton, & Cross, 1994; Patriarcha & Lamb, 1990; Yopp & Guillaume, 1999). Villa, Thousand and Chapple (2000) delineated how faculty at five U.S. universities “retooled their professional preparation programs to better ready graduates for meeting the challenges of inclusive 21st century education ... to create new and innovative training initiatives that model faculty and community collaboration and depart from traditional ways of inducting educators into their profession” (p. 536).

Some teacher education researchers in the United States have studied various aspects of this challenge. Carey (1997) reported the development of a partnership between Northern Arizona University and a local school district that enabled pre-service teachers to practice innovative strategies for facilitating inclusion of students with disabilities into general classrooms. Strategies such as cooperative learning, collaborative teaming, peer tutoring, student empowerment, and creative problem solving were helpful in facilitating this initiative. Keefe, Rossi, de Valenzuela, and Howarth (2000) described the Dual License Teacher Preparation Program at the University of New Mexico and the national and state context within which it was developed and continues to evolve. Graduates of this program are eligible for licensure in general education (K-8) and special education (K-12). The unfortunate reality is that, for the co-teachers who participated in the California and Florida studies, the majority reported no pre-service preparation for the work demands of their current teaching positions, particularly with any focus on secondary level training. Moreover, this reality is echoed by other researchers in secondary education (e.g., Hamill & Dever, 1998; Magiera et al., 2005).

Implications

While the studies reported in this article provide implications for teacher education research and practice related to co-teaching, it should be noted that there are limitations, such as only examining co-teaching in two isolated districts and using two separately planned studies to compare data. Several implications are derived from the analysis of the two studies, the analysis of the standards from professional organizations, and the analysis of preservice teacher preparation programs. First, all general and special educators should be alerted to the fact that when they engage in collaborative planning and teaching, they are demonstrating knowledge, skills, and dispositions represented in four sets of national professional education standards (either INTASC, CEC, NBPST, or NCATE). Second, for special education teacher candidates seeking

teaching credentials, by co-teaching with general educators, they can demonstrate mastery of the common general education standards without having a separate general education experience. Within the United States, co-teaching also assists to prepare educators to meet the legal mandates requiring services and supports for students with disabilities to be delivered in the general education classrooms.

A third implication relates to the relationship between co-teaching skills and professional standards. Namely, both relationship-building skills and instructional strategies are identified and needed to ensure effective co-teacher partnerships. In other words, professional educators and those who prepare them (i.e., teacher educators) are prompted to think about teaching more holistically and attend not only to the development of instructional competence but to professional dispositions and skills for collaborating with others in instructional planning and assessment and the actual implementing of various co-teaching approaches. In summary, collaborative dispositions and skills must be included among the standards, and, by implication, to the credentialing. A fourth and related implication of this study's analysis is that the notion of reflective teaching practice needs to be expanded from *self* reflection to *team* reflection and include attention to adult interpersonal interaction as well as the integrity of instruction and student performance. This can be done by first providing teachers with training in co-teaching at the preservice level. Once in practice, co-teachers can be given time to work together in planning for and reflecting on the lessons provided.

Finally, because school administrators are expected to evaluate their co-teachers, it is clear that they also need to be updated on legislative mandates and current trends regarding collaborative planning, co-teaching approaches, and effective instructional practices. Such knowledge would better equip administrators not only to support and encourage effective co-teachers to mentor others, but create incentives and recognitions (e.g., award and honors) to show their valuing of co-teaching. For example, in addition to teacher-of-the-year awards, administrators can institute teaching-team-of-the-year awards.

Conclusions

This study warrants replication in other school districts in the U.S. and elsewhere. We hope other teacher education faculty who prepare teachers who join urban multicultural high school districts will resonate with the results of these studies. Restructuring efforts in teacher preparation programs at the preliminary and advanced levels will better prepare both general and special educators to work effectively with each other and with the diverse students they encounter in the classroom today and in future years.

For example, university and school district partnerships could offer a unique blend of training with common learning modules and clinical practices. District staff could serve as adjunct professors and guest speakers for the university. Likewise, university faculty might avail themselves to observe, coach, and offer professional development for the school districts. Such partnerships can lead to joint student teaching internships with general and special education pre-service teachers, whereby both pre-service teachers would have the opportunity to co-teach together from the very beginning of their preparation resulting in these prospective teachers being more fully prepared to meet the standards laid out by three major professional organizations.

Within effective partnership models, faculty from both universities and school districts would be modeling and demonstrating the value of collaborative co-teaching practices so as to ensure continued improvements in the quality of education in the 21st century.

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