Voices from the Field: Skill Sets Needed for Effective Collaboration and Co-teaching [*]

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Abstract

The need for more collaboration and co-teaching emerged from the standards-based and accountability movement as a result of legislation such as the No Child Left Behind (NCLB) and Individuals with Disabilities Education Improvement Act (IDEIA). This study sought to identify the skill sets perceived as necessary by elementary general and exceptional education teachers, (0-5 years experience), needed to be successful in a co-teaching classroom and to discover if collaborative coursework is being offered to pre-service teachers as part of their university experience. This qualitative study was based on the naturalistic inquiry design (Lincoln & Guba, 1985) and was comprised of three focus groups. A focus group protocol was used for data collection based on the ten revised (2011) Interstate Teacher Assessment and Support Consortium standards. Data collected aligned pre-service training, coursework, and experiences received with the skill sets the participating teachers reported as critical for effective collaboration and co-teaching. Fifty-three percent of the general education teachers' and 60% of the exceptional education teachers' training received matched the skills they felt were most important. Forty-seven percent of the general education teachers' and 40% of the exceptional education teachers' pre-service training focused on "other" skills, knowledge, performance, and critical dispositions. These data suggest that there is a disconnect between what teachers perceive as important and what is actually being taught through coursework and experiences in teacher preparation programs.

1 NCPEA Publications

2 Sumario en español

Necesita para más colaboración y co-enseñando surgidos del estándares-basado y movimiento de responsabilidad a consecuencia de legislación como el no Niño Dejó Atrás (NCLB) y los Individuos con Acto de Mejora de Educación de Incapacidades (IDEIA). Este estudio procuró identificar los conjuntos de habilidad percibidos como sea necesario por maestros elementales, generales y excepcionales de educación, (0-5 años experimentan), necesitó para tener éxito en un aula de co-enseñando y para descubrir si los deberes cooperativos son ofrecidos a maestros de pre-servicio como parte de su experiencia de la universidad. Este estudio cualitativo fue basado en el diseño naturalista de indagación (Lincoln & Guba, 1985) y fue comprendido de tres grupos de foco. Un protocolo del grupo del foco fue utilizado para la recogida de datos basada en el diez revisado (2011) Evaluación Interestatal de Maestro y estándares de Consorcio de Apoyo. Los datos reunieron alinearon la instrucción del pre-servicio, los deberes, y las experiencias recibieron con la habilidad pone a los maestros que participan informado como crítico para la colaboración y co-enseñando efectivos. El cincuenta y tres por ciento de los maestros generales de la educación y 60% de los maestros excepcionales del educación que entrenan recibido emparejó las habilidades que sintieron fueron más importantes. El cuarenta y siete por ciento de los maestros generales de la educación y 40% de la instrucción de la pre-servicio de las excepcionales maestras de la educación se centró en "otras" habilidades, en el conocimiento, en el desempeño, y en disposiciones críticas. Estos datos sugieren que hay una desconexión entre lo que maestros perciben como importante y lo que es enseñado realmente por deberes y experiencias en programas de preparación de maestro.

NOTE: Esta es una traducción por computadora de la página web original. Se suministra como información general y no debe considerarse completa ni exacta.

3 Accountability

Educational leaders are challenged by the growing demands for increased levels of academic achievement for all students. Education has become a "high stakes" environment in which all students, no matter their ethnicity, socioeconomic status, need for exceptional education services, native language, or other limitations, must meet Adequate Yearly Progress (AYP) indicators as specified by federal mandates. There is much scrutiny in public education regarding how to meet such rigorous demands. By 2014, all students, with an increased focus on those categorized by the six No Child Left Behind (NCLB) subgroups (White, Black, Hispanic, limited English proficient, students with disabilities, and socio-economically disadvantaged) are expected to meet rigorous pass proficiency rates (VA Department of Education, 2010). In addition, school

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[1]http://www.ncpeapublications.org/latest-issue-ijelp.html

divisions and schools must test at least 95% of their student population, including 95% of students in each of the AYP subgroups as mandated by NCLB legislation (VA Department of Education, 2010).

A key piece of legislation coinciding with the No Child Left Behind Act was the Individuals with Disabilities Educational Improvement Act (IDEIA, 2004), which mandates that students with special needs access the general education curriculum and programs in the least restrictive environment with age appropriate peers. In some instances, this results in a co-teaching classroom, where a general and an exceptional education teacher work together to meet the needs of all students by providing appropriate accommodations and modifications in the general education classroom (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). The impact of both NCLB and IDEIA has made collaboration between general and exceptional education teachers more important than ever (Arthaud, T., Aram, R., Breck, S., Doelling, J., & Bushrow, K., 2007; Conderman & Johnston-Rodriguez, 2009; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Harvey, Yssel, Bauserman, & Merbler, 2010).

As Adequate Yearly Progress (AYP) expectations and benchmarks continue to rise for all students, it is imperative that educational leaders discover innovative ways of closing the achievement gap, especially for those presenting the largest disparity in achievement. According to Virginia's Department of Education State Report Card from 2007-2010, data clearly indicate the largest disparity in student achievement is most prevalent within the *students with disabilities* AYP subgroup. The 2007-2010 Report Card reflects students in the disabilities subgroup more often represented poorly and not passing English, mathematics, history and social science, and science standards of learning assessments in grades three through five. The Virginia State Report Card data also reflect little growth in achievement pass rates of exceptional education students over the past three years (VA Board of Education, 2010). This compelling evidence suggests that further research is needed to identify the skill sets needed by practitioners to increase achievement for all pupils but especially for those students with disabilities.

School leaders are vigorously searching for best practices, programs, and strategies to assist in closing the achievement gap among students with disabilities in order to meet state and federal standards for accreditation. One such strategy to accomplish this goal is co-teaching.

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As a result of recent federal legislation and related policy changes, co-teaching has evolved rapidly as a strategy for ensuring that these students have access to the same curriculum as other students while still receiving the specialized instruction to which they are entitled. Co-teaching may be defined as the partnering of a general education teacher and a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of students, including those with disabilities or other special needs, in a general education setting and in a way that flexibly and deliberately meets their learning needs.(Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 9-11)

Researchers (Conderman & Johnston-Rodriguez, 2009; Magiera, K., Lawrence-Brown, D., Bloomquist, K., Foster, C., Figueroa, A., Glatz, K., et al., 2006; McKenzie, R., 2009) document that there is a strong need for collaboration and co-teaching in today's schools; however, there is little evidence-based research on best practices for pre-service training, which focuses on prerequisite skills and experiences needed for successful collaboration and co-teaching in the elementary school general education classroom. This documented need warranted further investigation of beginning general and exceptional education teachers' perceptions of their pre-service training regarding the importance of skills acquired for collaboration and co-teaching on the elementary level. Building principals and central administration need to better understand how to provide professional development and experiences to beginning and veteran teachers, to help them acquire the skill set needed for effective collaboration and co-teaching. "The future of co-teaching may be dependent on increasing the quantity and quality of research on it and placing co-teaching in the larger context of school reform and improvement" (Cook, Friend, Hurley-Chamberlain, & Shamberger, 2010, p. 10). Along with the aforementioned rigorous accountability measures for student achievement, the need for collaboration and a successful co-teaching model is of the utmost importance (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007; Conderman & Johnston-Rodriguez, 2009; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Harvey,

Yssel, Bauserman, & Merbler, 2010). The question remains- what skill sets, coursework, and experiences are needed in pre-service and post-service training to help beginning teachers become successful in a collaborative and co-teaching setting?

In this study, co-teaching is defined as:

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the partnering of a general education teacher and a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of students, including those with disabilities or other special needs, in a general education setting and in a way that flexibly and deliberately meets their learning needs (Friend & Cook, 2010, p. 11).

In this study collaboration is defined as, general and exceptional education teachers work together to plan instruction, modifications, and accommodations for special needs students (Damore & Murray, 2009).

This paper specifically addresses the following questions:

1. What specific skill sets and experiences are perceived necessary by beginning general and exceptional education teachers (0-5 years of experience) to be successful in collaboration and co-teaching classrooms?

2. What are general and exceptional education teachers' perceptions of their pre-service training regarding the specific skill sets and experiences acquired for collaboration and co-teaching?

4 History of Educating Students with Disabilities

To fully comprehend this research topic, one must understand the history of education and the legislative mandates that have formed the current conceptual model of serving students with disabilities. The exceptional education framework is grounded in case law and legislative mandates that shape exceptional education programming and services today. The landmark case of Brown vs. Board of Education (1954) laid the foundation for students with disabilities to receive a free and appropriate public education (Russo, C. J. & Osborne, A. G., 2008). Several legislative initiatives also had a significant impact on exceptional education students in public school settings. Legislative initiative Public Law 94-142 – Education of All Handicapped Children Act (1975) has been amended several times and is currently referred to as The Individuals with Disabilities Educational Improvement Act (IDEIA, 2004). The Individuals with Disabilities Educational Improvement Act mandates that students with special needs be granted access to the general education curriculum and programs in the least restrictive environment with age appropriate peers. The second initiative was the No Child Left Behind legislation (NCLB, 2002), which had a significant impact on the level of achievement expected for all students. "When No Child Left Behind requirements intersect with the traditional principles on which IDEIA is based, a strong component of a rationale for co-teaching can be established" (Friend, 2008, p. 37).

Following the adoption of Public Law 94-142 (1975) and most currently, IDEIA, a concerted effort was placed on the development of programs to meet the needs of students with disabilities (U.S. Department of Education, 2004). These new programming options must comply with federal statutes regarding educating students in their Least Restrictive Environment (LRE) with non-disabled peers. No Child Left Behind legislation also placed a new focus on exceptional education programming and the need for more effective collaboration and co-teaching models. Teacher training institutions are responsible for ensuring that pre-service teachers are well prepared to meet the challenges of more inclusive classrooms (Harvey, Yssel, & Bauserman, 2010).

5 Literature Review on Co-teaching

Referencing Dr. Marilyn Friend and Dr. Lynne Cook's (2010) model for co-teaching, there are six co-teaching approaches including: 1) one teaching, one observing; 2) station teaching; 3) parallel teaching; 4) alternative teaching; 5) teaming; and 6) one teaching and one assisting. These represent a core set of options for co-teachers; however, there are many variations of these models and frequently more than one model can be used throughout the duration of the lesson.

Common themes in literature reiterate the importance of core common knowledge and skill sets, as well as, collaboration between general and exceptional education departments producing meaningful practical field experiences in pre-service teachers' coursework (Goe & Coggshall, 2007; U. S. Department of Education, 2004). "The relationship between the co-teachers is a major critical component influencing the success or failure of the inclusion of students with disabilities" (Mastropieri, M., Scruggs,T., Graetz, W., Norland, J., Gardizi, W. & McDuffie, K., 2005, p. 268).

Another important element includes universities building strong partnerships with local school divisions to allow for practical implementation of skills acquired through training (Goe & Coggshall, 2007; U.S. Department of Education, 2004). Increased dialogue promoting the link between teacher preparation, practice, and student outcomes for all students and especially those with disabilities is needed by policy makers, researchers, university faculty, and instructional leaders to ensure progress and program development in this arena (Goe, L. & Coggshall, 2007; U. S. Department of Education, 2004).

To quote Shippen, Crites, Houchins, Ramsey, and Simon (2005), "College coursework and field experiences must address deficits in knowledge and skills as well as focus on helping teacher candidates develop dispositions that would enhance the education of students with disabilities in the general education classroom" (p. 19). The literature offers significant implications for university pre-service programming as Gerber and Popp (2000) reported,

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Universities, in their role as trainers of pre- and in-service teachers, should incorporate skills for effective collaborative teaching in their training programs. Team building, communication, problem-solving, and conflict-resolution skills should be added to traditional instructional strategies. Learning strategies and accommodations and modifications of general education curriculum also should be addressed. Further, all pre-service teachers should learn about the parameters and constraints in collaborative teaching (p. 233).

As a result of more focused accountability measures, federal mandates, and publicity of student achievement data, there is a greater need for specialized programming for students with disabilities. "In many ways, co-teaching demonstrates the potential as well as the complexities of collaboration that joins the fields of general education and special education" (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 18). To create stronger collaboration and co-teaching models, one must begin to examine pre-service teacher coursework, training, and experiences that will help prepare them for the complexities of their future role in a collaborative or co-taught classroom. Specifically identifying exactly what skill sets and experiences are needed by both general and exceptional education teachers to be successful in a collaborative and/or co-taught setting; and then investigating if those findings are currently being offered as part of their pre-service training. "The mismatch between the reality of today's schools and traditional teacher preparation paradigms has led to a more collaborative approach to prepare all teachers" (Hardman, 2009, p. 583). "Co-teaching has been preferred as one way of ensuring that students with disabilities benefit from content instruction taught by content specialists in general education classrooms" (Kloo & Zigmond, 2008, p. 13). "In a co-taught classroom the role of teacher quality has a more significant impact on student achievement than do other factors such as class make-up, background of students, class size, and class composition (Kloo & Zigmond, 2008, p. 12). "Mismatches between pre-service preparation and actual working conditions likely contribute to the challenges of the first teaching years" (Billingsley, B, Carlson, E., & Klein, S., 2004, p.344).

In 1992, the Council of Chief State School Officers developed the Interstate New Teacher Assessment and Support Consortium (INTASC), which released model standards for licensing new teachers. Teams of general and exceptional education teachers and teacher educators from across the country worked to clarify how both general and exceptional education teachers can effectively teach students with disabilities. INTASC joined forces with the Council for Exceptional Children and the National Association for the Directors of Special Education to develop subject matter standards in mathematics and English/language arts for elementary education and exceptional education. In 2010, a revised version of the standards were drafted reflecting a change in name from Interstate *New* Teacher Assessment and Support Consortium specifically designed for beginning teachers to the current name the Interstate Teacher Assessment and Support Consortium

(InTASC). The ten standards have been grouped into four general categories: 1) The Learner and Learning; 2) Content Knowledge; 3) Instructional Practice; and 4) Professional Responsibility. Each InTASC core standard is presented followed by expected core competencies regarding performance, essential knowledge, and critical dispositions. The standards currently serve as the basis for licensing standards in 38 states, and have been adopted by the National Council for Accreditation of Teacher Education (NCATE) for teacher preparation accreditation (Council of Chief State School Officers, 2010, p. 5).

6 Purpose of this Study

The purpose of this study sought to identify the skill sets perceived necessary by elementary general and exceptional education teachers (0-5 years of experience) in order to be successful in a co-teaching classroom, discover if collaborative coursework is being offered to pre-service general and exceptional education teachers as part of their university experience, and identify specific strategies, programs, and field experiences in which pre-service general and exceptional education teachers can engage in to better prepare them for their first co-teaching and/or collaborative teaching assignment. These perceived skill sets, coupled with their current teaching experience, assists in identifying critical components encompassed in the repertoire of skills needed to be an effective collaborator and co-teacher. These skill sets and experiences will positively impact student achievement for all students, including those in exceptional education where there is a documented discrepancy (Virginia's Department of Education State Report Card from 2007-2010) in achievement when compared to other non-disabled students. This research serves as a focused effort to further explore the barriers and reasons why the collaboration and co-teaching models have been in place for 15-20 years or more, yet there is still so much ambiguity regarding its implementation, skill sets needed, teaching methodologies, and link to student achievement. District and school administrators need to better understand collaboration and the co-teaching models and skill sets needed for effective implementation, to help foster a climate for success of all students, including those students with disabilities.

7 Methodology

The sample population for this study included three suburban school divisions in Central Virginia, selected because they are the three largest suburban school divisions surrounding the Richmond metropolitan area each encompassing a diverse student population. Purposeful sampling, the primary method used in qualitative research to ensure that the most qualified participants meeting the specific criteria were selected for participation, was utilized. Selection criteria for participation were as follows: general or exceptional education probationary (0 to 5 years experience, whose pre-service training would still be fresh in their minds) teachers having current or previous experience in a collaborative or co-taught classroom with a teaching degree awarded by a Virginia institution of higher education. After completing the Institutional Review Board (IRB) process at Virginia Tech and obtaining permission from each division to complete the research study, the human resource department from each school division sent an e-mail to potential participants to generate interest in the study.

Each school division's central administration informed qualifying participants about the opportunity to participate in this study. Of those participants responding to the researcher, five to eight (the number typically selected for a focus group, Creswell, 1998; Patton, 2002), were randomly were selected to participate in this study. Three focus groups were formed (one per school division, identified as Focus Group 1, Focus Group 2 and Focus Group 3) with a total of nineteen teacher participants (general education n=13, exceptional education n=5, other n=1). The number of participants in each focus group, range of teaching experience prior to the current school year, primary role in the classroom, and average time engaged in each role varied. Demographic Information for Focus Group 1, 2, and 3 [2]

The researcher collected and analyzed data for this research study by conducting focus group interviews, transcribing the recorded interviews, cross referencing the field notes, and completing a review of the litera-

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[2]See the file at <http://cnx.org/content/m44961/latest/Table1.pdf>

ture to ensure consistency with leading researchers in the field. Open-ended focus group protocol questions were utilized to engage the participants in meaningful conversations about the topic.

The focus group protocol was developed by the researcher, however, it was based on the work of Dr. Greg Conderman and Dr. Sarah Johnston-Rodriguez, 2009 in their "Beginning Teacher Questionnaire," which utilized the ten core Interstate New Teacher Assessment and Support Consortium (InTASC) principles. Written permission was obtained from Conderman to modify the original survey questions to reflect a focus group protocol format using open-ended questions to produce qualitative results. The focus group protocol was field tested to establish credibility.

Informed consent was obtained from each participant before the study began. Identifying information was kept anonymous and participants were referred to by pseudonyms in the focus group discussion such as Participant E1 or G1. Participants were informed that information discussed during the focus group meeting would be audio-taped and heard by all participants, but professional discretion was encouraged by the interviewer to ensure quality responses during the study. Audio recording devices, computer systems, a reflective journal, field notes, and a peer debriefer were used to efficiently and accurately document the focus group interview process. Data was verified with an outside reader who has credentials in research and statistics to avoid bias. This study's methodology included, data collection procedures, analysis, and the researchers employed dependability audits (Lincoln & Guba, 1985). The member check process was completed by sending the transcription data to participants to ensure accuracy of their statements and then all copies were collected back from each member.

Utilizing Erickson's (1986) interpretative method of data analysis to categorize themes or assertions from the transcriptions, themes were validated by continually confirming or disconfirming evidence from the data corpus (Erickson, 1986). As themes emerged, key links and assertions were documented from participants' responses and conversation during the focus group. Final assertions had evidentiary data to confirm the findings. Statistical analysis was conducted to represent participant responses about the skill sets perceived as most important as well as how these skills aligned with skills reportedly taught through pre-service coursework. Additionally, a cross-reference comparison was made between the InTASC skills listed in the 2011 standards and the standards represented in the participants' responses.

8 Results

General and exceptional education teachers in this study agree that certain skills, experiences, performances, essential knowledge, and critical dispositions are necessary for collaboration and co-teaching. Skills such as classroom management, collaborative lesson planning, communication, data collection, interpersonal skills, differentiation of instruction, and self-advocacy were reported by both general and education teachers as areas of importance to foster successful collaboration and co-teaching experiences.

Frequency data from the focus group interviews indicate that general education participants perceived the following skills as most important for collaboration and co-teaching: communication (23%), data collection/diagnostic testing (15%), interpersonal skills (15%), differentiation (15%), self advocacy (8%), writing effective lesson plans (8%), organization in providing accommodations (8%), and classroom management strategies and skills (8%) (Chart 1).

**Chart 1. Most important skills for collaboration and co-teaching:
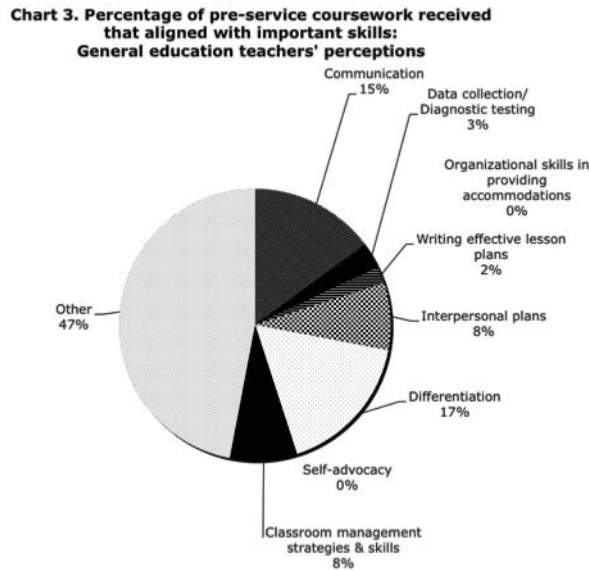General education teachers' perceptions**
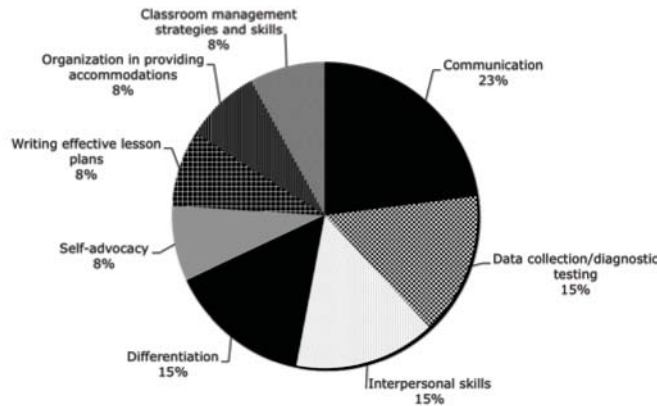
The exceptional education participants perceived the following skills as most important for collaboration and co-teaching: communication (26%), advocacy (19%), differentiation (13%), behavior management (7%), effective IEP writing skills (7%), data collection, analysis, application skills (7%), lesson planning (7%), problem-solving (7%), and discipline and classroom management and classroom management skills (7%) (Chart 2)

**Chart 2. Most important skills for collaboration and co-teaching:
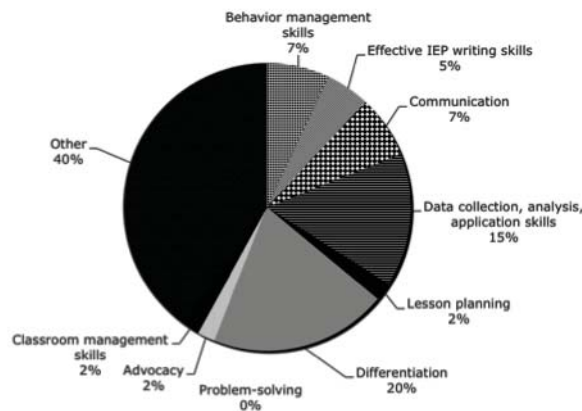Exceptional education teachers' perceptions**
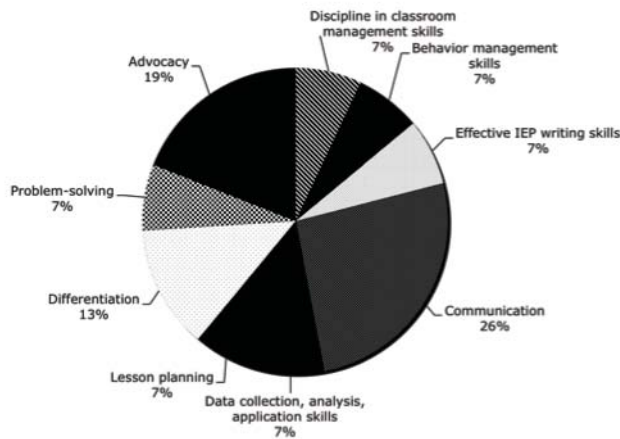
When comparing what skills general education teachers perceived as most important to what training, coursework, and experiences were actually provided as part of their pre-service training, 53% of the training received aligned with the skills they felt were most important. Of the areas that matched between perceived importance and actual pre-service training, the greatest was in differentiation of instruction (17%), communication skills (15%), and interpersonal skills (8%) and classroom management strategies and skills (8%). Forty-seven percent of their pre-service training focused on "other" skills, knowledge, performance, and critical dispositions that did not align with the perceived essential skill sets identified by participants. The "other" category encompassed 32 different areas of training through coursework and experiences, such

as behavior management and intervention coursework, core content classes (such as children's literature and other methods classes), special education law classes, and various field experiences that were mentioned during the focus group (Chart 3).

Chart 3. Percentage of pre-service coursework received that aligned with important skills: General education teachers' perceptions

Of the training, coursework, and experiences that were actually provided as part of the exceptional education teachers' pre-service training, 60% of the training received aligned with the skills they felt were most important. Of the areas that matched between perceived importance and actual pre-service training, the greatest was in differentiation (20%), data collection, analysis, and application skills (15%), communication (7%) and behavior management skills (7%). The "other" category encompassed 16 different areas of training through coursework and experiences such as school law classes, training in developing interpersonal skills, organizational skills for the exceptional education classroom, and various field experiences that were mentioned during the focus group but did not align with their perceived essential skill sets identified through this study, which reflected the "other" 40%. (Chart 4).

Chart 4. Percentage of pre-service coursework received that aligned with important skills: Exceptional education teachers' perceptions

Further analysis of the general and exceptional education teachers' reported pre-service coursework indi-

cates (using descriptive statistics, specifically frequency distribution) variability in alignment to the InTASC standards, with gaps evidenced. The strongest InTASC instructional alignment for both general education and exceptional education teachers is in the area of teaching differentiation strategies as evidenced through aligned performance, essential knowledge, and critical disposition categories. The largest InTASC gap for general education teachers was determined to be classroom management strategies and skills for co-teaching. For exceptional education teachers, behavior and classroom management strategies for co-teaching and effective IEP writing skills were found to be the areas with the largest discrepancy. Skills in behavior and classroom management strategies for collaboration and co-teaching were not represented in participants' responses evidenced by zero responses in the performance, essential knowledge, and critical disposition categories.

In addition to identification of skill sets necessary, a common sentiment by career switcher participants was that more experience in the field was needed; and they strongly voiced how beneficial their previous experiences in general or exceptional education were before accepting their current teaching position. Both general and exceptional education teachers voiced the need for more hands-on field experiences through their pre-service programming, especially working with special needs students.

9 Implications for School Administrators

Findings from this study imply the need for changes to pre-service training models and professional development opportunities for teachers who are currently serving in a collaborative or co-teaching setting. The findings will be useful to elementary school principals in better understanding the skill sets that beginning general and exceptional education collaborative and/or co-teachers have as they begin their teaching career. First, school divisions in Virginia should closely examine their current collaboration and co-teaching models and programs offered to exceptional education students. Utilizing the 2011 InTASC Standards and the findings from this study, it would be advantageous to assess current collaborative and co-teaching teams' skill sets to identify strengths and weaknesses and then develop professional development to address the gaps. A focus should be on expanding collaboration and co-teaching programming within schools.

Second, professional development about the collaborative model should be provided for administrators in school divisions, both at the central office and building level, so they can better understand the skill sets and administrative support required for developing effective co-teaching teams in their school division or buildings.

Third, professional development in the skill sets needed for collaboration and co-teaching should be initiated by local school divisions and offered to both general and exceptional education beginning and experienced teachers who are assigned to collaborative and/or co-teaching classrooms. Administrators should complete a skills inventory with co-teaching teams to assess their current skill sets and identify areas for further development. Training in these "essential skill sets" should be provided before initial pairing and co-teaching programs are implemented.

10 Implications for Institutes of Higher Education

This study will also assist faculty members at the university level in better understanding the perceptions of recent graduates about their preparation for the collaborative and/or co-taught classroom. First, schools of education and community colleges should align their pre-service programming to the InTASC Standards. Pre-service teacher plans of study should be aligned to the InTASC Standards, which are frequently endorsed and utilized by the National Council of Accreditation for Teacher Education (NCATE).

Second, institutions of higher education should incorporate the skill sets and experiences identified in this study, and consistent with current research, in designing their programming. The general education teachers perceived the following skills as most important: communication, data collection and diagnostic testing, organizational skills in providing accommodations, writing effective lesson plans, interpersonal skills, differentiation skills, self-advocacy, and classroom management strategies and skills. The exceptional education participants viewed the following skills as most important: behavior management, effective IEP writing

skills, communication, data collection and analysis and application skills, lesson planning, differentiation, problem solving, advocacy, and discipline in classroom management skills. These skill sets should be a focal point when implementing a revised course of study. This may include expanding co-teaching/ collaborative coursework to better meet the needs of general and exceptional education pre-service teachers.

Third, institutions of higher education should investigate ways to obtain resources to offer innovative interdepartmental studies (general and exceptional education departments) and experiences to allow for both general and exceptional education teachers to plan and execute lessons together in the general education classroom. Undergraduates need exposure to collaboration in their course work modeled by Institutions of Higher Education faculty members. Professors would benefit from experiences in co-teaching in order to effectively demonstrate the skills, performances, essential knowledge, and critical dispositions needed for co-teaching.

11 Suggestions for Future Research

In order to continue to meet the increasing demands for effective collaborative and co-teaching classrooms, additional research is recommended. A suggestion for future study would be to further examine the types of course content and experiences being offered to pre-service teachers at Virginia institutions of higher education. Interviewing professors from both general education and exceptional education departments to learn more about what skills are taught and how they are teaching the critical skills needed for collaboration and co-teaching is also recommended.

A second area for future research would be to interview school administrators to further identify their perceptions about the skill sets beginning teachers have as they begin their first collaborative or co-teaching experience. Additional research to focus on the types of professional development proved by site-based administrators to supplement beginning teachers' prior training is suggested.

A third area for future research would be to compare if Virginia Institutions of Higher Education are utilizing the InTASC Standards as part of their programming for pre-service general and exceptional education teachers. If the InTASC Standards are being integrated into pre-service programming, an in-depth analysis depicting how it is being done and to what extent the standards are reflected could add a significant contribution to the research field. Further investigation may be warranted to see how these skills support collaboration and co-teaching.

12 Conclusion

This research assists in identifying the skill sets and pre-service coursework needed to build effective collaboration and co-teaching programs. In sharing these findings with university, division, and building level instructional leaders, it is intended to positively impact the teaching profession. These findings can help leaders reflect on the skills and experiences beginning teachers may have received during their pre-service training and better understand the skill sets that need to be fostered through ongoing professional development. Open communication and dialogue between teachers and administrators can help shape authentic professional development and the acquisition of resources to meet the needs of collaborative teams.

In fostering a culture of collaboration in all schools and school divisions, leaders can set a positive example and model many of the skills needed for effective collaboration and co-teaching. The findings from this study pinpoint the specific skill sets and experiences needed for successful collaboration and co-teaching from the voices of practitioners. While the findings are supported by current literature in the field, it is concerning that little progress is being made towards adapting teacher preparation programs to reflect the new 2011 InTASC Standards, hence, assisting beginning teachers in being better prepared for their first collaboration and/or co-teaching assignment. It is important that schools have the best and brightest teachers, with the most highly developed skill sets, prepared to work in collaborative classrooms. In order to be prepared for the future, one must look closely at the ever-changing landscape of today's schools and have the courage to forge ahead in developing the quality programs students needs and deserve.

References

Arthaud, T. J., Aram, R. J., Breck, S. E., Doelling, J. E., & Bushrow, K. M. (2007). Developing collaboration skills in pre-service teachers: A partnership between general and special education. *Teacher Education and Special Education, 30*(1), 1-12.

Billingsley, B., Carlson, E., Klein, S. (2004). The working conditions and induction support of early career special educators. *Exceptional Children, 70*(3), 333-347.

Conderman, G., & Johnston-Rodriguez, S. (2009). Beginning teachers' views of their collaborative roles. *Preventing School Failure, 53*(4),235- 244. doi:10.3200/PSFL.53.4.235-244

Council of Chief State School Officers, (2011). *Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards: A Resource for State Dialogue*, Washington D.C. Retrieved from: http://www.ccsso.org/intasc

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications, Inc.

Erickson, F. (1986). In M. C. Wittrock (Ed.). *Handbook of research on teaching*. New York: MacMillan Publishing Company.

Friend, M. (2008). Co-teach! A handbook for creating and sustaining effective classroom partnerships in inclusive schools. Marilyn Friend, Inc. Greensboro, NC.

Friend, M. & Cook, L. (2010). *Interactions: Collaboration skills for school professionals.* Upper Saddle River, N.J.: Pearson Education Inc.

Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation, 20*, 9-27. doi:10.1080/10474410903535380

Gerber, P. J., & Popp, P. A. (2000). Making collaborative teaching more effective for academically able students: Recommendations for implementation and training. *Learning Disabilities Quarterly, 23*, 229-236. Retrieved from http://www.jstor.org/stable/1511166

Goe, L., & Coggshall, J. (2007). The Teacher Preparation > Teacher Practices > Student Outcomes Relationship In Special Education: Missing Links and New Connections. *National Comprehensive Center for Teacher Quality Research & Policy Brief*, 1-20.

Hardman, M. L. (2009). Redesigning the preparation of all teachers within the framework of an integrated program model. *Teaching and Teacher Education, 25*, 583-587. Retrieved from http://www.elsevier.com/locate/tate

Harvey, M. W., Yssel, N., Bauserman, A. D., & Merbler, J. B. (2010). Pre-service teacher preparation for inclusion: An exploration of higher education teacher-training institutions. *Remedial and Special Education, 31*(1), 24-33. doi:10.1177/0741932508324397

Individuals With Disabilities Education Improvement Act (IDEIA) of 2004. (http://idea.ed.gov/explore/view/p/%2Croot9

Kloo, A., & Zigmond, N. (2008). Co-teaching revisited: Redrawing the blueprint. *Preventing School Failure, 52*(2), 12-20.

Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Magiera, K., Lawrence-Brown, D., Bloomquist, K., Foster, C., Figueroa, A., Glatz, K. et al (2006). On the road to more collaborative teaching: One school's experience. *Teaching Exceptional Children Plus, 2*(5) Article 6. Retrieved from http://escholarship.bc.edu/education/tecplus/vol2/iss5/art6

Mastropieri, M. A., Scruggs, T. E., Graetz, J., Norland, J., Gardizi, W., & McDuffie, K. (2005). Case studies in co-teaching in the content areas: Successes, failures and challenges. *Intervention in School and Clinic, 40*(5), 260-270.

McKenzie, R. (2009). A national survey of pre-service preparation for collaboration. *Teacher Education and Special Education, 32*(4), 379-393. doi:10.1177/0888406409346241

No Child Left Behind. (2002). Retrieved: http://www.2.ed.gov/nclb/choice/index.html

Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: Sage Publications, Inc.

Russo, C.J. & Osborne, A.G. (2008). *Essential concepts & school-based cases in special education law.* Thousand Oaks, CA: Corwin Press

Shippen, M. E., Crites, S. A., Houchins, D. E., Ramsey, M. L., & Simon, M. (2005). Pre-service teachers' perceptions of including students with disabilities [Abstract]. *Teacher Education and Special Education,*

28 (2), 14-21.

U.S. Department of Education, Office of the Under Secretary, *Partnerships for reform: Changing teacher preparation through the Title II HEA partnership program*, Washington, D.C., 2004. Retrieved from: www2.ed.gov/rschstat/eval/teaching/title2hea/changing-teacher-prep.doc

VA Board of Education (2010). *Regulations establishing standards for accrediting public schools in Virginia (8 VAC 20-131)*. Retrieved from http://www.doe.virginia.gov/boe/ accreditation/soa.pdf

VA Department of Education (2010). *Accountability and Virginia public schools.* Retrieved from http://www.doe.virginia.gov/statistics_reports/ school_report_card/accountability_guide.pdf