Research Article

An Exploratory Study on Augmentative and Alternative Communication Classroom Integration Training for Special Educators Who Work With Children With Complex Communication Needs in the Bahamas

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Purpose: In 2011, the United Nations estimated there were between 180 and 220 million youth with disabilities living around the world, and 80% of them resided in developing countries. Over the last 6 years, this number has increased significantly, and now, over 1 million people live in the Caribbean with some form of disability such as communication disorders resulting in complex communication needs (CCN).
Method: This publication discusses the benefits of an exploratory, descriptive, nonexperimental study on augmentative and alternative communication (AAC) classroom integration training for 8 special educators in the Bahamas who work with children with CCN.
Results: The results of this study revealed that 100% of the participants reported the study to be effective in increasing their knowledge and skill in the area of implementing AAC into their classrooms, enhancing their ability to team teach and incorporate AAC opportunities for all students with CCN within their classrooms, and increasing their knowledge and skill overall in the areas of AAC and CCN.
Conclusion: The findings highlight an important area of potential professional development and training that can be replicated in other English-speaking Caribbean territories focused on AAC classroom integration training program for special educators who teach students with CCN.

Over 1 million individuals in the Caribbean are living with some form of disability—with an estimated 250,000 experiencing significant disabilities such as complex communication needs (CCN), and over the last 8 years, this percentage has remained steady and, at times, slightly increasing. In 2011, it was reported that approximately 80% of the world's special needs and disabilities population live in emerging countries (World Health Organization [WHO], 2011). Within this population, over 150 million are children, and approximately only 2% are documented to be receiving any form of special needs intervention (WHO, 2011). In English-speaking Caribbean countries, there is no exact figure of the prevalence of disorders. However, the WHO estimates that about 10% of each Caribbean island population includes individuals with special needs (Unite for Children, 2011). More specifically, in the Bahamas, 25% of the school-age population is enrolled in special education settings with recognized developmental disabilities (Bahamas Government Bureaucrats, 2004). Also, in most English-speaking Caribbean territories, the majority of the school-age population with CCN interacts with only special educators during 90% of their school day. Secondary to this notion, there has been a broad recognition within English-speaking Caribbean countries to create more inclusive education systems for youth with disabilities (ECLAC, 2017). Having been made aware of their limitations in the area of special education, teacher preparation programs, and specialized curriculums and interventions for children with special needs, the Bahamas has joined the education movement launched by the United Nations Educational, Scientific and Cultural Organization (Niles & Bernard, 2000). Consequently, the specialized

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training and intervention of augmentative and alternative communication (AAC) are scarcely included in this movement. The Bahamas National Taskforce identified the following limitations to the services and programs available for children with disabilities:

1. Physical, human, and material resources within special needs schools do not meet the demands of the special needs student population.
2. There exists a shortage of specialized teaching staff within designated special education facilities across the country.
3. School-age children who reside on the Bahamas Family Islands (Andros, Abaco, and Long Island) were primarily affected by limited enrollment space at designated special needs schools and no enrollment space at general education schools.
4. There are limited, modified curriculums, and instructions for students with disabilities are provided within the general education schools for children who are unable to enroll in designated special needs schools.
5. Educators and school personnel possess limited knowledge about the evidence-based best practices available in reference to educating children with special needs.
6. The lack of collaboration between specialists and regular/special education teachers to create quality educational curriculums for students with special needs.
7. Limited instructional support, training, and materials for educators employed at special programs and special needs schools.

The report also revealed that special education programs were available only in Nassau and Freeport, Bahamas. As well, secondary to the unrelated and below par training standards in English-speaking Caribbean countries for special educators, they have to travel abroad to receive specialized training necessary for the education of students with special needs (Armstrong, Armstrong, Lynch, & Severin, 2005).

This limitation in special education training programs is impacting the ability of educators to adequately address the CCN of the students who they interact with daily and consistently if they cannot afford to travel and pay for the training. As a result, because special educators are typically the primary and sometimes sole specialist available to work with children experiencing CCN in the school setting, immediate attention to the shortage of adequately trained educators who implement AAC practices in the Bahamas is necessary (Johnson & Harris, 2014).

CCN and AAC

AAC is a field that is internationally recognized in 62 countries and outside the United States, with over 3,600 members (ISAAC, 2010). Nonetheless, despite a large number of countries that recognize AAC, the AAC services and equipment available in developing countries such as the English-speaking Caribbean territory of the Bahamas are limited (Alant & Lloyd, 2005). At this time, increased interaction and expectation of special educators in the classroom setting of children experiencing CCN have forced the Bahamas Ministry of Education (MOE) to develop a streamlined focus on the inclusion of children with severe/multiple disabilities and CCN within their general education system. Majority of classrooms in the Bahamas are made up of a mixture of abilities and disabilities. However, there are minimal teacher preparation programs in the Bahamas that provide useful AAC knowledge and skill training for special educators who work in classrooms with children experiencing severe/multiple disabilities and CCN. This disparity is reportedly due to a lack of educational resources addressing the training and awareness of CCN AAC users residing in developing countries (Alant & Lloyd, 2005). A preponderance of the students within the general education classrooms are disadvantaged in their capacity to meet the curricular requirements of their respective grades due to a lack of adequate interventions that address their language and learning needs (Inclusive and Special Ed Review Working Group, 2005).

Complex communication needs (CCN) is a term utilized to characterize the communication ability of individuals with complex developmental conditions that have persisted throughout life. Children with CCN have a severe limitation of speech and language, who cannot express basic wants and needs, resulting in reduced engagement in their environment (Coyne, 2014). Children with CCN generally cannot functionally meet their daily communication needs, which may restrict their independent functioning (Dragera, Light, & McNaughton, 2010). As a result, approximately 2 million Americans are living with some form of CCN and unable to communicate their wants and needs at varying levels (Justice, 2006). Primarily, individuals with CCN have a diagnosis of severe speech, language, and communication impairments (Iacono, 2014). Some of these impairments may be secondary to concomitant diagnoses such as autism spectrum disorder, cerebral palsy, and multiple disabilities. Children with CCN will utilize an AAC modality to enhance their quality of life and functional interaction with daily activities and social opportunities. Therefore, the incorporation of an AAC modality will assist the child in expressing their wants, needs, ideas, and feelings, with some input from the caregivers, parents/guardians, clinicians, and teachers to assist them in the selection of messages functional for verbal expression (Fallon, Light, & Paige, 2001). Therefore, it is critical to ensure that the optimal method of communication is consistent and functional at all times, and the AAC user can effectively communicate across all settings (school, home, community, social) through intervention and inclusion.

Current trends in intervention strategies of children with CCN have identified the AAC specialist or speech-language pathologist as the primary point of contact. However, children with CCN spend a large part of their day during the week in a classroom with special educators and education assistants, thus making it is necessary to train educators who primarily work with children experiencing

CCN to assist them in adequately expressing their wants and needs. Consequently, albeit the Bahamas' intended shift toward inclusive education for children with disabilities, the presence of professional teacher preparation to adequately serve this population is underdeveloped. The limited availability of special educators in the Caribbean equipped to address the needs of children with CCN has impaired the students' ability to adequately and consistently receive exposure to and practice with AAC modalities within the classroom. As a result, educators in the Bahamas have expressed primary concerns with inadequate training, their lack of pedagogical skills possessed to teach students with special needs, and the nonexistence of supported modified curriculums in the classroom for children with special needs.

More than half of the special educators employed within the MOE have reported a desire for more training to increase their ability to teach and engage children with special needs and severe disabilities in the classroom (Bahamas MOE, 2009). However, meeting the instructional needs of the special education population in the Bahamas will require the provision of high-quality professional development/teacher training that encourages them to consistently acquire new knowledge and skills (Bahamas MOE, 2009).

As a result, in preparation for future special education programs in the Bahamas, the Bahamas MOE developed five target areas of professional development:

1. collaborative training and teaching,
2. curricular and instructional modifications and accommodations,
3. personal supports,
4. assistive technology, and
5. positive behavior supports.

These five target areas of professional development are essential to and aligned with developing a practical training that is designed to actively increase the communication skills and strategies for children with CCN who use AAC through classroom integration as well as addressing the existing demand among special educators in the Bahamas to receive this type of practical training (National Joint Committee for the Communicative Needs of Persons with Severe Disabilities, 2002; Romski & Sevcik, 2005).

The National Commission on Special Education also produced a recommendation of including the implementation of early intervention services, adequate accommodations for students with disabilities, the development of a specialized education curriculum, assistive technology initiatives, and continuous professional development activities. Embedding these factors and recommendations into a comprehensive teacher preparation training program may yield significantly impactful results for the pedagogical knowledge, skill, and teaching approaches of the educators in the Bahamas. Implementation of these recommendations and five target areas within a specialized teacher preparation training program may address necessities in the Bahamas. During a time when special education in the Bahamas is currently functioning as an instructional isolated teaching approach, a training program that progressively shifts away from a field of isolation toward meeting the individual needs of students with CCN would be optimal. However, there is limited research on the use of team teaching training for AAC integration in the Caribbean. To date, there has been no research conducted on team teaching and inclusive AAC integration for students with CCN in the Bahamas. Team teaching is a process where two or more people or organizations work together to realize shared goals and a deep, collective determination to reach an identical objective (Martinez-Moyano, 2006).

Using Team Teaching to Incorporate AAC

The idea of teaming in the field of AAC is one that has been discussed from the perspective of collaborative teaming of teachers, while others include related service providers and even members of a medical team who can assist in addressing students' difficulties and supporting the teachers. Currently, the most common approach has focused on utilizing the team of individuals identified on the student's Individualized Education Program to provide their expertise to the development of the student's communication skills through sharing common goals for the student, making decisions as a team and not individually, and ensuring that everyone is operating under the same shared principles and guidelines (Snell & Brown, 2011). As a profession, we know that every member/part of a team brings a unique set of skills to the team approach, and how the team operates around those skills can have a significant impact on the outcomes of the student with CCN (Horn & Kang, 2012). Although the teaming model is utilized as a recommended practice in the early childhood sector, the practice of special educators implementing AAC services and supports into the learning environment for students with CCN has limited evidence of consistent implementation (Sandall, Hemmeter, Smith, & McLean, 2005).

Team teaching is defined as a process where two or more people or organizations work together to realize shared goals and a deep, collective determination to reach an identical objective (Martinez-Moyano, 2006). Thousand, Nevin, and Villa (2006) have actively analyzed the gap in the current research base and knowledge pertinent to the preparation of teachers and service providers for team teaching and the school administration supports that are necessary for its success. Their review of the research on team teaching indicates that different teaching methods can and do yield different results. However, their review also demonstrated paucity in the data related to significant research needs and questions such as "What is the curriculum for preparing professionals to work in collaborative team teaching situations?" Rea and Connell (2005) discussed co-teaching from the perspective that educators contemplating implementing co-teaching are required to attend to the finer points of the co-teaming approach. Implementing a new service delivery model into a school setting requires changes in the structure of the school, as well as

changes to the roles and responsibilities of all the professionals involved (Rea & Connell, 2005). Friend and Cook (2003) have identified several critical components as a part of the team teaching approach. The first critical component identifies that, in order for collaboration to be successful, it must be voluntary. When individuals are not willing to collaborate, regardless of what is mandated or dictated by law or policy, the collaboration will have a slim chance of becoming successful. This means that voluntary collaboration methods work best. The second critical component of team teaching is parity. Parity is the state or condition of being equal. It requires that each member of the team have equal power within the classroom setting (Friend & Cook, 2003). Recognition and use of parity assume both teachers are actively involved in the instructional methods that may be occurring within the classroom. This includes both teachers being equally responsible for planning and facilitating the instruction that occurs. Demonstrating parity consistently requires the educators to have a shared goal for the implementation and structure of their classroom dynamics. Also, collaboration and parity should include teachers who possess a shared accountability for the educational outcomes of their students. Lastly, teachers engaging in team teaching should be comfortable with the requirement to share educational resources with each other. A team teaching approach requires that each teacher contribute some form of resource to the curriculum and classroom environment.

Moreover, team teaching is increasingly identified as a key aspect necessary for teachers to acquire efficient professional development and become effective educators (Cook & Friend, 1998a; Friend, 2008; Percy & Beaumont, 2008; Trehearn, 2010). Research presented by Darling-Hammond and McLaughlin (1995) and Roth et al. (2002) suggests that effective professional growth and effective teaching must be a collaboration that involves the sharing of knowledge among teacher communities of practice and not just a responsibility of individual teachers. Because of the professional development and growth the collaboration model provides, students with special needs can directly benefit from having two teachers addressing their learning needs via collaboration during instruction (Walther-Thomas, 1996). In a longitudinal study conducted by Walther-Thomas (1996) on team teaching experiences, results demonstrated students increased their motivation to perform academically and teachers were able to gain a more in-depth insight into students' learning and behavior problems. They also gained a better understanding of which students required specialized assistance and which students would benefit from a more intensive intervention approach within the education setting. Because team teaching is a versatile method based on the dynamics and requirements of the educational setting, the team teaching method shares many benefits that, when implemented accurately, can benefit the education system, the educators, and the students involved. Team teaching is becoming an essential ingredient in the success of schools in the United States, and as a result, the trend of teacher collaboration is beginning to be more encouraged within school systems across the United States. Services introduced in this manner already exist in some Commonwealth Caribbean countries (Ladd & Ruby, 1999). However, there have been no research data that demonstrate the opportunity for teachers to use the team teaching method within the classroom is available in the Commonwealth of the Bahamas. Furthermore, there are no inclusive educational systems or educational structure setups that functionally and consistently address the needs of students experiencing CCN in the Bahamas.

Therefore, the preliminary nonexperimental study presented within this publication aims to discuss the feasibility of implementing a team teaching training model with special educators in the Bahamas who work with children experiencing CCN. The findings of this study will lend key information to increase the awareness of multicultural needs in AAC for individuals with CCN around the world. The findings from this publication will provide a descriptive analysis of the participants' satisfaction, competency, and knowledge pre and post training that may be effective in determining the benefits of replicability of the study.

This study aimed to answer the following three research questions:

1. What differences in knowledge and skill of AAC and AAC classroom integration did participants demonstrate pre and post the Response to Critical Communication Needs (RT-CCN) training?
2. How effective was the RT-CCN training in educating participants on how to appropriately implement the knowledge and skills of integrated AAC intervention within the classroom for children with CCN?
3. What learning experiences and generalization of skill did participants express receiving after the RT-CCN training?

Method

This study investigated the implementation of a team teaching training and measured the feasibility of implementation and effectiveness of the plan and content. This study utilized a qualitative exploratory design that included qualitative data collection and descriptive analysis. The researcher presented the training program in three phases: a workshop phase, an observation phase, and an independent implementation/teaming teaching phase. The phases of this training were developed based on research from Gardiner-Farquharson, Bain, and Cooper (2005); Friend and Cook (2003); and Logsdon et al. (2014). Howard University's Office of Research and Regulatory Compliance–Institutional Review Board Committee provided the institutional review approval of the study.

RT-CCN Model

The RT-CCN training model is a collaborative model designed for the purposes of this study that trains special

educators on effectively integrating AAC for students with CCN within the classroom. The RT-CCN training supports this belief of synonymy and prescribes to provide a service delivery model with a primary focus on the teacher, the classroom, the curriculum, lesson plans, instructional strategies, AAC implementation, and, most importantly, the student. The RT-CCN training is a model designed to train educators in dyads utilizing workshops, hands-on training, team teaching, and simulated case studies to implement the use of AAC including educational opportunities and goals within the school day for children with CCN. The RT-CCN training model adopted the co-teaming training model by Friend and Cook (2007) and the integration of AAC strategies (Ratcliff & Beukelman, 1995) in order to design the team teaching training program. Using the co-teaming training model of Cook and Friend (1998b), special educators were trained using the following instructional methods: teaming teaching method, workshops, shadowing and observations, and hands-on training. The RT-CCN training model supports the theory that, in order for inclusion within special education settings to be successful and consistently implemented, there needs to be a paradigm shift from a static teaching instruction education approach to a student-oriented support and resource education (Heimlich & Norland, 2002). For the RT-CCN teaching model to be successful, it is necessary for educators to provide the total implementation of AAC integration and instruction to students with CCN consistently within the classroom. It is also necessary to prescribe providing a service delivery model with a primary focus on the educators, the students, the classroom, the modified curriculum (lesson plans, activities), instructional strategies, and the consistent use of AAC. From the educators' perspective, the RT-CCN training model projects increased pedagogical knowledge and skills and professional growth. In summation, the RT-CCN training model is designed to increase the knowledge and use of an integrated team-teaching educational approach for special educators in the Bahamas, resulting in a paradigm shift to how the special educator addresses the CCN of the students. This team-teaching integrated training model holds the possibility of being able to lend solutions to questions on how a particular approach impacts the special educators in the Bahamas' ability to functionally interact with and educate children with CCN. This model may also determine if the RT-CCN training model is useful in teaching special educators in the Caribbean the necessary pedagogical knowledge and skills necessary to become functional facilitators of AAC modalities for children with CCN.

The RT-CCN training program was presented in three phases: (a) the workshop phase, (b) the observation phase, and (c) the independent/co-teaming phase.

Each of the three phases of the training model progressed through three channels of knowledge and skills, acquisition, and demonstration, as presented in Table 1. During Phase 1 (the workshop phase), participants were required to complete 3 days of modules with content focused on team teaching. Each module presented lasted for 4–6 hr per day. Specifically, the team teaching module provided the participants with an opportunity to be introduced to and deepen their understanding of team teaching covering (a) what is team teaching; (b) collaborations and meetings; (c) lesson plans, activities, and integration; (d) problem solving and performance management; and (e) goals, lesson plans, and progress reports.

Participants

Eight special educators employed as primary special education teachers at a special needs private school in Abaco, Bahamas, were participants of this study. Participants were identified and recruited either through a recommendation from the administration or through expressing personal interest in participating to the administrators of the special needs school. Participants in the study ranged in age from 20 to 64 years, including one male and seven female participants. The education level of the participants consisted of all participants possessing a high school diploma and five of the eight participants having a college education. Furthermore, one participant reported prior training, specifically in the field of special education (see Table 2). All participants of the study were permanent residents or naturalized citizens of the Bahamas including any of the surrounding Family Islands (Abaco, Andros, Bimini, Eleuthera, Exuma, Grand Bahamas, Paradise Island, and Long Island).

Participants were assigned to one of four teaching dyads made up of one participant employed by the research site as a lead teacher and one participant employed by the research site as a teacher's aide. A lead teacher's job responsibility is reported as the teacher who has the responsibility for the education of all students in the classroom, sets the expectations of the classroom, and supervises the teacher's aide within the classroom. Within this school setting, all lead teachers were required to have a minimum college education although, due to the shortage of qualified and trained special education teachers in the Bahamas, a degree in special education is not explicitly required or specified. The teacher's aide's job responsibility is to assist the lead teacher and reinforce the classroom instruction taught to the students. In addition, within this school setting, the teacher's aide is required to assist with lunch, recess, and dismissal duty.

In assigning the participants into each dyad with one lead teacher and one teacher's aide, the researcher ensured the dyads were balanced for education and preparation of teaching skills and ability. Selection criteria for participants of the study required participants to spend at least 80% of their workday educating children experiencing CCN during the academic school year in which the research study was completed. Participants were also required to maintain the 80% teaching relationship with children experiencing CCN for a minimum of 1 year following the research study. All participants, regardless of their position, received the same training and completed the RT-CCN training program together.

Table 1. Workshop phases: channel of preparation.

Workshop phase	Channel
Workshop phase	Training: Participants completed the workshop phase and matriculated into the co-teaching phase of the study.
Observation phase	Performance: Participants demonstrated the co-teaming/independent implementation phase utilizing retained theoretical knowledge to participate in simulations, assignments, and complete case studies that address AAC integration with children with complex communication needs.
Independent/team teaching phase	Performance: Participants demonstrated the co-teaming/independent implementation phase utilizing retained theoretical knowledge to participate in simulations, assignments, and complete case studies that address AAC integration with children with complex communication needs. Satisfaction: After completion of the study, participants completed a 20-question and 5-point scale survey to determine satisfaction of the training program.

Note. AAC = augmentative and alternative communication.

Measures

Several measures were utilized to gather data for this investigation. These measures included content module tests, RT-CCN Module Knowledge Tests (pre and post), one observation checklist, and a participant satisfaction survey, which were implemented. Data collection tools utilized included (a) RT-CCN Pre Module Knowledge Test, (b) RT-CCN Post Module Knowledge Test, (c) RT-CCN Individual Module Tests (pre and post), (d) participant satisfaction survey, (e) observation fidelity checklist, and (f) field notes.

The *RT-CCN Pre, Post, and Individual Module Knowledge Tests* were initially developed as an instrument for a pilot study conducted by the authors to determine its validity for this exploratory study. During the pilot study, based on the participant's data and feedback, the instrument's construct and content validity and reliability were checked and confirmed to perform as intended. Sample questions from the RT-CCN Pre, Post, and Individual Module Knowledge Test instrument can be found in the Appendix.

RT-CCN Pre Module Knowledge Test

This test was designed by the researcher to gather information regarding the study participants' knowledge of AAC, co-teaming, and CCN before the implementation of the study. The RT-CCN Pre Module Knowledge Test consisted of nine multiple-choice questions and six short-answer questions used to gather information regarding the study participants' knowledge of AAC, co-teaming, and CCN needs before the implementation of the study.

RT-CCN Post Module Knowledge Test

This test was also designed by the researcher to gather information regarding the study participants' comprehensive knowledge of AAC, co-teaming/co-teaching, and CCN after the implementation of the study. The RT-CCN Post Module Knowledge Test consisted of eight multiple-choice questions and 10 short-answer questions (three additional case study questions and one specific module satisfaction question were added to this section).

RT-CCN Individual Module Tests

These tests were designed by the researcher to gather information regarding the participants' knowledge of each module introduced during the workshop phase of the training program following its implementation.

Module 1: AAC. This individual module test contained 17 questions related to the study of AAC. The questions were categorized into three parts of information introduced within the module titled Parts I–III. This test contained all multiple-choice questions.

Module 2: Team teaching. This individual module test contained 18 questions related to the study and method of team teaching. The test questions were categorized into three parts consisting of multiple-choice questions, fill in the blanks, and short answers.

Table 2. Participant demographics.

Participant	Gender	Age (years)	Education level	Special education experience
1	Male	63	College grad	Gen. ed.
2	Female	23	College grad	Gen. ed.
3	Female	26	High school	None
4	Female	35	Technical school	None
5	Female	46	High school	None
6	Female	54	College grad	None
7	Female	61	College grad	Gen. ed.
8	Female	44	College grad	Special education

Note. grad = graduate; Gen. ed. = general education.

Module 3: CCN. This individual module test consisted of 22 questions related to children with severe disabilities, the characteristics of CCN, and methods to address CCN within the classroom. The test questions were divided into three parts consisting of multiple-choice questions, short answers, and a case study.

Participant Satisfaction Survey

This was designed by the researcher to gather information regarding the participants' perceptions of the effectiveness of the RT-CCN training program and their satisfaction with the study overall. The participant satisfaction survey consisted of 24 items separated into three categories: (a) a 5-point rating scale with 15 statements, (b) a 10-point rating scale with three statements, and (c) six short-answer questions. The three categories presented on the survey addressed a variety of questions related to the participants' satisfaction with the facilitator, the modules and activities, and the overall training program. The 5-point rating scale was also used to evaluate participants' satisfaction of all the RT-CCN training modules. It required participants to rate 15 statements from "strongly agree" to "strongly disagree" by circling the statement most closely related to their attitudes and feelings. The 10-point rating scale required participants to rate three statements from 1 = *poor* to 10 = *excellent* by circling the number most closely related to their thoughts, feelings, and perceptions.

The six short-answer questions provided participants with space on the survey to respond to questions related to the training topics and content. The questions also allowed the participants to discuss their recommendation of the study to others and recognize their personal growth after completion of the training. The open-ended questions and unstructured interview questions utilized in the study are represented in Table 3.

Observation Checklist

This was designed by the researcher to assess the presence of specific skills and document field notes about the participants' use of the RT-CCN model during the school day. The observation checklist consisted of 27 questions that also assisted the researcher in determining whether or not the RT-CCN training was implemented effectively, what specific techniques were observed being implemented by the participants (such as the use of low-tech AAC devices and strategies), and the observation of team teaching among the dyads within the classroom. The researcher used the field data collected to document real-time observations, thoughts, and questions that arose during daily observations of the participants throughout the research study.

Procedure

Participants began the study with the researcher administering the RT-CCN Pre Module Proficiency Test used to determine the baseline knowledge level of the participants in the areas of AAC, CCN, team teaching, and AAC implementation and integration into the classroom. After the initial procedure of completing the RT-CCN proficiency test, the investigator began Phase 1, the workshop phase.

Over 11 days, all participants completed four training modules taught in real time by the facilitator. The content of the training modules was based on literature reviews specifically from American Speech-Language-Hearing Association's (2018) professional issues on AAC, Beukelman and Mirenda (2013), and Douglas (2012) on what education and knowledge teachers should possess to support communication skills in students who use AAC. The content was also based on the literature review of what is included in preparing to utilize a team teaching model within the classroom. The modules began at 9:00 a.m. each morning and continued for 4–6 hr. At the beginning of each session, the researcher conducted a 15-min review and a question-and-answer session related to the previous module(s) information. Each module (see Table 4) also included the purpose of the module, the objectives and learning outcomes, breakout sessions, and a review of the modules. Participants were trained specifically on the integration and use of AAC low-tech modalities in order to increase communication and interaction of students with CCN in the classroom. In addition, participants were specially trained on how to integrate the intervention goals and AAC modality lesson plans into the classroom setting, as demonstrated in Table 4.

After each module and before the next module was introduced, all participants were required to take the

Table 3. The participant satisfaction survey open-ended and unstructured interview questions.

Question type	Question
1. Open ended	What topics, content, or concepts could have been covered in more detail?
2. Open ended	What topics, content, or concepts could have been covered in less detail?
3. Open ended	Any additional comments about your experience in this study?
4. Open ended	As a result of participating in the RT-CCN program, have you made any changes to your teaching style for children with CCN? If so what?
5. Open ended	As a result of participating in the RT-CCN program, list three things you have learned.
6. Open ended	As a result of participating in the RT-CCN program, would you recommend this program to others?
7. Unstructured interview	After the completion of the RT-CCN training program and your first week completing it on your own, what are your thoughts, comments, questions, and concerns?

Note. RT-CCN = Response to Critical Communication Needs.

Table 4. Phase 1 training modules.

Module topic	Topic components
Augmentative and alternative communication (AAC)	• What is AAC? • Modality and system selection • Vocabulary and message selection • Make-and-take laboratory
Co-teaming	• What is co-teaming? • Collaborations and meetings • Lesson plans, activities, and integration • Problem solving and performance management • Goals, lesson plans, and progress reports
Critical communication needs (CCN)	• What is CCN? • Communication intervention
Integration and the total learning environment	• What is integration? • Integrating the intervention and the lesson into the classroom setting

RT-CCN Individual Module Test corresponding to the presenter module.

Phase 2, the observation/shadowing phase, involved the lead teachers of each of the four dyads interacting within their respective classrooms utilizing the skills presented during the RT-CCN training in Phase 1. Lead teachers were required to work with the researcher as they demonstrated putting the skills and techniques to AAC integration into play within their classrooms using a simulated case study. Each simulated case study was created to emulate real-life situations that may have occurred or could occur within the classroom when working with students experiencing CCN. For example, the case study addressed programming and teaching a child to use a low-tech GoTalk 9 device to answer questions during story time. The simulated case study showed the lead teachers how to develop goals, write lesson plans, and create integrated activities that could be done with low-tech AAC devices. The following day, each lead teacher was provided with a new simulated case study and required to demonstrate the skills and techniques addressed during Phase 1 (the workshop phase) independently while the researcher observed and took notes. After each observation, the researcher and the lead teacher met to discuss recommendations, areas of improvement, and corrections to how the techniques were demonstrated.

On the third and fourth day of Phase 2, the lead teacher of each dyad was required to demonstrate the strategies and RT-CCN techniques addressed in the workshop phase on one previously selected student identified as having CCN. Previously selected students had to meet the following selection criteria: (a) between the ages of 8 and 10 years, demonstrated CCN and average to low-average cognitive level as determined by the academic records, were ambulatory and able to access and activate the low-tech device independently, and spent 80% of their class time with the lead teacher demonstrating skills within that classroom. The researcher allotted each lead teacher 45–60 min to demonstrate competency with the RT-CCN techniques.

On the fifth day, the researcher met with all the lead teachers during a lunch-and-learn meeting and provided feedback, redirection, and constructive suggestions related to their case study simulation responses and use of the RT-CCN intervention within the classroom with the previously selected student. Phase 2 was conducted and completed in 1 week.

During the final phase, Phase 3: independent implementation/co-teaming phase, the lead teacher and co-teacher of each dyad were provided an assignment in which they were required to independently demonstrate the implementation of the RT-CCN intervention as a team. To begin, each lead teacher practiced with their respective co-teacher creating lesson plans and goals, setting up and implementing strategies for low-tech AAC integration within the classroom, and actively implementing the RT-CCN model intervention on two previously selected students with CCN within the classroom who met the abovementioned selection criteria. Dyads were allotted a minimum of 90 min to demonstrate their ability to complete the assignment. The assignment's objectives were to (a) create a lesson plan of one collaborative in-class activity for two previously selected students with CCN; (b) write one Specific, Measurable, Attainable, Realistic, and Time-bound goal related to each student's needs in the area of communication including requesting two or more items during lunch using a low-tech AAC modality; and (c) demonstrate the implementation of carrying out and tracking data on the created goals and lesson plans as a dyad.

As the dyad engaged in their demonstration of the assignment, the researcher observed and took field notes. After the completion of the demonstration, the researcher provided feedback and suggestions and allowed the lead teachers to include input and ideas to their co-teacher. The researcher then presented the dyads with a second assignment requiring each dyad to use the knowledge and techniques taught and practiced during Phases 1 and 2. Each dyad was given 2 days to practice and prepare for the assignment before the researcher returned and visited each participating group within their class at varying times throughout the school day to observe the dyad's interactions and complete a fidelity check.

The researcher utilized a fidelity checklist to document the interactions within the classroom of each group, as they observed the dyads within their respective classrooms for a

minimum of 45–60 min each. During the observations, the researcher primarily focused on each dyad's presence of increased or decreased RT-CCN skill level, increased or reduced communication opportunities to use the low-tech AAC device provided for previously selected students, and increased or decreased ability to collaborate and create useful lessons plans and goals with their dyad partner throughout the lesson. The fidelity checklists and observations were used during four class periods over 4 days.

After Phases 1–3, the participants were required to complete the participant satisfaction survey and 5-min unstructured interview. Each 5-min unstructured video interview was recorded individually in an isolated area of the research site.

As a follow-up phase to the study, 3 weeks post completion of the research study, the researcher revisited each dyad's classroom randomly to document the sustained implementation and generalization of the RT-CCN training skills to students with CCN not previously selected during the study. The researcher observed each dyad for 60 min each and recorded notes on their frequency and accuracy of use of the RT-CCN method during classroom instruction. The investigator utilized the same fidelity checklist and observation methods used in the final phase of the study.

Results

Research Question 1: What Differences in Knowledge and Skill of Team Teaching, AAC, and AAC Classroom Integration Did Participants Demonstrate Pre and Post the RT-CCN Training?

The participants' differences in knowledge and skill after completion of the RT-CCN training program were demonstrated first in the results of their pre– and post–RT-CCN tests. Participants overall demonstrated an averaged 14-point increase in their knowledge of AAC, team teaching, and AAC classroom integration scores on the post–RT-CCN tests. In addition, in each specific module test, participants' scores indicated that the RT-CCN modules presented in Phase 1 positively affected the pedagogical knowledge of the participants, resulting in them performing better on the post–RT-CCN knowledge test at Phase 1. Based on researchers' determined criterion-referenced mastery cut score of 80%, 75% (n = 6) of the participants demonstrated mastery by scoring between 80% and 100% on Module 1: AAC RT-CCN Module Test, and 63% (n = 5) of the participants demonstrated mastery by scoring between 83% and 91% on Module 2: Team Teaching RT-CCN Module Test (see Figures 1–3).

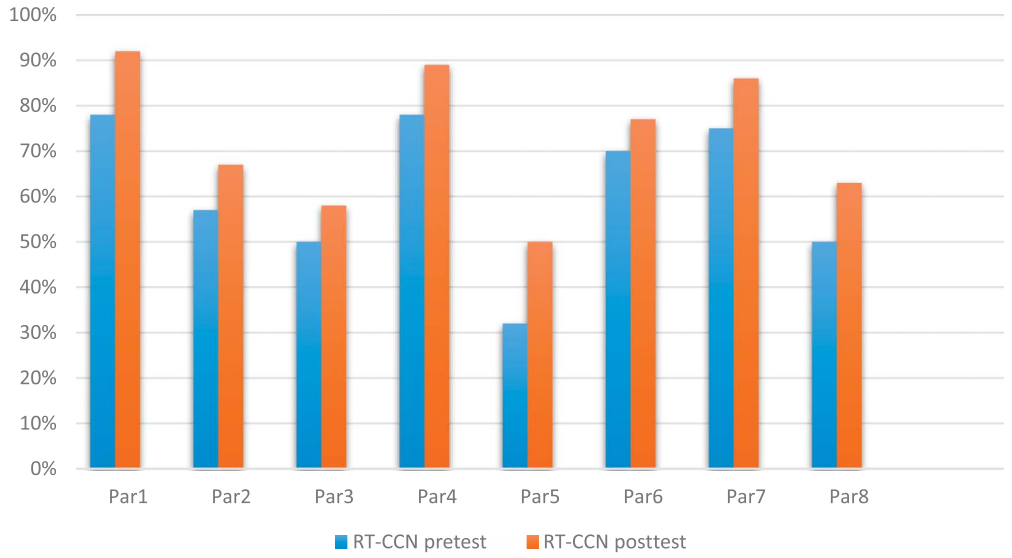
When demonstrating the increase of knowledge retained from Phase 1 within their skills, participants demonstrated an increase in their ability to use the AAC integration techniques taught during Phase 2. Specifically, 100% of the participants demonstrated an increase in their knowledge/understanding of the team teaching process and integrating low-tech AAC modalities within their respective classroom by working together as a dyad to implement the skills taught and practiced within their respective classrooms. Particularly, Dyads 1–4 demonstrated proper use of AAC implementation techniques and team teaching methods expected to work as a team within the classroom. The teaching methods documented included classroom problem solving, functional selection and adequate use of low-tech AAC modalities, and the automatic integration of the RT-CCN techniques not only within the classroom but also throughout other parts of the students' school day (lunch, recess, subject transition, and dismissal). Participants also demonstrated independent generalization and retention of the knowledge and skills learned within the RT-CCN training weeks after the training. Observation field notes documenting the RT-CCN skills used during observation (see Table 5) also revealed that participants engaged previously selected students and students not previously selected but who demonstrated CCN in working on skills to use low-tech AAC integration activities and interactions within the classroom. For example, one dyad was observed working with a student with CCN on requesting a pencil using a low-tech AAC Big Mac (Enabling Devices). As a result of the dyads' RT-CCN teaming approach using skills such as mild–moderate prompting hierarchy and one teacher modeling the request as the other teacher prompted, the student used the Big Mac to request the pencil successfully.

Overall, participants who completed the RT-CCN training showed an increase in their skill set, knowledge, and approach to implementing AAC within the classroom for children with CCN. All of the participants demonstrated an increase in the skill of implementing low-tech AAC modality use and integration of the device within the classroom in the areas of device programming, using questioning and commenting techniques to increase AAC communication, and writing age-appropriate goals and lesson plans for students with CCN to be engaged within the classroom.

Research Question 2: How Effective Was the RT-CCN Training in Educating Participants on How to Appropriately Implement the Knowledge and Skills of Integrated AAC Intervention Within the Classroom for Children With CCN?

The criterion used to determine training effectiveness included analyzing participant responses on the participant satisfaction survey and transcribing and analyzing their responses on a semistructured interview via coding themes. Participants were required to document and rate how useful the RT-CCN training was at meeting the program goals via open-ended questions, one Likert scale, and a 10-point rating scale. Secondly, participants were asked via semistructured interview questions about the effectiveness of the program. An analysis of the participant satisfaction survey and responses from semistructured interview questions revealed that the RT-CCN training model was effective in educating the participants on how to appropriately address and provide integrated AAC intervention for children with CCN as a team within the classroom. In the area

Figure 1. Pre– and Post–Response to Critical Communication Needs (RT-CCN) Knowledge Test results.



of overall satisfaction of the RT-CCN training, 100% of the participants reported being satisfied with the workshop and the components included within it. All of the participants (n = 8) stated they would recommend the RT-CCN program to others secondary to its effectiveness in increasing their knowledge and skills in AAC integration within the classroom.

Analysis of the open-ended questions on the participant satisfaction survey (see Table 6) demonstrated that participants reported more positive comments about the effectiveness of the program than concerns and negative perceptions. Reported positive responses on the effectiveness of the program included participants discussing their satisfaction with the information learned in each of the modules and their noted "changes to their teaching styles." Overall, seven out of eight participants reported the overall RT-CCN training program was beneficial and useful to their daily teaching duties, and as a result, they felt more aware and comfortable with being able to introduce and integrate low-tech AAC modalities into their classroom for students with CCN. The remaining participant reported concerns of not having enough time to learn all that was provided within the program and expressed wanting more practice with techniques such as lesson plan creations and goal writing.

Overall, all the participants expressed confidence and comfort with training their colleagues who did not participate in the RT-CCN training program but interacted with

Figure 2. Augmentative and alternative communication (AAC) Response to Critical Communication Needs (RT-CCN) Knowledge Test results.

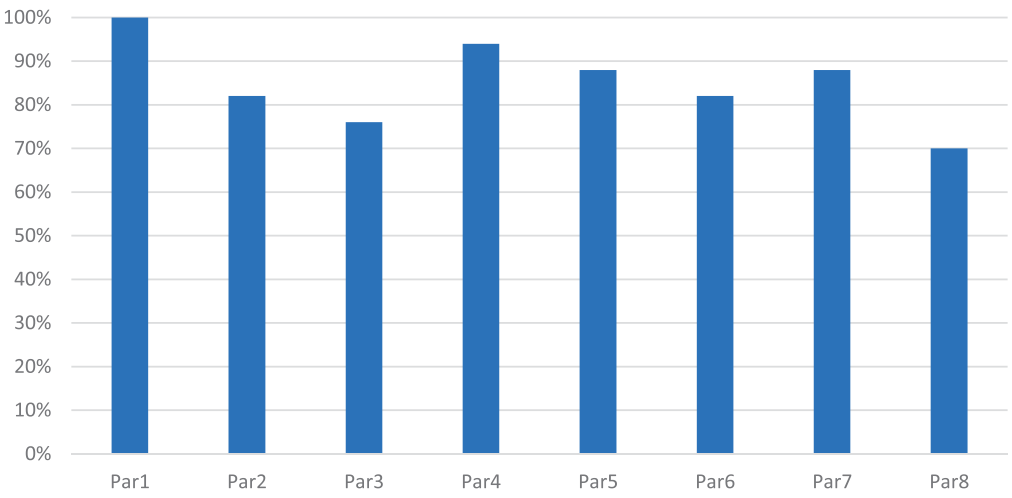
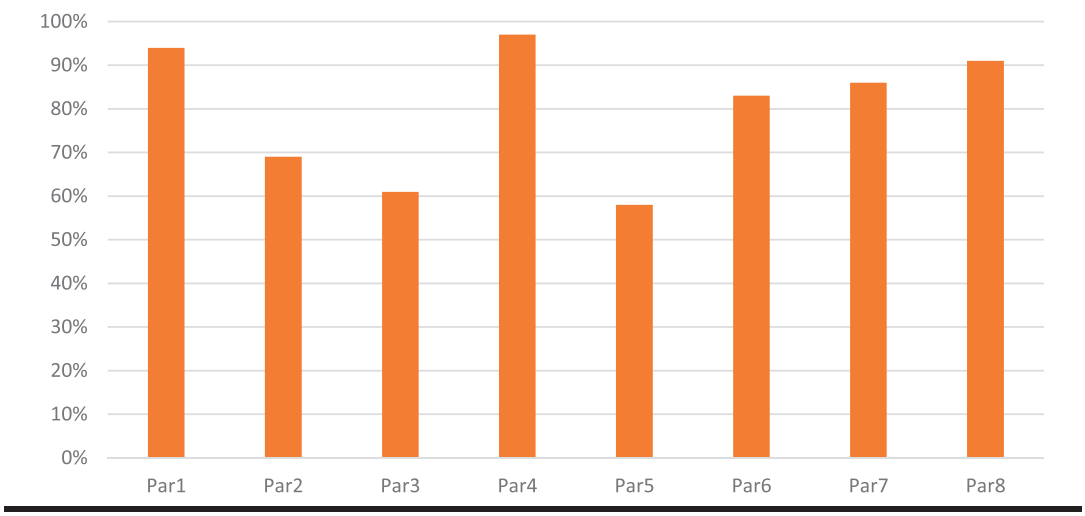


Figure 3. Teaming Response to Critical Communication Needs (RT-CCN) Knowledge Test results.



students with CCN. All participants perceived the program to be beneficial in its ability to provide them with skills to effectively educate students with CCN. Also, the participants discussed how the program was effective in assisting students in their ability to generalize AAC strategies to other activities, settings, and communication partners.

Research Question 3: What Learning Experiences and Generalization of Skill Did Participants Express Receiving After the RT-CCN Training?

The qualitative data gathered from the observation field notes, the participant satisfaction survey, and the unstructured interview responses were analyzed for recurrent themes and patterns in the participants' responses. The similarities in participant responses categorized the qualitative responses from the participant satisfaction survey and the observation checklists. The observation checklist results were analyzed and formatted into a chart documenting whether or not the expected behavior was present during the observation. This format allowed the investigator to discuss the presence and absence of specific actions according to its related RT-CCN modules. The qualitative data from the participant satisfaction survey as well as written and verbal interview responses were collected and documented based on categories representing participant-perceived benefits and limitations of the RT-CCN training. The categories reported were determined using ATLAS.ti word cruncher qualitative analysis program. The results revealed the most common words presented in the submitted transcripts

Table 5. Observation checklist for augmentative and alternative communication (AAC) and strategies by each dyad.

Observed strategies	Dyad 1	Dyad 2	Dyad 3	Dyad 4
1. **Activities and interaction**	+	–	+	–
2. **Natural response to communication attempts**	+	–	+	–
3. **Appropriate use of AAC**	+	–	+	–
4. **Word/symbol connection to AAC**	–	–	+	–
5. **Increase in vocabulary knowledge**	+	–	N/A	–
6. **AAC skill improvement**	+	–	N/A	–
7. **Communication functions**	–	–	+	–
8. **Questioning and commenting #1**	+	+	+	+
9. **Questioning and commenting #2**	–	–	N/A	N/A
10. **Questioning and commenting #3**	+	N/A	+	N/A
11. **Questioning and commenting #4**	N/A	+	N/A	+
12. **Increase message length**	–	–	N/A	–
13. **Prompting and cueing**	+	+	+	–
14. **Message production**	+	+	+	+
15. **Functional vocabulary**	+	+	+	+
16. **Program and maintenance**	+	+	+	+

Note. (+) = yes responses; (–) = no responses; N/A = not introduced/observed during this observation.

Table 6. Participation satisfaction survey open-ended questions.

Participation satisfaction survey open-ended questions	Response summary
1. After your first week, what are your thoughts, questions, comments, and concerns about using the RT-CCN method?	• The program was beneficial in providing them with skills to adequately educate the students experiencing CCN, resulting in the students generalizing the learned AAC strategies to other activities, settings, and communication partners. • Excellent experience • Effective in preparing participants to address AAC and classroom integration with children who experience CCN
2. Do you have any favorite parts or parts you don't like about implementing the program?	• **Favorite parts:** 1. Integrated activities 2. Implementation of lessons 3. Communication intervention techniques 4. AAC strategies • **Least favorite parts:** 1. Lesson plans 2. SMART goals
3. How comfortable are you with showing or working with your co-teachers and others who didn't take the training in doing the techniques?	• Expressed confidence and comfort with training their colleagues who did not participate in the RT-CCN training program but interacted with the students experiencing CCN throughout the school day

Note. RT-CCN = Response to Critical Communication Needs; AAC = augmentative and alternative communication; SMART = Specific, Measurable, Attainable, Realistic, and Time-bound.

developed from the observation checklists, interviews, and field notes, which discussed positive learning experiences from each participant. Coding was used to create evidence of themes and categories through data analysis, and the content was initially coded into 36 categories. The investigator then conducted a second analysis, and six recurring dominant themes with 29 subcategories related to the training experience, the pedagogical knowledge of the participants, training effectiveness, learning experiences based on the participants' perceptions/attitudes, and the researcher's observations emerged (see Table 7).

In addition to the dominant emerging themes, participants' specific responses revealed in the workshop category of the Dominant Emerging Themes Chart, all of the participants (n = 8) indicated the RT-CCN training program made a difference in the way they approached and utilized methods of integrating AAC within the classroom for children with CCN. Secondly, in the participant interaction category of the Dominant Emerging Themes Chart, all of the participants (n = 8) expressed that completing the case studies during the observations increased their ability to address the educational goals of children identified with CCN within their classrooms using various AAC modalities after participation in all three phases of the RT-CCN training. Moreover, during the analysis of the knowledge and skills category of the Dominant Emerging Themes Chart, it was discovered that all of the participants (n = 8) reported an increase in their pedagogical knowledge and skills when implementing techniques taught within the RT-CCN training within their classrooms. Lastly, in the experience category of the Dominant Emerging Themes Chart, all of the participants (n = 8) expressed an increase in their overall experience of integrating low-tech AAC devices within the classroom after the RT-CCN training.

Analysis of the participant satisfaction survey and unstructured interview responses for each participant indicated that all participants experienced a positive learning experience of the RT-CCN and implementing AAC within the classroom for children with CCN. The unstructured interview and satisfaction survey responses also revealed a paradigm shift in participants' perception of increased knowledge, skills, and comfortability in working with children with CCN within the classroom. In summation, the data collected from the participant responses demonstrate that participants felt the RT-CCN training program was beneficial and an effective training program, increased their pedagogical knowledge and skills, and provided salient content information within the modules that were considered applicable and vital to the participants' profession as a special educator who works with children experiencing CCN.

Discussion

Findings from this study could provide relevant information and data to the field of special education and related service provisions in emerging countries that can be adapted to train professionals who educate and provide intervention to children with CCN in the classroom setting. More specifically, the findings from this study present valuable information and training methods for professionals who educate or provide therapeutic services to children experiencing CCN and can benefit from the implementation of various AAC strategies. The results of the current research study correspond with the previous findings reported in the literature on the benefits of team teaching and special education (Adams, Cessna, Stein, & Friend, 1992; Fontana, 2005; Magiera, Smith, Zigmond, & Gebauer, 2005), specifically

Table 7. Observation and field notes: emerging themes chart.

Dominant emerging themes	Subcategories
1. **Workshop discussions**	• Tests content and satisfaction • Overall workshop content and session satisfaction • Module content and satisfaction • Day/time factors • Breakout sessions
2. **Participant interaction**	• Within the classroom • Behavior • Students/children • Communication • Consistency • Demonstration • Practice
3. **Knowledge and skills demonstrated**	• Comprehension/understanding • Demonstration
4. **The co-teaming process**	• Problem solving • Roles • Planning • Lesson plans
5. **Experience discussions**	• Difficulty • Confusion • Peer teaching • Intervention
6. **AAC discussion**	• Strategy selection • Strategy usage • Successful implementation • Classroom integration • Generalizing

Note. AAC = augmentative and alternative communication.

in the areas of team teaching training structure (modules, activities, and breakout sessions), and the effectiveness of the facilitator to present the information—participants reported that the facilitator was knowledgeable and demonstrated expertise in the subject matter presented within the training program (Adams et al., 1992; Fontana, 2005; Magiera et al., 2005). Documented benefits of implementing a training model such as the RT-CCN training program are also discussed within various publications and recognized as a high-priority training in the areas of collaborative training and team teaching, AAC instruction, personal supports to learning for the participants, and curricular and instructional modifications and accomodations as needed (Armstrong et al., 2005; Bauwens, Hourcade, & Friend, 1989; Bergsma, 2000). Furthermore, the literature discusses the use of pre- and posttesting as a method to be used to discern the knowledge participants gained from participating in a training program. Comparing participants' posttest scores to their pretest scores enables the investigator to determine if the training was effective in increasing the participants' knowledge of the training content (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). Within this study, the participants demonstrated a 14-point difference between their pretest and posttest scores on the RT-CCN Proficiency Test, which suggests the training was effective in increasing the knowledge and skills of the participants from the first administration pretest and Phase 1 to the last administration posttest and Phase 3.

This study adds to the scarcity of research present in the field for training programs available in special education for educators who work with students with CCN. Based on the findings and satisfaction reports of the participants, the RT-CCN training model would be a functional professional development tool for current professionals in the field of special education who spent a significant amount of their teaching instruction in a classroom with students with CCN.

The findings from this study also provide salient information that could be beneficial to the development of training programs for future special and general educators in the English-speaking Caribbean territories that address AAC integration and increased communication within the classroom for children with CCN.

Although this study is only exploratory at this time, it is essential to note that a study of this scope designed to train special educators in English-speaking Caribbean territories has not yet been presented in the literature. As a result, this study and its effects can contribute to the paucity of research available in the area of AAC and special education professional development in English-speaking Caribbean territories. The reported effectiveness of the program and satisfaction from the participants demonstrate the potential to be replicated. To this extent, RT-CCN is a feasible training program that can be replicated and implemented during the summer months in other islands of the

Bahamas, other emerging English-speaking Caribbean countries, and even areas of the United States where access to AAC specialists is limited. More specifically, the RT-CCN training model can begin to introduce a discipline-specific professional development training program to emerging countries and rural areas in the United States where the presence of training addressing necessary skills required to increase communication skills and classroom interaction of children with CCN is limited (Butler & Leahy, 2011).

Lessons Learned

Suggestions and comments related to the structure of the training program from the participant satisfaction survey identified some limitations that should be addressed if the study is replicated and to ensure the sustainability of the RT-CCN training program. Two limitations that were highlighted in particular are as follows: (a) During Phase 1 (training modules), there should be more practice in developing and writing Specific, Measurable, Attainable, Realistic, and Time-bound goals—60% of the participants reported not feeling like they had enough time to practice writing goals during the breakout session in Phase 1, and this was also supported in the fact that 75% of the participants scored below the 80% criterion mastery score, yielding between 57% and 75% in the area of goal writing—and (b) the start and end time of implementation for the training program each day. Due to the length of the training being approximately 4 weeks in length, 6–7 hr each day, there may be attrition of participants to complete the training without some time modifications to the presentation. In addition, the retention of the content presented during that time frame may be lost on the participant secondary to the length of time spent in Phase 1 on each module. As a result, it is recommended that content from Phase 1 be condensed to meet the needs, knowledge and skill level, and expectations of the participants.

The current body of research has focused on training special educators and related service providers on how to implement one-to-one intervention or educational instruction to children with CCN in the United States. However, there remains a need for future research that incorporates interdisciplinary collaboration and integration for the special educators and related service providers in emerging countries. Combining multidisciplinary team teaching dyads for participation in training programs such as RT-CCN would enhance the ability to investigate the training model from a different perspective. As well, a more extensive study, in which the participants are recruited based on educational level and matched by educational role, is warranted to obtain a more comprehensive view of increased pedagogical knowledge and skill, participation satisfaction, and AAC modality classroom integration for children with CCN. As well, because this training program should have broader applicability, the study should not be limited to only emerging countries and new professionals in the United States. The diversity of the environments and cultures should offer a more comprehensive outlook of the generalization of the study and how it can effectively impact various cultures, disciplines, and professionals.

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Appendix A (p. 1 of 3)
RTCCN Pre Module Test

RT-CCN Pre Module Knowledge Test

Initials: _____
Date: _____

1. What is Augmentative and Alternative Communication?

a) A style of speaking

b) A field that addresses expressive communication for people with critical speech difficulties

c) Complex communication

2. Who can use an Augmentative and Alternative Communication System?

a) Only people who are on the Autism Spectrum

b) Anyone and Everyone

c) Individuals in special education classes only

d) Individuals with severe intellectual disabilities

3. What does Augmentative and Alternative Communication involve?

a) Symbols

b) Pictures

c) All forms of communication including gestures, facial expressions, writing, and symbols

4. Which are types of augmentative and alternative communication? Check all that apply.

_____ Facial Expressions	_____Spoken Language	_____Pictures
_____Sign Language	_____Electronic Devices	_____Gestures
_____Objects	_____Paper and Pencil	_____Other:_____

5. What is Co-teaching?

a) Two or more professionals deliver instruction to a diverse group of students

b) One person teaching one topic followed by another teaching a different topic

c) One teacher teaching regardless of what is taught and how it will be taught

6. Teaming requires…

a) Both teachers to be responsible for planning and sharing the instruction

b) One teacher to be more engaged than the other

c) One teacher is in charge of instruction and the other management

d) All of the above

Results: _____

Appendix A (p. 2 of 3)
RTCCN Pre Module Test

RT-CCN Pre Module Knowledge Test

Initials: _____
Date: _____

7. What is a goal?

a) Should capture what you think the student should learn
b) Should capture what knowledge, skills, and attitudes the student should exhibit
c) Form the basis of evaluating teacher, learner, and curriculum effectiveness
d) Guide selection of teaching/learning activities that will achieve objectives
e) B, C, & D

8. What does S.M.A.R.T stand for?

a) Smart, Measurable, Adjustable, Real, Tasks
b) Strong, Motivating, Attainable, Relevant, Tasks
c) Specific, Measurable, Attainable, Relevant, Time Bound
d) Specific, Motivating, Attainable, Reasonable, Time Bound
e) None of the above

9. Circle all things that are considered in communication

a) AAC c) Signs
b) Signs d) Gestures
f) Speech e) alphabet

10. What is a critical communication need?

11. What is included in a lesson plan? Provide an example of how you write a lesson plan.

Results: _____

Appendix A (p. 3 of 3)
RTCCN Pre Module Test

RT-CCN Pre Module Knowledge Test

Initials: _____
Date: _____

12. **What are long term and short term goals? Provide an example of how each one is written.**

13. **What is a prompt?**

14. **How do you prompt a child? Provide an example.**

15. **What do you expect to get out of this workshop?**

Results: _____

Appendix B (p. 1 of 4)
RTCCN Post Module Test

RT-CCN Post Modules Knowledge Test

Initials: _____
Date: _____

1. What is Augmentative and Alternative Communication?

a) A style of speaking

b) A field that addresses expressive communication for people with critical speech difficulties

c) Complex communication

2. Who can use an Augmentative and Alternative Communication System?

a) Only people who are on the Autism Spectrum

b) Anyone and Everyone

c) Individuals in special education classes only

d) Individuals with severe intellectual disabilities

3. What does Augmentative and Alternative Communication involve?

a) Symbols

b) Pictures

c) All forms of communication including gestures, facial expressions, writing, and symbols

4. Which are types of augmentative and alternative communication? Check all that apply.

_____ Facial Expressions	_____Spoken Language	_____Pictures
_____Sign Language	_____Electronic Devices	_____Gestures
_____Objects	_____Paper and Pencil	_____Other:_____

5. What is Co-teaching?

a) Two or more professionals deliver instruction to a diverse group of students

b) One person teaching one topic followed by another teaching a different topic

c) One teacher teaching regardless of what is taught and how it will be taught

6. Teaming requires…

a) Both teachers to be responsible for planning and sharing the instruction

b) One teacher to be more engaged than the other

Results: _____

Appendix B (p. 2 of 4)
RTCCN Post Module Test

RT-CCN Post Modules Knowledge Test

Initials: _____
Date: _____

7. List the steps in the prompting hierarchy:

8. What does S.M.A.R.T stand for?

a) Smart, Measurable, Adjustable, Real, Tasks
b) Strong, Motivating, Attainable, Relevant, Tasks
c) Specific, Measurable, Attainable, Relevant, Time Bound
d) Specific, Motivating, Attainable, Reasonable, Time Bound
e) None of the above

9. Circle all things that are considered in communication

a) AAC c) Signs
b) Signs d) Gestures
f) Speech e) alphabet

10. What is a critical communication need?

11. What is included in a lesson plan?

Results: _____

Appendix B (p. 3 of 4)
RTCCN Post Module Test

RT-CCN Post Modules Knowledge Test

Initials: _____
Date: _____

12. Provide an example of how you write a lesson plan.

13. What are long term and short term goals? Provide an example of how each one is written.

14. What is a prompt?

15. How do you prompt a child? Provide an example.

16. If a child enters your classroom with NO skills for using AAC what manner do you

Results: _____

Appendix B (p. 4 of 4)
RTCCN Post Module Test

RT-CCN Post Modules Knowledge Test

Initials: _____
Date: _____

17. **prompt them?**

18. **If your child comes into your classroom with some skills for using AAC what manner do you prompt him?**

19. **What are your thoughts on phase one of this research study (the workshop phase): Please be honest.**

Results: _____

Appendix C (p. 1 of 4)
Test Module 2 Co-Teaming

Date: ____

Initials: __

Module 2: Co-Teaming

Instructions

Read each question carefully. Place the chosen letter corresponding to your answer in the space provided.

Part I: Co-Teaching

1) _____ **What is Co-teaching?**

a. Two or more professionals deliver instruction to a diverse group of students
b. One person teaching one topic followed by another teaching a different topic
c. One person teaching regarding what will be taught and how it is taught

2) _____ **Inclusive Practices only benefit students with disabilities**

a. True
b. False

3) _____ **Co-teaching has what benefits?**

a. Increases effectiveness of the classroom lessons as a whole
b. Increases the productivity of the educators
c. A & B

Part II: Co-Teaming

1) _____ **Teaming requires…**

a. Both teachers to be responsible for planning and sharing the instruction
b. One teacher to be more engaged than the other
c. One teacher is in charge of instruction and the other management
d. All of the above

2) _____ **What are the three stages of Co-Teaching**

a. Beginning Stage, Discussion Stage, Demonstration Stage

Appendix C (p. 2 of 4)
Test Module 2 Co-Teaming

Date: ____

Initials: __

b. Beginning stage, Compromising stage, Collaborative stage
c. Beginning Stage, Collaborative Stage, Assessment Stage
d. None of the above

3) _____ **What is the goal of collaboration?**

a. Focus on the individual needs and goals of the student to meet specific educational needs
b. Volunteering to work in a classroom with students with special needs
c. Partnership that can be used when not working with the student
d. All of the above

4) _____ **What are some key principles of collaboration?**

a. Listening
b. Walk away and avoid discussions
c. Respecting perspectives
d. A & C

Part III: Lesson Plans & Co-Teaching

1) _____ **What is a goal?**

a. Should capture what you think the student should learn
b. Should capture what knowledge, skills, and attitudes the student should exhibit
c. Form the basis of evaluating teacher, learner, and curriculum effectiveness
d. Guide selection of teaching/learning activities that will achieve objectives
e. B, C, & D

2) _____ **Goals for all students educated within the classroom should be…**

_____ (*hint: acronym*)

3) _____ **Setting goals should…**

a. Detail what the child will do
b. Have no time limit

Appendix C (p. 3 of 4)
Test Module 2 Co-Teaming

Date: ____

Initials: __

c. Detail how a child will do something
d. A & C
e. None of the above

4) _____ **What does S.M.A.R.T stand for?**

a. Smart, Measurable, Adjustable, Real, Tasks
b. Strong, Motivating, Attainable, Relevant, Tasks
c. Specific, Measurable, Attainable, Relevant, Time Bound
d. Specific, Motivating, Attainable, Reasonable, Time Bound
e. None of the above

5) _____ **A specific goal should address 6 ….**

a. Topics
b. WH-Questions
c. Skill sets
d. A & B
e. None of the above

6) **What are the 6 Questions a specific goal should answer?**

_____

_____

_____

7) **What are the two type of goals that can be set in a lesson plan?**

A. _____

B. _____

Appendix C (p. 4 of 4)
Test Module 2 Co-Teaming

Date: ____

Initials: __

8) **Provide an example of one long term goal and one short term goal.**

Long-term Goal:

_____

_____

_____

Short-term Goal:

_____

_____

9) _____ **Problem solving may be needed as a result of:**

a. Academics
b. Behavioral
c. Social/Emotional Skills
d. All of the above

10) _____ **What are the steps for problem solving?**

a. Define the problem, develop the intervention and plan, implement the intervention
b. Watch the behavior, report to the parent, redirect the child
c. Define the problem, write it down, report to administration
d. Develop the intervention plan, implement the intervention plan
e. None of the above