Research Statement

My applied research is rooted in an interactional framework. The impetus behind my empirical work comes from over 25 years spent in the field of augmentative and alternative communication (AAC). From the ground-breaking research I was part of throughout my doctoral program, to the emerging insights from my dissertation research, I am ready to expand the evidence base on symbolic communication for children with severe disabilities and complex communication needs.

The two major goals of my line of research are: (a) to understand the interplay of different factors within and between segregated and inclusive early education classrooms that promote or inhibit classroom-based talk or communication-facilitating behaviors, and (b) to identify areas of instructional need for preschool students with cognitive and sensorimotor disabilities who are emergent communicators and require cross-contextual access to aided language/communication systems.

I approach this field of study from a practical and pragmatist standpoint. Without doubt, children who are enrolled in preschool classrooms bring with them profiles and characteristics of their intrinsic neurobiology and familial sociolinguistic background. However, one teacher most often leads the classroom with one assistant and a paraeducator assigned to the most challenging student(s). A teacher's prior knowledge, belief system frames, and personal dispositions all impact and influence how learning occurs in these classrooms. It is for this reason that contextually-mediated practices are important to examine for the identification of characteristics and consequences that impact children with the highest levels of need. I believe that a researcher and practitioner in the field of AAC should not only consider access to the communication tool, but also investigate and ensure access to the words a child needs to learn language, fully participate in their educational curricula and do so with a variety of communication partners.

Research Philosophy

My interest in classroom-based learning draws upon the broader social-cultural and dynamic systems theories that impact the everyday emergent experiences of preschoolers. My underlying epistemology has evolved as the result of my past clinical experiences and current research insights. When practicing in a medical setting, I witnessed the power of individual therapy across the domains of language, attention, memory and communication. My goals and objectives were based on "best evidence" at the time arising from different fields of scientific study and deriving from quantitative deduction and analysis. Most of my career was spent in a post-positivist world requiring me to identify, assess, and report out to physicians and insurance organizations the smallest most discrete variables that effected individual patient skills and behaviors.

However, other clinical experiences led me to realize the importance of contextually-mediated research and how it could be applied to practice. For example, working as a collaborative consultant providing assessment and intervention in people's homes and in children's schools, provided a foundational understanding of the importance of integrated and interdisciplinary service models for improved client outcomes. When designing intervention research, it was therefore important to consider the multidimensional impacts or potential interactions that may affect client outcomes.

My theoretical lens has transformed in many ways. I take a more pragmatic and socially-constructed approach to empirical research. I recognize the need for different approaches (experimental, quasi-experimental, and descriptive) to answer different questions. Given the myriad of factors that can impact

children's language acquisition and academic learning outcomes, especially when they have significant disabilities, it may be necessary to conduct studies using both quantitative and qualitative tools (mixed methods research). However, I also believe that it is incumbent upon researchers to realistically choose the most appropriate research tools given the available funding, resources and time available to complete a study. Rigorous, practical and simple studies may be just as valuable to the field as the well-done, broad systems-level, and more complex studies.

I would like to think that my research will make the world a better place for people with communication disabilities. While this is certainly my goal, I am also a realist who knows the amount of time it takes to move from a research question to full implementation of a project. In the world of funding which encourages transdisciplinary collaborations, I realize the time it takes to set up partner collaborations, negotiate roles and agree to measurable outcomes, then jointly apply for funding. Far from being cynical, I understand that despite my lofty reasons for entering academia, researchers are all fighting over access to an ever-shrinking pot of money. It is for these reasons that I believe we must be careful to avoid absolutism and steer clear of making broad generalizations that may not hold true for lower incidence populations. This does not mean I oppose rationalism or deductive reasoning - these are essential for pursuing scientific endeavors - but when planning research with our most vulnerable populations, I believe we must also seek explanations that are sensitive and open to different realities, and ones that may not hold true for the general population.

Conducting applied research in the field of AAC means that we are unveiling possibilities for spoken and written communication in people who are traditionally marginalized in school and community. Marginalization may also occur if people with severe disabilities were omitted as outliers in large population studies searching for dominant patterns. Whatever the sources of such disparities, it is important that when designing AAC research studies, we adjust for the clinical heterogeneity in our low incidence population and be careful not to discard the stories of the few, that may in fact, influence the communication outcomes of many.

Fitting models with small n's that adequately reflect the complex inter-relationships of factors affecting students' language outcomes is a challenge with the lower incidence population. It is not unusual in the AAC field to run intervention studies with small sample sizes using non-parametric tests, or more commonly, employ single-case experimental designs for testing the efficacy of an intervention on a dependent variable. Borrowing from educational research, longitudinal multi-level models may also be used to examine how children are performing or progressing when grouped at the classroom or school level. Qualitative studies in AAC research have the advantage of deeply investigating single or cross cases using ethnographic or phenomenological approaches and have informed our field in significant ways. Current investigators suggest that the International Classification of Functioning, Disability and Health (ICF) may serve as a useful framework for designing our studies because it considers both intrinsic factors related to a person's neurobiology, and the environmental/extrinsic factors that affect a person's communication outcomes.

Dissertation Research: How Conceptual Relational Words are Taught, Used and Learned in Inclusive Preschools

Statement of the Problem: My cross-case qualitative research design addressed three problems that occur in practice relevant to vocabulary selection and use in Augmentative and Alternative Communication (AAC). First, vocabulary selected for emergent communicators is often insufficient in type and number of vocabulary items. Second, vocabulary selected may be insufficiently flexible for use across partners and contexts (Geist, Hatch, & Erickson, 2014). Third, children with complex communication needs (CCN) and developmental disabilities (DD) may enter preschool without access to, or knowledge of, essential conceptual relational words (CRWs) necessary for full participation in all learning contexts and many daily preschool interactions.

There is mounting evidence to suggest that if conceptual words are frequently modeled and taught for cross-contextual communication, for both pre-symbolic and early symbolic communicators, then their representational meanings will be flexibly understood (Geist, Erickson & Hatch, 2016; Kent-Walsh & Mcnaughton, 2005; Kent-Walsh, Murza, Malani, & Binger, 2015; Shire & Jones, 2015). This is in contrast to earlier research that suggested relational concepts were too difficult for children with DDs to understand because these abstract concept words were only understood later in development and also held unstable and intangible relationships with their referents. However, there is much support of the early learning and understanding of conceptual relational words outside the field of AAC, such as, cognitive science, developmental psychology, and educational research.

Purpose of Study: The purpose of this study was to seek to understand, how four purposefully selected inclusive preschool teachers shifted their communication and instructional style between children with and without CCN during daily instruction that supports the learning of basic concepts (Boehm, 2014; Bracken & Crawford, 2010). Simultaneously, this study explored if and how children with CCN and DD in these inclusive preschool classrooms demonstrated understanding, and use, of conceptual relational words, as a subset of basic concepts with specific attention to the impact of aided AAC systems (e.g., graphic symbols with or without a speech generating device) when they are available.

Analysis and Interpretation in Process: For 12-weeks, I was a participant observer in four different high-quality inclusive preschool classrooms with exemplary teachers. Even though I am still in the process of analyzing and interpreting my data, so far evidence suggests the following insights: (a) there is continued need for preschool teachers to learn and use Aided Language Input (ALI) to build children's language and communication as one communication-facilitation support strategy, (b) there are basic concept words that are critically important for children with sensorimotor impairments to learn and use as an extension and expression of their body movements and sensations used throughout their daily routines, (c) concept words are crucial to use and teach in relational spaces. Within the corpus of data that I captured, there are many routes of investigation to pursue, and many interesting papers to be generated.

Future Plans

My overall plan is to identify the critical components that will support better implementation or instruction of AAC so *all children* can reach their maximum communication potential.

As I complete the analysis and interpretation of my dissertation, preliminary evidence suggests that the use and understanding of certain concept words, called "conceptual-relational words" are critical for aided language users to learn as part of the co-development of motor-cognitive-language skills. My dissertation is the first-step toward identifying contextually-mediated components that may be necessary to include when investigating the type of "specially designed instruction" preschoolers should have within the Multi-Tiered Systems of Support (MTSS). I am wary about the broad sweep of this tiered model for teaching language and literacy skills to preschoolers when MTSS was meant for school-age children not preschoolers. In addition, other research suggests that not enough language intervention is being done at the Tier 1 level in preschools. Preliminary findings of my study suggest this is true. This tiered model may work for teachers who understand response to intervention at the very first level and immediately provide aided language systems to children with CCN, but they do not understand how to model and teach the language that may actually predict later language outcomes. The use of MTSS is becoming part of inclusive early education programs, so I believe my future research may address some of the questions around what exactly teachers should do for their children with the highest level of need.

I do not shy away from working with complex populations. I wish to continue my life-long focus on helping children with low-incidence disabilities develop their language and literacy skills. A specific area of interest involves teaching early language concepts to children with cortical vision impairment; an area of need I identified over the last three years. Overall, I want to use my research findings to connect with the needs of clinical practice and work to further inform and propel the existing research forward.

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