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Dedication...

This special issue is dedicated to **Prof. Emeritus Dr. Ziya Selçuk** *for his outstanding contribution for Educational Psychology, learning and learner centered education and educational counseling.*

Editorial

Dear IEJEE Reader,

This special issue of International Electronic Journal of Elementary Education (IEJEE) presents information and examples of practices that are from the intersection of School Psychology, School Counseling, Educational Psychology, and Special Education. As we move forward in understanding how interdisciplinary/team approaches can benefit our students, we have also begun to realize that much more work is needed in this area to help reduce barriers that impede collegiality between professionals in these fields. Our students with special needs today present us with ever changing challenges, and new cross-sectional tools, ideas, and strategies that include the best from these disciplines are absolutely pivotal to addressing these needs. Developing professional competencies for working with children with exceptional (special) needs must be a pressing goal for educational systems around the globe. We must also work to update the idea of what constitutes a child with 'special needs' and perhaps reframe this term to 'children with exceptionalities'. This lens reminds us that children come to us with a very broad array of gifts, talents, and needs – therefore exceptionalities might be a better 'umbrella' or inclusive term from which to springboard new efforts in multidisciplinary research and development. The collection of articles in this special edition address the aforementioned issues as well as the need for more in-service training that addresses our students' increased mental health requirements and the robust evidence-based practices that should be embedded within our school systems. Additionally, another contribution to this journal reminds us of the importance of focusing on our students' strengths when conducting psychological counseling and assessment.

We hope that this special issue of IEJEE will be a welcome contribution to the cross-disciplinary scope of School Psychology, School Counseling, Educational Psychology, and Special Education. We would like to express our gratitude to all the contributors and executive editors of IEJEE Dr. Gökhan Özsoy and Dr. Hayriye Gül Kuruyer.

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Interviewing to Understand Strengths

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Abstract

Interviewing clients about their strengths is an important part of developing a complete understanding of their lives and has several advantages over simply focusing on problems and pathology. Prerequisites for skillfully interviewing for strengths include the communication skills that emerge from a stance of not knowing, developing a vocabulary of strengths that allows practitioners to identify and name them, and having a "ear for strengths." Building on this, Saleebey (2008) offers a framework of eight types of questions that allow us to explore strengths in depth with clients.

Keywords: Interviewing, strengths perspective, counseling

Introduction

Mental health professionals have long embraced interviewing as an important way of gathering information. There is a long history of the use of interviewing in making diagnostic decisions and better understanding client problems. More recently, greater attention has been placed on giving client strengths and resources "equal space, equal time, equal emphasis" (Lopez, Snyder & Rasmussen; 2003, p. 17) as problems and psychopathology in the interviewing process.

Including strengths is important for several reasons. One is that when adults recognize children and youths' strengths, they are more likely to actively take part in the assessment process and later treatment (Epstein, Hertzog, & Reid, 2001; Murphy, 2015 Nickerson & Fishman, 2013). Gathering information about strengths also broadens the focus of assessment to include recognizing and building competence rather than only reducing problem behaviors (Nickerson, 2007; Epstein et al., 2001). This is important because although reducing the negative impact of problems is important, evidence suggests that the presence of personal and social competence in children is a better predictor of functioning later in adulthood than the reduction of symptoms alone (Kohlberg, Ricks, & Snarey, 1972; 1984). Given this, there is a strong argument to include assessing and building strengths as part of the counseling process.

Interviewing for strengths is the mirror image of interviewing children about their problems. When interviewing for strengths, counselors make use of the same communication skills important in clinical interviewing or in psychotherapy or counseling. These include the communication skills that emerge from what has been described as a *stance of not knowing* (Anderson & Goolishian, 1992). Anderson and Goolishian (1992) describe *not knowing* as "...a general attitude or stance in which the therapist's actions communicate an abundant, genuine curiosity" (p. 29). Skills that communicate this curiosity exist on a continuum from relatively passive skills such as nonverbal attending to more active strategies like paraphrasing and accurately reflecting feelings (See Table 1 below).

Table 1. *Skills for Not Knowing*

Less active >>>>>>>>>>>>>>>>>>>>>>>>More active		
		Echoing
Nonverbal attending	Minimal encouragers	Paraphrasing & Summarizing
Observing	• Nodding	Complimenting
Waiting	• Ummm, okay, sure, yes, wow!	Normalizing

In addition to these basic skills, interviewing for strengths also requires a vocabulary of strengths. Although there is no Diagnostic and Statistical Manual (APA 2013) or International Classification of Disease (WHO, 1993) for

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strengths, there is abundant literature that offer at least a tentative map of strengths. One source is positive psychology (Seligman, 2004). Counselors and researchers in positive psychology have developed assessments and interventions that focus on increasing subjective well-being or happiness by promoting the experience of positive emotions (Fredrickson, 2001) or enhancing qualities such as gratitude (Emmons & Stern, 2013), hope (Pedrotti, Edwards, & Lopez, 2008) or optimism (Gillham, Reivich, & Shatté, 2001).

A second important contribution to a map of strengths is resilience (Masten, 2014). Research on resilience grew out of research with children whose parents had serious mental illnesses (Luthar, Cicchetti, & Becker, 2000). The finding that many of these children did well in life despite the challenges they faced led researchers to a set of social and psychological factors that seemed to promote positive outcomes among children who had faced adversities such as poverty or abuse (e.g., Garmezy, 1993; Masten & Curtis, 2000; Rutter, 2013). Researchers found that although it was true that children exposed to these adversities often have more psychosocial problems than those who were not exposed, the large majority still grew up to lead productive adult lives (e.g., Benard, 2004; Werner & Smith, 2001; Cicchetti, Rogosch, Lynch, & Holt, 1993).

Masten (2014) has argued there are basic psychosocial systems that, when functioning well, are universally protective of human development and form the core of resilience. These dynamic adaptive systems include: 1) attachment and close relationships; 2) intelligence, ingenuity, and problem solving; 3) self-regulation and self-direction; 4) mastery motivation and sense of personal agency; and 5) faith, hope and belief that life has meaning (pp.147-164). Using similar language, Benard (2004) proposes two broad categories of resilience: personal strengths, and environmental protective factors. Personal strengths include: 1) social competence, 2) problem solving, 3) autonomy, and 4) sense of purpose. Environmental protective factors can be found in families, communities, or schools and include: 1) caring relationships; 2) clear and positive expectations by family members, educators, and community members for achievement; and 3) opportunities to take part, contribute and give back (Benard, 2004).

If strengths are to be taken seriously, they must be systematically recognized and named. Although we do not have a DSM or ICD for strenghts, positive psychology and research on resilience offer a guide for what to look for when interviewing for strengths. These can be summarized as:

1. The quality of relationships with peers and family
2. The presence of cognitive or academic competencies
3. The presence of aspirations, goals, and plans
4. The sense that despite adversity, there is a purpose to life
5. A sense of agency or confidence in the ability to affect life and meet one's goals

Developing an Ear for Strengths

A prerequisite for assessing client strengths is to adopt the assumption that every student, family, or community has resources and capacities (Saleebey, 2008). We listen for and pay attention to what we believe is important in an assessment. If we assume that strengths are present, even if they are not easy to identify because they are obscured by problems, we become more curious about what might be beyond the presenting difficulties and investigate how client strengths contribute to their lives and how they can be used to improve their circumstances.

In addition to a strengths perspective, we must also have tools that can be used to unpack and better understand strengths once we have become curious about them. Saleebey (2008) discusses eight kinds of questions that help name and elaborate on strengths. These include : 1) perspective questions, 2) change questions, 3) meaning questions, 4) survival questions, 5) support questions, 6) possibility questions, 7) exception questions, and 8) esteem questions (p. 73).

Perspective questions

When counselors are curious about children's perspectives, they encourage autonomy and competence by signaling that what they themselves think or feel about their situations is important. This insider perspective is also critical in interviewing because it adds information about how different stakeholders (e.g., parents, teachers, students) view a situation and what they view as important. The insider perspective not only offers ecological validity for information from other sources such as school records, tests, or questionnaires, but it also facilitates a collaborative working relationship. Respect for the insider perspective offers a counterbalance to the expert knowledge that counselors bring to a situation.

Perspective question such as the ones below offer a useful starting place for a discussion of strengths:

- "What are your thoughts about how you got to this point?"
- "What have you been successful at so far?"
- "How did you make those successes happen?"

Change questions

Change questions are an extension of perspective questions**.** As part of the strengths perspective, we also assume that our clients, no matter how young or disturbed, are always trying to cope with their challenges even if they appear to have been unsuccessful so far. Rooted in these efforts are clients' theories of change (Duncan & Miller, 2000). The assumption that clients have been working on their problems in some way long before we interview them leads us to be curious about what they have done so far and, more importantly, what they have done that worked, if only in small ways (De Jong & Kim

Berg, 2013; Duncan & Miller, 2000). These questions might include:

- "What have you done to try to make things better? Have those things worked, even a little bit?"
- "What do you think might make things better?"
- "Lots of time, kids have good ideas about how to solve a problem. What do you think would help?"

Meaning questions

Meaning questions are also an extension of perspective questions. They try to get at what values, beliefs, or goals clients find important. Some of these are of course cultural and involve values or beliefs that the person views as shared by members of a particular community. These might include respect for elders, expectations for gender roles, the role of education in success in life, etc. Other beliefs arise from unique personal experiences that lead to what cognitive behavioral therapists refer to as core beliefs (Creed, Resiweber & Beck, 2011). Creed et al. describe core beliefs as the foundation for how we view ourselves, relate to others and experience the world (2011). These values and beliefs can be both adaptive or limiting, depending on the context. In an investigation of strengths, the focus is on beliefs that are or could be a source of resilience. Meaning questions include:

- "What are the most important things about school for you?"
- "Where do you see yourself in five years?"
- "What do you think is most important in life?"

Survival questions

Survival questions are also known as *coping questions* (De Jong & Kim Berg, 2013). They refocus attention away from feeling overwhelmed in the face of seemingly insurmountable challenges toward clients' efforts at coping with these adversities. Again, a strengths perspective leads counselors to assume that clients are always coping in one way or another, even it is just to be passive or withdrawn in the face of adversity. Survival questions are windows into potential strengths and resilience. It is important to understand that although these efforts at coping may not seem completely successful, they may have been helpful in small ways that can be built upon in developing plans and interventions.

When asking survival questions, it is important to first acknowledge that things have been difficult, even overwhelming. These acknowledgements serve to normalize clients' experiences and communicate that their thoughts and feelings are unsurprising given the circumstances they face.

The simplest way of starting a conversation about survival or coping is to ask, "What has helped so far?" (De Jong & Kim Berg, 2013). Other questions include:

- "That sounds really tough. How have you managed to deal with all that?"
- "Wow, I am amazed you even got out of bed today and made it to school. How did you manage that?"
- "Given all that is going on, I am not surprised you feel overwhelmed. I wonder if anything has helped, even if only a little bit?"

Support questions

An important way in which clients cope is to access social support. The importance of social support is one of the most consistent findings in research on resilience (e.g., Masten, 2014; Benard, 2004; Werner & Smith, 2001). Seeking social support begins early in development with attachment to a parent or caregiver and expands as children grow older to include adults and peers in schools, neighborhoods, and community institutions (Masten, 2014). Support questions include:

- "What are your friends like (ages, gender)? What are some things you like to do together?"
- "Who are you closest to in your family? How are you close?"
- "Who in your life helps you reach your goals or explore your interests?"
- "Name some people that you respect or that you see doing things you like or appreciate. What kinds of things do they do?"
- Do you belong to any clubs, teams, community organizations, or churches (synagogues, temples, etc.)?
- "What family, friends, professionals, institutions, organizations etc. have supported you? How? Are they still around? Do they still help?"

Another aspect of social connectedness is the notion of *required helpfulness* (Rachman, 1979). In many families, children assume the responsibility for caring for younger siblings, elderly grandparents, or ill parents (Werner & Smith, 1992). These social responsibilities can of course be stressful, but they can also build confidence and a feeling of competence in children or adolescents. Interview questions that focus on required helpfulness include:

- "Who counts on you? What do you do for them?"
- "Tell me about a time you did something nice for someone else, or how you helped them out." "What types of things do you enjoy doing for others?"
- "How do you help out around the house?"

Possibility questions

It is difficult to underestimate the power of dreams, aspirations, and goals. As the astrophysicist and philosopher Erich Jantsch put it, "Mental anticipation now pulls the future into the present and reverses the direction of causality" (1980, p. 14). All the children and adolescents we work with are facing adversity of one kind or another. It is important for practitioners to remember

that the children and adolescents we work with can be pulled into the future by a vision of themselves that goes beyond their current difficulties. Possibility questions clarify these dreams and aspirations, making them more vivid and possible. Possibility questions include the *Miracle Question* used by practitioners of Solution-Focused Brief Therapy (De Jong & Kim Berg, 2013). Other possibility questions include:

- "So, if we could figure out a way to solve this problem, how would things be better?"
- "If things went well for you, where would you be in a year?"
- "What do want to get out of school?"
- "What do you dream about doing with your life?"

Exception questions

Exceptions are experiences when a problem might have happened but did not (De Shazer, 1988). Like survival questions, exceptions are windows into potential strengths. Counselors of Solution-Focused Brief Therapy (De Jong & Kim Berg, 2013) use the acronym EARS to frame the process of interviewing for exceptions. **E** stands for elicit. Eliciting exceptions starts with learning to listen for and recognize exceptions. Exceptions can be found in school documents or records (Murphy, 2015), e.g., evidence of past good grades, or of doing better in certain classes even when not doing well in others. Eliciting exceptions can also be as straightforward as simply asking, "Has there been a time recently when things were better for you?" Other exceptions-eliciting questions include:

- "When does it seem that Mrs. Jones is not on your back as much?"
- "When is this less of a problem?"
- "So, what things about school do you want to keep the way they are?"

The **A** in EARS stands for amplify (De Jong & Kim Berg, 2013). Amplifying exceptions involves gathering details about how the exceptions happened and what role the client played in making them happen. Murphy (2015) points out that the details of exceptions should be pursued with the same energy that practitioners often use to gather details about clients' problems.

The **R** in EARS stands for reinforce (Murphy, 2015). Reinforcing exceptions can be simply celebrating successes or what Kral and Kowalski (1989) call *cheerleading*. Cheerleading is a form of social reinforcement and can consist of simple statements such as:

- "Way to go!"
- "That's great!"
- "Wow! That's fantastic!"

Another aspect of reinforcing exceptions that can be combined with cheerleading is *positive blaming* (Kral & Kowalski, 1989) or *giving credit* (Murphy, 2015). Clients do not necessarily assume responsibility for what goes well and will often assume that when an exception takes place, it is a lucky accident and not the result of their own actions. Positive blaming extends social reinforcement and helps clients make connections between their thoughts and behaviors, and exceptions. For example, if a client shares an exception, follow-up questions might be:

- "Great, how did you figure out such a good idea?"
- "That's great…so, what did you do to make it easier for that to happen?"
- "That is great that you were able to do that…what does it say about you that you were able to come up with such a good idea?"

Esteem questions

Esteem questions are questions that investigate what someone does well, appreciates about themselves or feels competent doing. They can be as straightforward as:

- "When classes do you like best?"
- "What do you like to do in your free time?"
- "When do you feel really good about yourself?"
- "What do you enjoy most?

Another type of question that can be helpful in exploring what someone does well are relationship questions. Relationship questions allow the interviewer to access what clients think other people think about them. It also allows them to name strengths or preferred activities without the social pressure of directly owning that quality or activity. Examples include:

- "What do people like about you?"
- "What would your friends say you were good at?"
- "So, if your dad were here, what would he say that you did well around the house?"

What Does a Conversation About Strengths Look Like?

Counselors' work with children often starts with an assessment of what works and does not work in the lives of the clients we work with (Lopez, Snyder & Rasmussen, 2003). Traditionally, counselors have focused more on what does not work than what works. If counselors are to achieve a holistic understanding of the clients they work with, it is important to develop a balance of understanding both what troubles our clients and what, despite these troubles, seems to be going well. This can be more difficult than it appears conceptually because counselors are often swimming upstream against their training and the pervasive bias toward the negative (e.g., problems, psychopathology, etc.). Below, the conversation between a counselor and Ian, a 16-year-old junior in high school illustrates how the questions we have discussed above may look like in an actual interview. Ian's teachers referred him because recently he is finishing less of his work and he seems more withdrawn.

Currently, he has a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD).

Counselor: "Hello Ian, I think I have seen you around school. Do you remember me?"

Ian: "Yeah, you're the counselor, right?"

Counselor: "Yeah, that was me. Your history teacher said they are worried you're doing less work and seem more withdrawn."

Ian: "I don't know…I guess I'm not doing as much work."

Counselor: "Well, before we get into all that can I ask you some other questions?"

Ian: "Sure, go ahead."

Counselor: "Okay, to start, what classes do you like best?" [esteem question]

Ian: "I guess math and history."

Counselor: "Okay, what do you like about them?" [asking for detail]

Ian: "I am pretty good at math and I like the story part of history. You know…learning about how people lived and what happens to them."

Counselor: "Great, so, you do pretty well in those classes, then?"

Ian: "Yeah, I am still doing okay in those classes. Better than the others."

Counselor: "How about when you aren't in school. What do you enjoy doing then?" [esteem question]

Ian: "I like to play the guitar and play video games, but my mom won't let me play them too much at home"

Counselor: "So, what is the most important thing about school for you?" [meaning question]

Ian: "I know I need to go to university to get a good job. I don't want to end up like my dad. He's in jail, you know."

Counselor: "No, I didn't know that. So, getting a good job is important to you and you think that going to university is the best way to do that. What kind of a good job do you think you might want?"

Ian: "I don't know for sure but maybe something in tech; I like to fix things and figure out how stuff goes together."

Counselor: "That's great…back to the thing with your teachers, what do you think is going on?" [perspective question]

Ian: "I don't know…I just don't feel it anymore. Like I just want to space out and do nothing."

Counselor: "Oh, okay. What do you think is going on with feeling like you just want to space out?"

Ian: "Not sure…there is so much going on. My mom keeps talking about how I need to get ready for when I graduate but that scares me, a lot."

Counselor: "I am not surprised you feel scared. Given all that is going on…has anything you've done helped, even if only a little bit?" [normalizing statement and survival question]

Ian: "[frowns] …my history teacher is nice. She said she had to leave her house because her dad was really strange. I like listening to her talk about all that."

Counselor: "[smiles and nods] …sounds like she is a good support for you. Who else is helpful?" [support question]

Ian: "I like my older sister…she is pretty easy to talk with."

Counselor: "That's good…I wonder what do you think might make things better for you?" [change question]

Ian: "Don't know…get more work done."

Counselor: "Okay, so if were able to do that, where would you be in a year?" [Possibility question]

Ian: "I would be about to graduate…how crazy…maybe I would have a university picked out."

Counselor: "Great Ian…so, let me see if get this all straight. You are pretty good at math and history. You like to play the guitar and you are close to your history teacher. Also, you want to go to university and for sure don't want to end up like your dad. I just want to say that you have a lot going for you. [summary of strengths and amplification] Going back to the not being motivated and getting enough, what was different when that was better?" [elicit exception question]

Ian: "I guess I wasn't thinking so much about what happens after high school. It freaks me out."

Counselor: "What do think would help not think about it so much? I guess you could distract yourself or sometimes I heard that when you make a plan about something it leads you not to worry so much."

Ian: "A plan…just thinking about it makes me feel weird."

Counselor: "I wonder if you might start by talking to your history teacher. She must have done something when she left home."

Ian: "Yeah, I am okay talking with her."

Counselor: "That is great. Before we stop, I have one more question. On a scale of one to ten, ten is you are totally freaked out and one is you are completely calm, where are you today?"

Ian: "I was an 8 when we started but maybe a 6 now."

Counselor: "Okay, that's great. So, let's see where you are after talking to your history teacher. Let's talk in a few days, okay?"

Ian: "Sure."

It is important to notice that the counselor spent little time in this short session exploring Ian's symptoms. Given what Ian shared, it is significant to note that Ian's loss of motivation in the face of his future could be a sign of depression. It would also be important to note that Ian's ADHD may make it more difficult for him to make a systematic plan. These are important, but it is equally important to know that Ian has aspirations, goals, and positive connections with adults and family members. Interviewing for strengths not only allowed the counselor and Ian to arrive at a potentially helpful plan without a great deal of focus on his problems, but also seemed to reduce Ian's anxiety during the session. The skills for not knowing demonstrated in this dialogue also facilitated a collaborative relationship, making it more likely that if the time comes to discuss depression or ADHD, this conversation will be easier and potentially more productive.

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Evaluating Instructional Apps Using the App Checklist for Educators (ACE)

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Abstract

The use of iPads and apps has become common in K-12 inclusive classrooms. Special education teachers frequently use this tool to support instruction. Data from electronic surveys were used to determine criteria that teachers identified as important for choosing apps for classroom use. Using this information, the authors developed an App Checklist for Evaluators (ACE) to assist teachers in reviewing apps. Areas included on the ACE are: Student Interest, Design Features, Connection to the Curriculum, and Instructional Features. Suggestions for choosing an effective app include determining user needs, assessing student interest, evaluating design features of the app, documenting the connection to the curriculum, and identifying instructional features.

Keywords: Apps, evaluation, assistive technology, special education.

Background

Since the iPad was introduced to the public in 2010, the use of this device in the classroom setting has continued to grow (Perry, Thrasher, & Lee, 2016) and has become a preferred tool for special education teachers (Mautone, 2013). Overall, teachers have reported a positive instructional experience using iPads (Johnson, 2013). The iPad and its accompanying applications (apps) have become integral tools used to address many special education program objectives and Individualized Education Program (IEP) goals. Additionally, survey data have indicated that teachers' perceptions are that all students would respond positively to using iPads in the classroom (Johnson, Davies, & Thomas, 2013).

Researchers (Douglas, Wojcik, & Thompson, 2012) have demonstrated that apps can serve as supports for students with disabilities by providing efficient access as both an instructional tool and an assistive technology device. Further research has focused on the use of specific apps for students with autism and other developmental disorders (Cumming & Rodríguez, 2013). Apple iPad technology has had an impact on fostering new learning opportunities for students with disabilities by increasing engagement in learning, time on task, independent educational opportunities, and skill development (Baig, 2013; Flower, 2014; Rodríguez, Strnadová, & Cumming, 2014). Increased student engagement, motivation, and independence are apparent benefits of using iPad apps integrated into academic lessons (Baig, 2013; Flewitt, Kucirkova, & Messer, 2014; Johnson, D., 2013; Miller, Krockover, & Doughy, 2013). Maich and Hall (2016) provided suggestions for teachers using iPads in inclusive classroom settings, starting with planning for use and including using the data collection feature of some apps to support acquisition of IEP goals. However, these benefits can only be achieved if apps are chosen appropriately (Perry et al., 2016). Thus, overall, the use of apps in special education is emerging as an effective practice, and implementation in the classroom must be planned, intentional, and informed.

Since this type of technology (i.e., app use) is still relatively new, the rigor with which it is screened before being implemented as an instructional support is generally lacking. Authors (Newton & Dell, 2011; Powell, 2014) agree that apps should be chosen with a purpose in mind. The process of locating and evaluating apps can be difficult and time consuming (Perry et al., 2016). Teachers need a tool that allows them to evaluate iPad apps with relative ease, but will also guide them in effective use of the app with their students. Planning for the use of iPads and apps is a critical component of effective use in the classroom (Mautone, 2013). A rationale for the use of a specific app to individualize learning for a student with a disability should include consideration of how the app will meet the student's IEP goals. The choice of apps used for instruction must be based on more than a suggestion from another person, and more than an appealing advertisement. When used for instruction, they should not be chosen for entertainment value. Apps must meet specific pre-determined academic criteria. It is becoming increasingly apparent that an evaluation tool or rubric should be used

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when choosing apps (Rodriguez et al., 2014). With new apps being released every day, lists of apps can become outdated quickly. This research was designed to gather data on the current use of apps in the classroom, to determine what teachers need in an evaluation tool, and then to create an effective iPad app evaluation scale based on those needs.

Development of the iPad App Evaluation Checklist for Educators

The first step in creating the scale involved collecting information on overall use of the iPad and apps by K-12 general and special education teachers. Principals in local school districts were contacted for permission to administer a survey to the classroom teachers in their schools. This online survey of 24 questions queried the way that devices and apps were currently being used by teachers in one east coast state – for individual students, whole class, whole school, or district-wide. Teachers were asked to define their main purpose of use of the iPad and apps – for organization, assistive technology, or content instruction. They listed the characteristics that they valued when choosing apps for content instruction, and identified favorite apps used in each content area.

After the initial pilot survey was completed, the questionnaire was revised for clarification purposes and emailed to the principals of all school districts in each county in one east coast state. Although some emails were returned as undeliverable, the majority were received and disseminated to the teachers. See Table 1 for a listing of responses to survey questions. Of the 151 completed surveys, about 88% (n=133) of teachers said that they were not familiar with any published tool that would help them evaluate an app prior to use in the classroom. The majority (n=127) of the teachers indicated that they worked with students eligible for special education services. The respondents were equally distributed between elementary and middle/secondary teaching assignments (n=67 elementary students; n=69 middle/high school teachers). Nearly 64% (n=70) reported that devices are used throughout their entire school district, not just in their individual classrooms. Content instruction (n = 52) was the primary stated reason for using the devices in the classroom. The predominant method for choosing apps was an online search (n=35) or a recommendation from another professional (n=35). About 63% (n=64) of teachers using apps would try the app themselves prior to use with students. Although most teachers (n=88) were not familiar with any published rating tools, nearly 80% responded that they felt it is important to have such a tool (n= 80).

Table 1. *Responses to Survey Questions*

Question	Number of Responses	Number Who Skipped the Question
Do you work with students eligible to receive special education services?	Yes=127 (88.19%) No= 17 (11.81%)	14
Do you work with students eligible to receive special education services?	Elementary = 67 (49.26%) Middle/high = 69 (50.74%)	15
How is the iPad used in your school or district?	Whole District = 70 (63.64%) My School = 9 (8.18%) My Classroom = 9 (8.18%) For Specific Students = 14 (12.73%) Not at All = 8 (7.27%)	41
Do you use the iPad for:	Organization = 22 (21.36%) Content Instruction = 52 (50.49%) Assistive Technology = 11 (10.68%) I don't Use It = 18 (17.48%)	48
How do you choose the majority of your APPs?	Online Search = 35 (35.35%) Recommendation from another professional = 35 (35.353%) Recommendation from parent = 1 (1.01%) Professional Development Suggestion = 15 (15.15%) District or Administrator Choice = 13 (13.13%)	52
How do you rate an APP prior to use? (check all that apply)	Test Run by Teacher = 64 (63.37%) I don't Rate It Prior to Use = 28 (27.72%) Guided Instruction with Student = 18 (17.82%)	50
Are you familiar with any published evaluation tools for educational APPs for students with special needs?	Yes = 18 (16.98%) No = 88 (83.02%)	45
How important is it for you to have an evaluation tool to rate APPs that is easy to use?	Very Important/Important = 31 (30.39%) Somewhat Important = 49 (48.04%) Not Important = 22 (21.57%)	49

The respondents listed criteria for evaluation that are important for them in choosing an app for classroom or student implementation. Using data from this survey which was sent to all schools and districts in one east coast state, an initial evaluation tool, the *App Checklist for Educators (ACE)* was created and piloted with several groups of teachers. Revisions were made to the tool based on feedback from these groups. The responses from the teachers regarding the usefulness of ACE were overwhelmingly positive (see Table 2). Overall, they saw the benefit in having a tool to help them quickly rate the usefulness of the app and to provide guidance in choosing effective apps for classroom instruction.

Some comments referred to the ways apps are used with students. For example, several respondents noted that apps have entertainment features, but may not be truly educational. For instance, one respondent noted that teachers should "make sure that the app is accomplishing what you want the student to learn, that it is not just a game." Another added that teachers may mistakenly use an app because it is visually appealing or fun without determining its educational effectiveness.

Some comments denoted positive reactions to using a tool in general. One respondent stated that "while we are all encouraged as educators to utilize technology, it is important that we are evaluating how effective these technologies are for student development." Another respondent noted that these types of tools were a "useful resource for educational professionals." Similarly, another comment was that evaluation tools "help teachers make good choices," adding that they could be "useful for collaborative planning between families, IEP teams, and educators."

The third type of comment was related to the specific tool (i.e., ACE) as compared to other evaluation tools. One respondent stated that the evaluation checklist was "really interesting because it opens up a variety of content, target skills, design features." She added, "The questions make you think, ok, does this app provide visual features that enhance a student learner? It's important to know because what may work for one student, may not work with another." Another respondent said that this tool covered more depth than other tools she had used, but was easier because the answers were straight forward. The categories of questions were also seen as a positive feature by one respondent who stated that "it really gets the teacher thinking about the overall quality of the app before he/she brings it into their classroom."

Table 2. *Sample Quotes submitted by teachers after using the tool.*

Comment Type	Quotes by Respondents
Using Apps in the Classroom	*Teachers may mistakenly use them because they are very appealing or students enjoy them.*
Using an Evaluation Tool	*These tools will tremendously help educators sift through the MANY apps that are out and it will shorten the time it takes for others to implement them.*
Using ACE	*I think that this form really allows the teacher to think about the app and how it would be beneficial to their students, although not all of the questions on the checklist apply to every app. On the other hand, the questions on this form are very specific which allows the teacher to target apps based on the skills that their students need. I also like that the form is universal across both grade level and subject. This makes it easier for teachers to complete the form, especially if they teach multiple grade levels.*
Using ACE	*I think that this could be a useful planning tool when trying to plan lessons using technology. I believe this evaluation tool helps teachers to make good choices about the apps they are using. This tool could also be useful for collaborative planning between families, IEP teams, and educators*
Using ACE	*I have never used one as in depth as the one provided. I also feel like this tool is easier to use than others because they have straight forward answers. What I like about this tool is that it can be adapted for any grade level or skills set.*
Using ACE	*I like how the form has a section for content area and then the target skills section. I think this is very helpful because one app may be good for one target skill or one content are but not as good for another.*

Overall, the comments strengthened the notion that apps are being used frequently, and respondents saw the benefit and need for an effective evaluation tool. They considered the App Checklist for Educators to be a useful device for accomplishing this goal.

Selecting an Effective App

As the use of technology increases, it helps if educators embrace the movement and find high quality technology to support students' learning in their classrooms. When finding an app for classroom use, it is important to first go to the "App Store" on the device. Once there, teachers can search in the toolbar by content area to find apps that are available. It is important as teachers plan to implement an app within the classroom that there is an evaluation of the app prior to use. Many apps are created but not necessarily evaluated by professionals in the field of education for purpose, age range, content area, targeted skills, student interest, design features, connection to the curriculum, or instructional features.

The following five basic steps, based on the App Checklist for Educators, can be used for consideration in choosing effective apps for classroom use:

Step 1: The first step is to evaluate the age range, cost, content area, and targeted skills. Typically this is found when teachers click on the app within the "App Store," it provides them with the "details," "reviews," and other "related" apps. Scrolling down in the "details" section will allow the teacher to find a description of the tool that provides some of this information. Teachers should be aware that most of the time the user is required to purchase the app to find out more information.

Step 2: The second step is to assess the student's interest. Depending on the least restrictive environment, this may be targeted for a whole class, a smaller group of students, or on an individual basis. When evaluating the interest level, it is important to note the ease of use. It is also important to consider if this app is engaging for the student's developmental level. The third area to assess is if it increases student interest in a topic. The teacher should reflect on the following question, "Are students asking questions about the content area after using the app?" The final step in the evaluation of student interest is documenting if students want or ask to use the app again. This is a critical component to help make a determination of the interest level for the app.

Step 3: The third step for consideration of an app is to evaluate the design features. It is important when looking at an app to assess the design features for students with disabilities because the app needs to have a clear and consistent layout. If the app includes graphics, it is important to note if these correspond with the activity to enhance student learning. Another critical factor is identifying the different types of devices that the app is compatible with because the student may have a different device at home or in another classroom and it will help with generalization of the skill if it is compatible with many devices. Some apps have support available but this can sometimes be difficult to find. Teachers should be sure when looking for the next design feature of technology support that they search the tool bar or icons within the app. Typically, they will find contact for the support through an e-mail address or the app. Education has become more data-driven, so it is crucial to evaluate if it provides students with feedback. The feedback can be immediate or delivered at the end of each level or activity. While providing feedback to the student, it is also important to note if educators can have access to the students' performance or data. Sometime this can be shared if the teacher has an account, or by having the students e-mail the data upon completion. There are many apps that still do not have access to the data, so teachers need to be aware that this may not be an option with the app being evaluated. Another question about data collection that is a critical feature is to make sure to note if the data is able to be collected over time. In almost all cases, students may need to set up an account to collect the data if it is available within the app. A final design feature that is critical to note is the affordability of the app. Funding for apps can be requested through multiple sources (e.g., teacher, family, principal, district) so it is important to compare it to other apps to determine if it is reasonably priced.

Step 4: The fourth step of app evaluation is to document the connection to the curriculum. Common Core (CC) has been adopted by the U.S. Department of Education (State of New Jersey Department of Education, 2010), so the app should be connected in some way to the content area and grade level of the appropriate CC standards. The next important factor to note is if the content can be matched to the student's skill level. Students within a class may be at many different skill levels and it is important that the app is able to differentiate among the various needs of the students. For students with disabilities, it is critical to note if it can align with their Individualized Education Plan (IEP) goals. This way teachers can continue to have the students practice their skills while using the app that is connected to their specific goals. Another factor to consider is if it connects to the real world so that students can reinforce and practice skills that they will use in the future. Finally, when thinking about the connection to the curriculum, identifying whether or not the app improves students' academic skills or critical thinking skills is the last key element.

Step 5: The final components to assess when evaluating an app for educational purposes are the instructional features. First, a teacher should identify whether it requires students to memorize facts. This is important to note because depending on the purpose for the app this may support their learning, or it may not be appropriate. To deepen student learning, a teacher can evaluate whether or not the app has the students explain their ideas or concepts, apply their information to various situations, make connections among the concepts, or create original work. Those are all higher level skills that are important to take note of because this could potentially help support the students make connections on a more meaningful level.

Upon completion of the checklist, it is important to note how many of the questions received a response of "yes" compared to how many were answered "no." When counting responses, a total of 23-25 "yes" answers would receive a rating of 5 stars. If the app had 20-22 "yes" responses, then the teacher would rate it 4 stars. If the rating was 18-19 "yes" answers, then it would be rated with 3 stars. Two stars are earned for between 15-17 "yes" responses. Finally, if it received fewer than 14 "yes" answers, then this is a 1 star. To determine if a teacher should recommend this to another teacher, family, or district, a rating of a 4 or 5 stars would be an app that should be recommended. The teacher would check the "yes" box next to "Would you recommend this app to other professionals?" If it has been rated 3 stars or below then this app is not a recommended app to use for educational purposes and the teacher would check "no" (See Figure 1: App Checklist for Educators). Other areas of academic interest or individual need can be included in the section for "additional comments."

Name of app:	
Suitable for ages:	**Cost:**
Content Area(s) **Select all that apply.** ☐ **Reading** ☐ **Science** ☐ **Mathematics** ☐ Writing ☐ Social Studies/ History ☐ Other, please specify:	***Other Target Skill(s)*** Select all that apply. ☐ Behavior ☐ Social Skills ☐ Communication ☐ Study Skills ☐ Daily Living Skills ☐ Other, please specify:

DIRECTIONS: Please choose the answer that best suits each question.

STUDENT INTEREST	YES	NO	SOMEWHAT	N/A
Is it easy to use?	☐	☐	☐	☐
Would students find this app entertaining?	☐	☐	☐	☐
Does it increase student interest in the topic?	☐	☐	☐	☐
Do students want or ask to use this app again?	☐	☐	☐	☐

DESIGN FEATURES	YES	NO	SOMEWHAT	N/A
Is the layout clear and consistent?	☐	☐	☐	☐
Does the app include graphics and/or animations?	☐	☐	☐	☐
Do the visual features enhance student learning? (e.g. pictures or animation)	☐	☐	☐	☐
Do the auditory features enhance student learning? (e.g. music or reading aloud)	☐	☐	☐	☐
Is it compatible with other technology devices?	☐	☐	☐	☐
Is technology support available?	☐	☐	☐	☐
Is content prepared in a culturally inclusive manner?	☐	☐	☐	☐
Does is provide students performance feedback?	☐	☐	☐	☐
Does educators have access to student performance data?	☐	☐	☐	☐
Does it collect data over multiple uses?	☐	☐	☐	☐
Is it reasonably priced?	☐	☐	☐	☐

CONNECTION TO CURRICULUM	YES	NO	SOMEWHAT	N/A
Does the content relate to Common Core standards?	☐	☐	☐	☐
Can the content match with student skill level?	☐	☐	☐	☐
Can it align with IEP goals?	☐	☐	☐	☐
Can it be applied to real world situations?	☐	☐	☐	☐
Will it improve students' academic skills?	☐	☐	☐	☐
Will it improve students' critical thinking skills?	☐	☐	☐	☐

INSTRUCTION FEATURES	YES	NO	SOMEWHAT	N/A
Does it require students to memorize basic facts?	☐	☐	☐	☐
Does is require students to explain ideas and/or concepts?	☐	☐	☐	☐
Does it require students to apply information to various situations?	☐	☐	☐	☐
Does it require students to make connections among concepts?	☐	☐	☐	☐
Does it require students to create original work?	☐	☐	☐	☐

RATING AND REVIEW				
Total number of "YES" responses: _____				
Please circle the rating below.				
23 and above = 5 stars	20-22 = 4 stars	18-19 = 3 stars	15-17 = 2 stars	14 and below = 1 star
			YES	NO
Would you recommend this app to other professionals?			☐	☐
Would you recommend this app to families?			☐	☐
Additional Comments:				

Figure 1. App Checklist for Educators (ACE)

Evaluation Tool with Specific Apps that Were Recommended by Teachers

Teachers responding to the survey indicated that they tend to use apps that are recommended by other teachers or other professionals. It is important when these tools are suggested that they are still evaluated to ensure that the app is appropriate for the specified academic purposes and student's needs. Based on teacher reported data on most frequently used apps from teachers, three apps were evaluated using the App Evaluation Checklist for Educators developed as part of this project. The three apps were chosen based on frequent recommendations in the survey. Fifteen teachers in a graduate special education course completed the checklist for each of the three apps.

The final section of the checklist allows teachers to provide additional comments. Since multiple teachers assessed the app using ACE, averages are listed in Table 3, along with comments submitted. Teachers evaluated the apps for appropriateness for their specific grade level, for an individual student, and/or for their classroom. Thus, a score may have an average based on the level to which it is deemed effective for an individual student or a specific group of students. This illustrates the need for this type of evaluation checklist for each classroom, or for individual students, where a teacher can determine the effectiveness for their own class and setting. The App Checklist for Educators enables teachers to determine the effectiveness of an app for their own educational needs. The apps listed in Table 3 had overall high ratings by all teachers using ACE.

The following is a summary of three apps rated highly by the 15 teachers surveyed. In the initial survey, teachers were asked to list apps frequently used in their classrooms. From these suggestions, lists were generated of those listed by at least three participants. In the development of the checklist, these apps were evaluated by teachers.

Starfall (2002-2017) is an elementary school level app for reading and math skills. There are no in-app purchases required, and no ads appear during use. The free portion of the app offers songs, games, and activities. Membership can be purchased for home, teachers, classrooms, or schools to enhance the use of the app. The free version was evaluated by the responding teachers.

Brain Pop Jr. (1999-2017) offers cross-curricular content, along with movies, quizzes, games, readings, and activities. According to the published information, all are aligned with academic standards, which are searchable. This app was listed by many of the respondents in the survey, and ranked with high stars when using ACE.

Using Mathmateer (2010-2013), students can build their own rockets by earning money by doing math problems. The rocket is launched into space when complete. While in the space mode, students complete different math missions based on various math skills, including number sense, fractions, decimals, counting, time, money, shapes, computation, etc. This app was familiar to many of the respondents, and received high stars by those using ACE.

Table 3. *Example of Overall Scores from the App Evaluation for Educators Checklist*

App Name	Rating	Sample Comments
 Starfall	4 Stars	Kid friendly. Makes reading fun through songs and characters. Good supplement for instruction. Well-organized.
 BrainPop Jr. (and ESL)	4-5 Stars	ESL students loved the ESL version. Great visuals. Fun and highly engaging. Variety of assessments. User-friendly.
 Mathmateer (formerly Rocket Math)	4-5 Stars	Engaging app for practicing math concepts. Fun for students.

Final Thoughts

Since the iPad was introduced in the classroom, there has been an increase in the usage of educational apps. There are a variety of reasons why teachers choose to use educational apps. It is critical that teachers evaluate apps prior to use so that they choose the most effective instructional support for their students. ACE is a useful, easy to use, research-based checklist that supports teachers in this process and helps them to evaluate apps for today's classrooms.

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Utilizing Technology for Professional Learning in the Dissemination of Evidence–Based Practices to Paraprofessionals Working in Public Education

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Abstract

Although paraprofessionals are pivotal for the educational success of learners with autism, limited professional learning opportunities are provided resulting in inadequate application of evidence-based practices in their work. In this participatory action research study, thirty-six paraprofessionals participated in professional learning utilizing workshops and a commercially available professional learning platform, Rethink. The study included didactic training, video-based modeling and applied practice activities in the classroom. Paraprofessionals improved their knowledge and self-efficacy in the application of evidence-based practices. Supporting classroom teacher's social validity also reported improved paraprofessional performance. These findings suggest a possible avenue for supporting paraprofessional professional learning via integrating web-based technology to access video models paired with traditional professional learning methods to improve the application of evidence-based practices in the classroom environment.

Keywords: Autism spectrum disorder, video modeling, paraprofessionals, special education, professional learning, professional development, technology in education.

Introduction

There are dozens of established, effective interventions for individuals with Autism Spectrum Disorder (Wong, Odom, Hume, Cox, Fettig, A... & Schultz, 2014). These interventions have shown efficacy in university-based research, few have been effectively implemented and sustained in schools, the primary setting in which children with autism receive services (Locke et al, 2016). One of the long-established interventions for students with autism is Applied Behavior Analysis (ABA) (Furman & Tuminello, 2015; Bond, et al., 2016). Utilizing instructional principles of ABA has developed meaningful outcomes for students with disabilities including the reduction of problem behavior (Horner, Carr, Strain, Todd & Reid, 2009), literacy acquisition (Browder, Trela & Jimenez, 2007), food preparation (Griffen, Wolery & Schuster, 1992) and speech development (Koegel, O'Dell & Dunlap, 1988).

Research- and evidence-based teaching practices have had minimal, if any, carryover into classrooms (Burns & Ysseldyke, 2009). Evidence-based practices including ABA are difficult to implement in community based settings such as schools (Stahmer et al, 2015; Suhreinrich, et al, 2013). To translate research interventions for learners with autism from the research lab into the classroom requires a systematic process for identifying and describing the evidence based practices (Odom, Klingenberger, Rogers & Hatton, 2010). In addition, social validity for many of the established evidence-based practices has not been well assessed, which may limit the application of these practices in an applied setting including schools (Callahan et al, 2017).

Paraprofessionals play a critical role in providing special education and other related services for students with autism (Rispoli, Neely, Lang & Ganz, 2011). Today, there are more than 1.2 million people working as teaching assistants with about 46% being paraprofessionals and about 71% of those paraprofessionals working with students with disabilities (National Education Association, 2015). About 70% of paraprofessionals work with students with severe disabilities (Fisher & Pleasants, 2012). Ninety-seven percent of special education paraprofessionals report providing one-to-one instruction to students with disabilities (Carter, O'Rourke, Sisco, & Pelsue, 2009). Paraprofessionals with adequate training are more likely to provide quality learning opportunities for students (Hamad et al., 2010; Feldman & Matos, 2013). Unfortunately, many paraprofessionals do not receive

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adequate training to meet the high demands of their profession (Ghere and York-Barr 2007; Walker & Snell, 2017).

Single training workshops produce limited sustainable change in practices (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Public educators require significant training and time to learn to deliver evidence-based practices (Stahmer et al, 2015). Professional development in schools is a difficult topic to research, however, there is agreement that much of the professional development delivered in academic settings is not effective in supporting educator's delivery of effective instruction in the schools (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, S., 2009). Paraprofessionals can contribute to improved outcomes for students with severe disabilities when provided professional development that is sustained beyond an initial training session (Brock & Carter, 2016). An effective model in training paraprofessionals is Behavior Skills Training (BST) (Wood, Luiselli & Harchik, 2007). BST requires that professional development include four steps: 1) instruction 2) modeling 3) rehearsal 4) feedback (Miltenberger, 2004).

Video-modeling has a long history as an effective professional development practice in the fields of special education and disability support services. Video has been effectively utilized to train educators to deliver discrete trial training (Catania, Almeida, Liu-Constant & Reed, 2009) and to assist staff in the acquisition of functional analysis methodology (Moore & Fisher, 2007). Many research studies indicate that video is a useful tool for improving teacher's skills in the classroom because they can easily pause, rewind, and learn at their own pace. Video modeling has been determined to be an effective method to support educators in learning to implement evidence-based practices (Digennaro-Reed, Codding, Catania & Maguire, 2010; Moore & Fisher, 2007). Video works best when videos demonstrate realistic classroom situations (Sherin & Linsenmeier, 2011). Videos can help eliminate distracting information and help teachers to focus on what is relevant compared to other professional developmental approaches (Marsh & Mitchell, 2014). Video-based professional development is more cost-effective and makes learning more available to staff throughout the year. This can be especially beneficial when there are high turnover rates and in special education where teacher's schedules may be more demanding (Wehby, Maggin, Moore Partin, & Robertson, 2012).

This applied study aimed to assess the effect of a professional learning model of watching video models of principles of ABA paired with short professional learning community workshops, on paraprofessionals knowledge and self-efficacy of their ability to deliver evidence-based instructional practices to students and their delivery of evidence-based instruction to students with autism as measured by their classroom educator.

Participants and Settings

This study was conducted in collaboration with a large urban school district in the United States. Paraprofessionals in the district were invited by their school principals to engage in professional development activities. Thirty-six paraprofessionals participated in the study. Participants worked in self-contained special education classrooms supporting children with autism. Each classroom included one special education teacher and one or more assigned paraprofessional. Some classrooms had one participating paraprofessional and some had two. The paraprofessionals were working in classrooms classified as autism support classes and most students in the classrooms were enrolled in special education with the educational eligibility of autism. The credentialed teachers were also recruited to participate in the research, providing a social validity measure of the learning and application of the concepts being studied by the paraprofessional. The participation of the credentialed teachers was voluntary. All professional learning activities were conducted in a public-school setting.

Materials

This study utilized a commercially available product, Rethink, to access video models, knowledge tests and scripted applied practice activities. Rethink contains hundreds of video models of evidence-based teaching practices. Five of the video models were selected for this research. The participants accessed the video models via web-based technology through a personal log-in providing access to Rethink. The multiple-choice knowledge tests were embedded into Rethink's technology. Participants completed their knowledge assessments online though a multiple-choice assessment that was integrated into the platform. The applied practice activities were provided in a printable PDF format also embedded within Rethink and downloadable in print format from within the technology. The social validity assessments and pre-and posttest knowledge assessments were researcher designed and were delivered in a paper format to the participants.

Design

A participatory action research design was utilized to understand and improve the paraprofessionals ability to support learners with autism for whom they were providing support. Participatory action research was well suited for this research setting as it is a self-reflective inquiry that researchers and participants engage in together to improve their practice and increase the positive outcomes the situations in which they find themselves engaged (Baum, MacDougall, & Smith, 2006). This study involved the active engagement and reflection of participants throughout the study. A descriptive pre-post design using simple descriptive statistics was utilized within the participant action research design with full disclosure of the pre-posttest results provided to the participants. Descriptive statistics were chosen as they were easily understood by all participants, none of whom had training in statistical inquiry. This research was conducted in an applied public school setting which required the systematic inquiry be conducted with practical application.

Procedures

Two cohorts of paraprofessionals participated in this research. One cohort in each consecutive school year. In year one and two both cohorts completed a simple yes/no

self-efficacy assessment of their ability to support learners with autism. The self-efficacy assessment contained two questions: 1) I know how to support my teacher regarding class organization and instruction to effectively meet the needs of students with autism; 2) I have access to resources to help me understand how to best meet the needs of students with autism. The supporting special educators in the classroom also completed a simple pre/post-measure of their perception of the participating paraprofessionals behavior in the classroom for both cohorts across both years (Table 1). In year two the paraprofessionals and researchers agreed to engage in some additional formal measurement of their shared work with the addition of a pre-posttest of knowledge acquisition. All paraprofessionals in cohort two completed a short multiple-choice pretest exam to assess their content knowledge of learning characteristics of students with autism and their self-efficacy of their ability to support learners with autism (Appendix A). Participants were made aware of their results on the knowledge section of the pretest; results were not shared publicly with other participants.

The paraprofessionals engaged in 6, 2-hour professional learning sessions. Training sessions included viewing 10-minute training videos from the online learning platform Rethink that demonstrated video models of effective ABA teaching procedures and discussion of how that teaching procedure might be implemented in the classroom environment with their students. The videos provided a task-analytic breakdown of the teaching steps for the procedure and a discrete video model of a teacher and student with disability engaged in the learning procedure. Each video module also had corresponding guided notes to provide a schema for the video models (Clark, 2010). Each video demonstrated one of five ABA procedures demonstrated: 1) discrete trial instruction; 2) reinforcement; 3) prompting; 4) generalization; and 5) incidental teaching. An additional learning module was utilized that provided an overview of autism and the diagnostic criteria for receiving an autism diagnosis. At the end of each workshop participants were instructed to view the video again and take a multiple choice10-question posttest, the posttest was embedded in the Rethink learning platform. Participants repeated the posttest until they achieved a 90% success rate to indicate their understanding of the content. Participants also left each session with a printed applied practice activity to be completed in their classroom work environment (Appendix B). These applied practice activities are embedded into the Rethink platform via a downloadable PDF. In addition, participants had access to the video models to view at any time via Rethink the online professional learning platform.

After the last learning session, all participants completed a short multiple-choice posttest exam to assess their overall content knowledge of learning characteristics of students with autism and their self-efficacy of their understanding of evidence-based practices support learners with autism (Appendix A). Participants were made aware of their results on the knowledge section of the posttest; results were not shared publicly with other participants.

Results

The posttest demonstrated a 28% increase (pretest 57% to posttest 85%) in paraprofessionals knowledge of effective teaching practices and basic understanding of autism. The self-efficacy measure also demonstrated increased confidence in the paraprofessionals perception of their ability to meet the needs of students with autism. Paraprofessionals were asked to answer yes/no to "I know how to support my teacher regarding class organization and instruction to effectively meet the needs of students with autism." Prior to the professional learning 84% of paraprofessionals answered affirmatively to this query after the training 100% of the paraprofessionals answered affirmatively. Paraprofessionals were also asked to answer yes/no to "I have access to resources to help me understand how to best meet the needs of students with autism." Prior to professional learning 46% of the paraprofessionals answered affirmatively and after the professional learning 100% of the paraprofessionals answered affirmatively.

Social Validity

Supervising classroom teachers were asked to complete a pretest and posttest evaluating the participating paraprofessionals performance (Table 1).

Table 1. *Social Validity Assessment: Pre-Posttest of Teacher's Perception of Paraprofessional Performance*

	Most of the Time		Sometimes		Hardly Ever	
	Pre	Post	Pre	Post	Pre	Post
The staff in my classroom provide an appropriate amount of prompting/ assistance	72	91	24	9	4	0
The staff in my classroom consistently maintain a positive learning environment	80	94	16	6	8	0

The staff in my classroom have a strong rapport with students	88	95	12	5	0	0
The staff in my classroom deal with problem behavior in an effective and pro-active manner	78	91	22	9	0	0
The staff in my classroom facilitate smooth transitions for students between activities	72	100	26	0	2	0
The staff in my classroom are actively engaging students throughout the day	60	87	30	13	10	0

The Individuals with Disabilities Education Act (1990) in the United States describes paraprofessionals as a "school employee who works under the direction of a certified staff member to support and assist in providing instructional programs and services to children with disabilities or eligible young children." Assessing the perception of the supervising educator provided a context for the social importance of the intervention and the perceived benefit to students and the instructional environment. In all measured social validity categories, there was a positive perceived change.

Discussion

Paraprofessionals are vital members of special education classrooms yet there is limited information regarding effective professional learning for paraprofessionals and paraprofessionals report that they are not adequately trained. The workshop model in isolation is not effective. This study utilized a workshop model paired with access to video modeling and applied practice activities via a web-based technology platform to promote professional learning. The paraprofessionals reported that the workshops were helpful but they also learned from revisiting the video models and engaging in applied practice activities within the instructional environment. Pairing technology with the traditional workshop model may increase the application of professional learning. In this case video models were accessible to the paraprofessionals during the workshops but they could also access them post training to revisit the concepts and review their application with their student population.

Educators need access to effective tools to support the professional learning of paraprofessionals. The integrated nature of the technology utilized in this applied research ensures that paraprofessionals could access the content and activities at any time, they were not reliant upon an expert to deliver the content at a circumscribed time. While engaged in the applied practice activities they could review the video models of the evidence-based practice to assist them in their professional learning. Indeed, the participants described this behavior when discussing the research outcomes. Technology also allows a scalable implementation model. The sheer numbers of paraprofessionals in schools and the attrition rate of this professionals requires that educational environments develop more efficient professional learning models for this group of professionals.

The paraprofessionals in this study also reported increased self-efficacy in their ability to meet the demands of their job. They shared that they often do not have access to professional development. Having the school district invest in their professional development honored their work and improved their perceived ability to meet the needs of the students. Special educators and paraprofessionals must work collaboratively to promote optimal outcomes for the students they support. The social validity measure completed by the special education teacher, demonstrating on all measures the benefit of this paraprofessional learning, further validates the importance of providing professional learning to paraprofessionals. Given the incredible responsibility paraprofessionals face in supporting the learning and development of children, particularly children with unique learning needs like autism, effective and efficient paraprofessional training should be a higher priority in the educational system

Paraprofessionals were an assigned group from a much larger pool of potential participants. This may imply that their interest in professional development produced outcomes may not be consistent across all paraprofessionals in the educational setting. The design of this study was participatory action research that has many limitations including lack of engagement from all relevant parties and researcher influence (Cornwall & Jewkes, 1995). Indeed, researcher influence may be even greater in this study as the participating researcher is employed by the company that developed Rethink. The current research to practice gap requires that we engage in participatory action research as an effort at overcoming the barriers of translating the current body of evidence into the environment where children are receiving services.

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Appendix A

Paraprofessional Pre-Posttest Utilized in Year Two

1. Autism is a Developmental Disability characterized by deficits in:
    a. Impairment in talking, making eye-contact and tying shoes
    b. Impairment in social interaction, communication and repetitive/stereotyped patterns of behavior and interest
    c. Impairment in sitting still, completing tasks and making eye-contact
    d. Impairment in daily living skills, academic achievement and ability to live independently
2. Autism is the fastest growing serious Developmental Disability in the United States:
    True False
3. Types of reinforcement may include:
    a. Praise, breaks from work, stickers or tokens that lead to a reward
    b. Time out, removing a reward, sitting out of an activity
    c. Snacks, toys, fun physical interactions, video games
    d. A and C
4. Breaking down new skills into simple responses to effectively teach as student is an example of:
    a. Punishment
    b. Prompting
    c. Reinforcement
    d. Discrete Trial Teaching
5. Teaching a student to identify a dog using pictures of dogs, toy dogs, real dogs, videos of dogs, different staff members teaching the lesson about identifying dogs, and teaching the lesson about dogs in different rooms is an example of:
    a. Generalization
    b. Consequences
    c. Functional Teaching Strategy
    d. Task Analysis
6. Anything you do that helps a student respond correctly to an instruction is an example of:
    a. Discrete Trial Teaching
    b. Prompting
    c. Ethical teaching practice
    d. Naturalistic Intervention
7. If a problem behavior occurs when you give a direction or ask the child to complete a task, the most likely reason for that behavior is:
    a. To gain your attention
    b. To get a preferred item or activity
    c. To escape or avoid
    d. A & B

Appendix B

Applied Practice Example

Applied Practice: Reinforcement

1. Record experiences, thoughts & questions you had when working with your student/child.
2. Write down a specific skill you worked on with a student that involved delivering reinforcement.
3. What did you use as a reinforcer?
4. Why did you choose it?
5. What was the child/student's response when you gave him/her the reinforcer?
6. What worked well about the chosen reinforcer and delivery?
7. What other similar reinforcers could you use the next time?
8. What did you find challenging about the chosen reinforcer and delivery?
9. What would you do differently next time to be more effective?
10. Note any questions or additional thoughts below:

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Educational Psychological Counselling and Collective Competence Improvement Related to Autism/Autism Spectrum Disorders (ASD)

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Abstract

A collective Competence Improvement Project (CIP) was conducted for educational psychological counselors (n=5) along with teachers (n=11), special education teachers (n=7), and child and youth workers (n=11). All of the participants were involved in the training and teaching of children with autism/ASD in a small municipality in Norway. The CIP focused primarily on competence improvement in the participants' overall knowledge and theoretical conceptions about autism/ASD. Additionally, other goals included competence improvement in Discrete Trial Teaching (DTT), Pivotal Response Training (PRT), and Social Stories™ (SS). The results demonstrate that the CIP contributed to improvements in some of these targeted areas but not in all. Educational psychological counsellors and special education teachers benefited more and satisfactorily from the CIP than teachers and child and youth workers (CYWs). It is now clear that achieving significant improvement in competency does not necessarily equate to satisfactory improvement. Additionally, improving the professionals' theoretical knowledge is important, but it does not necessary lead to improving their operational knowledge--their capacity for implementing their knowledge in practice. This paper presents the background, implementation, and results of the CIP, and it closes with a discussion of the findings and conclusions about their implications for future CIPs and research.

Keywords: Educational psychological counselling, autism/ASD, collective competence improvement.

Introduction

This paper assesses a competence improvement project (CIP) for educational psychological counselors along with three other professional groups: a) teachers, b) special education teachers, and c) child and youth workers (CYWs). All were involved in training and teaching children with ASD in one of Norway's municipalities. The population of the municipality was about 24,000 when the CIP began in 2014. The initiative was welcomed by the municipality's school administration and the leadership of Educational Psychological Counseling Services in the municipality. The CIP was conducted by STATPED, a national agency for special education support systems, starting in 2014 and finishing in 2016. The contents of the CIP included scheduled courses based on a syllabus focused on the book *Autism and Pedagogy* as well as articles, case discussions, reflections on participants' own practices, and demonstrations of tactics, strategies, procedures, and methods related to training and teaching children with autism/ASD. STATPED chose to collaborate with one of the researchers at the University of Oslo for monitoring the CIP. The data used in this paper was collected after pre-test and post-test procedures, then coded and analyzed in close collaboration with the second author. The third author acted as the main instructor for the CIP but did not know the content of the survey until after the CIP was completed.

A short description of the Educational Psychological Counseling Services in the Norwegian System and The Rights of Children With Special Needs

In Norway, educational administration has three levels. The state level is responsible for higher education institutions such as Universities and Colleges.

Next, the county level focuses on the country's 19 counties, wherein upper secondary education for children between the ages of 16 and 19 is the responsibility of school administration in each county. Upper secondary education and training is a right but not compulsory.

The third level is the municipality level. Across approximately 425 municipalities in Norway, responsibilities include providing ten years of basic school education for children between six and 16 years of age. Basic school education is both a right and compulsory across the country, though pre-schools and kindergartens are not compulsory. Tuition for having a child between 1-5 years of age in these institutions is paid by the parents, but a great portion of the expenses of kindergartens are subsidized by the state.

The founding principle of primary and secondary education in Norway is equity and adapted teaching for all, based on a common National Curriculum. According to *The National Curriculum for the Knowledge Promotion* and § 1-3

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of the Education Act of 2009, education in school is to be adapted to the individual pupil's abilities and capabilities:

> "Adapted education within the community of pupils is a basic premise of the comprehensive school for all. The education shall be adapted so that the pupils can contribute to the community and also experience the joy of mastering tasks and reaching their goals.
>
> The diversity of pupil backgrounds, aptitudes, interests and talents shall be matched with a diversity of challenges in the education. Regardless of gender, age, social, geographical, cultural or language background, all pupils shall have equally good opportunities to develop through working with their subjects in an inclusive learning environment. Adapted teaching for each and every pupil is characterized by variation in the use of subject materials, ways of working and teaching aids, as well as variation in the structure and intensity of the education." (Ministry of Education and Research: National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training 2006, p. 4-5)

Furthermore *The National Curriculum for the Knowledge Promotion* states the following related to adapted education:

> "The provisions governing special education shall be applied when more comprehensive adaptation is required than what can be arranged within the framework of the regular teaching." (National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training 2006, p. 5)

When it comes to the right to special education, the Norwegian Education Act of 1998 states the following about the right to special education:

> "Section 5-1. The right to special education
>
> Pupils who either do not or are unable to benefit satisfactorily from ordinary teaching have the right to special education. In assessing what kind of instruction shall be provided, particular emphasis shall be placed on the pupil's developmental prospects. The content of the courses offered shall be such that the pupil receives adequate benefit from the instruction as a whole in relation to other pupils and in relation to educational objectives that are realistic for the pupil. Pupils who receive special education shall have the same total number of teaching hours as other pupils."

The Norwegian Educational Act of 1998 also contains a section about Educational-Psychological Services:

> "§ 5-6. Educational-Psychological Service
>
> Each municipality and each county must have an educational-psychological services. The educational-psychological services in one municipality can be organized in cooperation with other municipalities or with the county.
>
> Educational-psychological services will help the school in the field of competence development and organizational development to improve the conditions for training and teaching of students with special needs. The educational psychological services will ensure that an expert assessment is conducted in accordance with the low."

When a child receives the diagnosis of "Autism / Autism Spectrum Disorders" by a specialist in Child and Adolescent Psychiatric Services in collaboration with educational psychological counselling services, the child with autism/ASD has the right to receive 'special education' in accordance with § 5-1. Additional funding of special education (individual, in group, in self- contained community, or in ordinary classroom) is also public. Another section in the Education Act, Section 5-5, states the following:

> "For students receiving special education, an individual education plan shall be prepared. The plan will show the goals and content of the training and teaching and how these will be conducted."

The importance of Educational Psychological Counseling and the competence of counselors

As one can see, in the Norwegian system, the Educational Psychological Counseling Services play an important role because they are responsible for educational psychological assessment prior to diagnosis and then for counseling after diagnosis. Referrals, educational psychological assessments, preparing individual education plans (IEPs), and decisions about the child's training and teaching are done after informed consent of the parents. Educational psychological counselors (EPCs) then work in close collaboration with psychiatric services, school administrators, teachers, special education teachers, and parents. Their competence is thus of the utmost importance within the field of special education or special needs education.

In order to become an educational psychological counselor, one must have a specialized Master's degree in educational-psychological counseling which can take 5-6 years of higher education. Even with their degree and extensive educational background, the counselors must also continuously make time for competence improvement in order to stay up to date with new and emerging knowledge relevant to educational and psychological counseling as well as to meet new challenges in the schools in their municipalities or counties. This is also true for the teachers, special education teachers, and child and youth workers. For the improvement of learning conditions of children, the practitioner's learning is crucial (Darling-Hammond and Sykes, 1999; Darling-Hammond, Wie, Andree, Richardson & Orphanos 2009; Fullan, 1992; Koegel, Kim & Koegel, 2014). Teachers in the Norwegian education system usually have 3-4 years of education, while special education teachers have 4-5 years of education (teacher education plus further education - at least one year's specialization in special education/education of children with special needs). Child and youth workers earn a diploma after 4 years of education at upper secondary schools: 2 years at school and 2 years of supervised practicum.

The school administration and leadership of Educational Psychological Counseling Services (EPCS) in the CIP-

municipality learned in 2014 that the training and teaching of children with autism/ASD was one of those fields that needed competence improvement. They contacted STATPED-- a national agency for special education which has expertise about autism/ASD--and asked for the competence improvement project (CIP) for training and teaching of children with autism. The data in this paper is taken from this competence improvement project (CIP).

Autism/Autism spectrum disorders (ASD)

Autism is a neuro-developmental disability that affects how a person communicates with and relates to other people, as well as how they experience the world around them (NAS, 2016). Autism and its related disorders comprise the autism spectrum disorders (ASD). Children with autism/ASD have varying levels of deficiencies in social behavior, communication, limited interests, and rituals and stereotype behaviors. The course of ASD symptoms appears to be life-long for the majority of the cases. Their problems in social communication, behavior, and social interaction with others and many cases additional disorders make it difficult for many persons with autism/ASD to live independently (Matson and Kozlowski 2011). Autism spectrum disorder (ASD) is thus a complex developmental disability (Autism Society of USA, 2016). Prevalence studies in many countries (Baron-Cohen, Scott, Allison, Williams, Bolton, Matthews & Brayne, 2009; Cardinal and Griffiths, 2016; Fombonne, Quirke and Hagen, 2011; Özerk, 2016; Zablotsky, Black, Maenner, Schieve & Blumberg, 2015;) show that during the last decade there has been a considerable rise in the prevalence rate for autism/ASD around the globe.

Children with autism/ASD in the CIP municipality

As mentioned earlier, the CIP was launched in 2014 and completed in 2016. The triggering reason for CIP within the field of autism/ASD was the rise of the number of children with autism/ASD. During the 80s and 90s, one in 1,000 children received the diagnosis of autism/ASD in Norway (Gundersen & Hem, 2005) which was similar to the prevalence rates over the same period in the USA (Frea & Vittimberga, 2000). But for some years before the CIP was launched, two Norwegian studies showed that one in 166 children under 10 years of age (Stoltenberg, Schjølberg, Bresnahan, Hornig, Hirtz, Dayl et. al. 2010) and one in 125 children age 11 were diagnosed with autism/ASD in Norway (Surén, Bakken, Aase, Chin, Gunnes, Lie et al. 2012).

The CIP municipality, with its approximately 24,000 inhabitants, is located in one of the largest counties in Norway. In the following figure we'll illustrate the prevalence of autism/ASD among 1-16 years old children. The data is based on information, numbers, and statistics provided by the CIP-municipality's Educational Psychological Counseling Services, the Norwegian Directorate of Health, the registry of patients, and Norwegian Statistics.

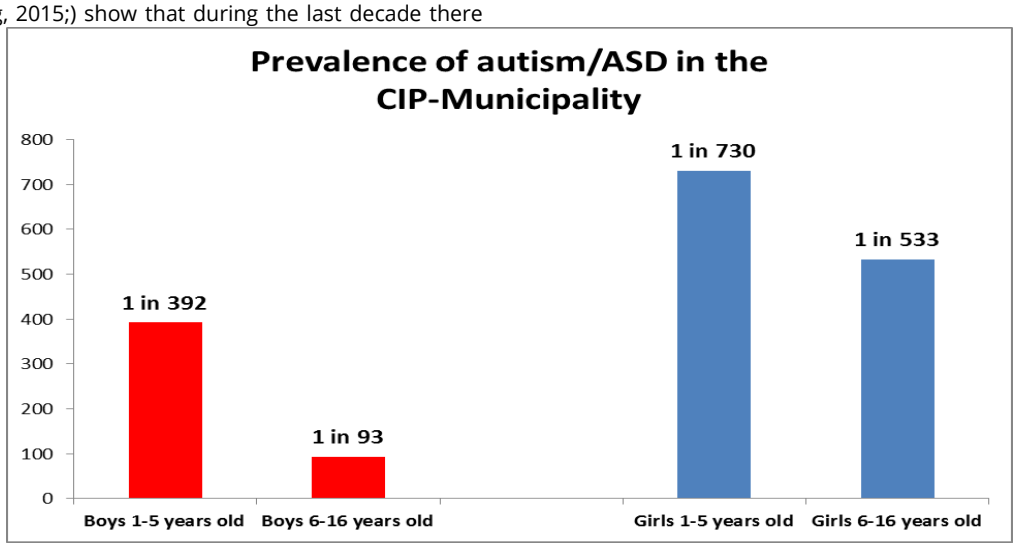


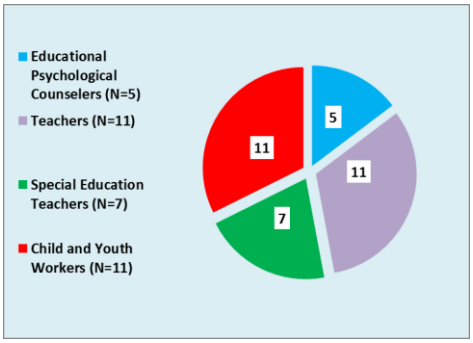
Figure 1. Prevalence of autism /ASD in the CIP-municipality

As can be seen in Figure 1, the prevalence of autism among boys below the school age is 1 in 392 and among the girls 1 in 730. Male-to-female ration for this age group is 1:1.9. On the other hand, 1 in 93 boys and 1 in 533 girls at school age (6-16 years old) have the diagnosis of autism/ASD. Male-to-female ratio for this group is 1:5.7. On the bases of these figures, one can say that there was a 'good' reason for the CIP-municipality's interest in competence improvement within the field of autism/ASD.

The participants in the Competence Improvement Project

We have chosen to use the word "collective" in the title of our paper. The main reason for this was that even though the first initiative for the CIP came from Educational Psychological Counselling Services and the CIP municipality asking directly for a CIP, the project also included a) teachers, b) special education teachers (Special ed. teachers), and c) child and youth workers. This was proposed by STATPED, and both parties were agreed on it. The sample in our paper is comprised of four different professional groups. There were initially 46 participants in the CIP, but 12 of them (teachers, special ed. teachers, and child and youth workers) have not been included in our study because they were absent too often or they did not participate in enough classes and/or they did not answer all of the questions in the 'post-test'. Therefore, the sample

in the CIP is comprised of 34 participants who participated with minimum or no absences (minimum 80% participation) and who received a certificate of attendance upon completion of the CIP. All participants but two were women.



The syllabus of the Competence Improvement Project (CIP)

When the CIP-municipality asked for a CIP from STATPED (A National Service for Special Needs Education), a CIP team was established. This CIP-team was made up of two senior special ed. advisers from STATPED (the second and third authors of this paper), an educational psychological counselor (EPC) from the CIP-municipality, and a researcher from the University of Oslo (the first author of this paper). The EPC coordinated the cooperation between the collaborating partners, and she also provided the CIP with anonymous cases from the kindergartens and schools in the CIP-municipality.

The CIP-team created its syllabus, with the CIP covering topics mainly from the book *Autism and Pedagogy* (Özerk & Özerk, 2013) and *Social Stories™* (Fjæron-Gronum, 2007). The following table (1) shows the syllabus of the CIP.

The CIP was implemented through half-day-long, in-person arrangements as afternoon classes. The following table (2) shows the schedules and activities during the CIP-period:

Table 1. *The syllabus of the Competence Improvement Project*

THE CONTENT OF COMPETENCE IMPROVEMENT PROJECT (CIP)	
-What is autism and ASD? *-Historical perspectives on autism and ASD*	*-Methods, models, tactics, principles technologies for , training and teaching of children with autism/ASD*
-The purpose of the CIP and the importance of a collective competence improvement	*-Discrete Trial Teaching of children with autism / ASD*
-Autism & ASD in DSM 4 & proposed changes in DSM5	*-Pivotal Response Training for children with autism/ASD*
-Prevalence of autism / ASD international *-Prevalence of Autism/ASD in Norway*	*-'Social Stories™' as a method for training and teaching of children with autism/ASD*
-Comorbidity and autism *-Executive functions*	*-Behavioral theory and autism/ASD* *-Cognitive theory and autism/ASD* *-Developmental perspective on autism/ASD*
-Autism/ASD in the light of developmental theory *-Autism / ASD in the light of behavioral theory* *-Autism / ASD in the light of cognitive theory*	*-Educational and psychological counseling within the field of autism / ASD*
-Educational assessment of autism/ASF *-Intervention for children with autism/ASD*	*-Inclusion* *-Peer relationship* *-Generalization of skills and behaviors*
-Collaboration between the teachers, special ed. teachers, child and youth workers, and the parents of children with autism /ASD	*-Legislations related to special education*

Table 2. *The class schedule and the activities in CIP*

Semester	**Meetings**	**Main activities to cover the content of the CIP's syllabus**
Fall-2014	*Two meetings in Oct. 2014*	*-Pre-test* *-Lecturing: Topics from the syllabus*
	Two meetings in Nov. 2014	*-Case presentations and discussions based on video-films* *-Legislative and ethical issues*
Spring-2015	*Two meetings in Feb. 2015*	*-Lecturing: Topics from the syllabus* *-Case discussion of anonymous cases* *-Workshop on intervention/methods* *-One of the meetings was only for EPCs*
	Two meetings in Mars. 201	
	Two meetings in April 2015	
Fall-2015	*Two meetings in Sept. 2015*	*-Lecturing: Topics from the syllabus* *-Case discussion of anonymous cases* *-Workshop on intervention/methods*
	Two meetings in Oct. 2015	*-Case presentation and discussion based on video about children with autism/ASD*

Spring-2016	*Two meetings in January 2016*	*-Lecturing: Topics from the syllabus* *-Case discussion* *-Summarizing the CIP* *-Post-test*

Methodology

The data in this paper was gathered through two questionnaires. These questionnaires were developed by two of the authors without sharing any information with the third (because she was the main instructor at the CIP). We followed a standard pre-test – post-test procedure and asked the participants to fill out our questionnaire in the first hour of the first session of the CIP (pre-test). Following completion of the CIP, we administered our second questionnaire (post-test). In the pre-test questionnaire, we asked questions about the participants' knowledge, conceptions, assumptions, and experiences related to autism/ASD and the training and teaching of children with autism/ASD. The post-test also asked questions about the participants' knowledge, conceptions, assumptions, and experiences having to do with autism/ASD and the training and teaching of children with autism/ASD after having participated in the CIP during the previous two years. In the post-test segment, we employed some linguistic adaptations and some changes in the order of the questions. We ensured the anonymity of the participants by not asking for their names and have treated our data without mention of the name of the CIP's municipality or the name of its county. We have coded and analyzed our data with SPSS. Most of the actual figures in our paper were obtained by using EXCEL. This type of research was a part of written collaboration agreements between the CIP-municipality and STATPED, and between STATPED and the University of Oslo.

Presentation of the results

One of the central goals of our pre-test questionnaire was to get a clear idea of the EPCs', teachers', special. ed. teachers', and child and youth workers' (CYWs) overall knowledge of autism /ASD in their present work in 2014. They gave answers based on an ordinal scale: *1: To a very little degree, 2: To a little degree, 3: To some degree, 4: To a large degree and 5: To a very large degree* (horizontal numbers in the x-axis in all the figures in the paper). Figure 2 presents the results of the participants' level of overall knowledge of autism /ASD in their work in 2014.

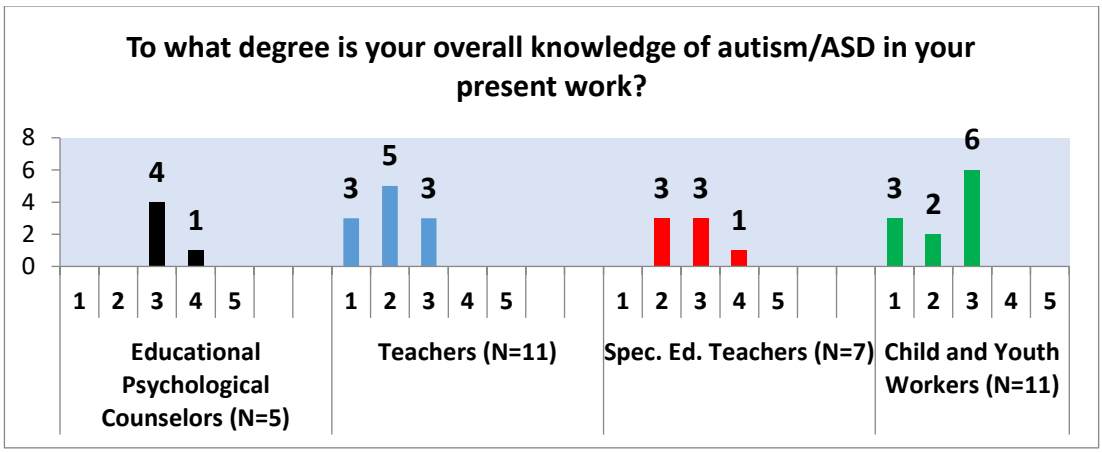


Figure 2. The participants' overall knowledge of autism/ASD in their present work

It is quite clear that all four groups of professionals who worked with children with autism/ASD had some degree of knowledge, but apart from one educational psychological counselor (EPC) and one special ed. teacher, none of the participants judged their overall knowledge to be at a large or a very large degree. One can say that this alone was a good enough reason for initiating the CIP.

Another factor that was considered to be important when investigating the relation and communication between educational psychological counselors on one side and the teachers, special ed. teachers, and CYWs on the other side, was the level of competence among the latter-mentioned three professional groups to understand the assessment report about the children with autism/ASD. The assessment reports usually include the results of the assessments conducted by different instances (i.e. medical specialists in neurodevelopmental disorders, language pathologists, special education experts in autism/ASD (from STATPED), and EPC's own assessments), which can be challenging to sift through. Understanding the content of these reports, however, is important for effective selection and implementation of methods, strategies, and tactics for creating adapted training and teaching environments for children with autism/ASD (Cooper, Heron & Heward, 2007).

The following figure (3) shows the competence situation of the members of the three professional groups.

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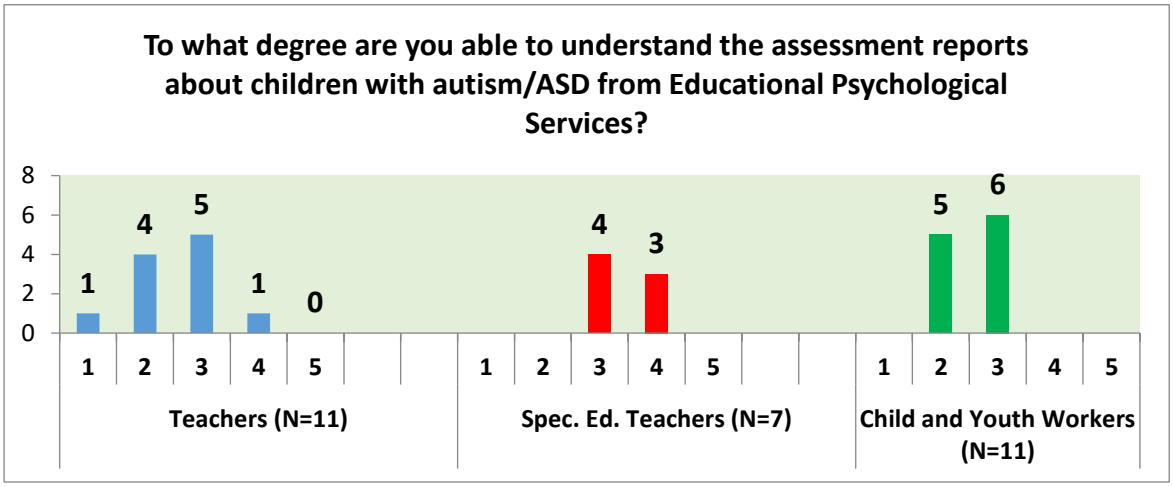

Figure 3. The participants' competence in understanding the assessment reports about children with autism/ASD from EPS

The results here show that only four of 18 practicing teachers and special ed. teachers (and none of the CYWs) could understand the assessment reports from the educational psychological services to a large degree at the time the CIP-municipality initiated the CIP. A vast majority of the teachers and special ed. teachers and all of the CYWs could only understand those assessment reports to some degree or less. This too is an excellent reason for initiating the CIP.

The results suggest that in 2014, at the beginning of the CIP, the children with autism/ASD met EPCs, teachers, special ed. teachers, and CYWs who were not confident enough with the knowledge they possessed. In other words, they did not have the necessary knowledge and competences to accomplish their jobs within the field of training and teaching of children with autism/ASD at a satisfactory level.

Another important factor in the training and teaching of children with autism/ASD is the relationship between those who are involved in the assessment, training, and teaching of children with autism/ASD and the parents of the children affected. Those who work within the field of autism/ASD know very well that parents are important stake holders. Good relationships, clear communication, and open collaboration with parents are important for effective learning and development of children with autism. The children spend a lot of time with their parents. Coordination of the work being done at the school with the children's life at home and outside the school is important for every child on the spectrum. This necessitates strong communication and coordination between the professionals and the parents.

The skills and knowledge developed in one-to-one-settings or group-settings at the school, however, often must be generalized. Generalization is recognized as one of the biggest challenges within the field of autism/ASD (Kasari, Dean, Kretzmann, Shih, Orlich, Whitney, Landa, Lord & King, 2015; Koegel, Kuriakose, Singh & Koegel, 2012; Özerk & Özerk, 2013). The children must be provided the conditions and opportunities to transfer their skills and knowledge to real life situations.

With this in mind, in our pre-test, we asked the participants in all four groups to what degree each of them felt confident when they met parents of children with autism/ASD.

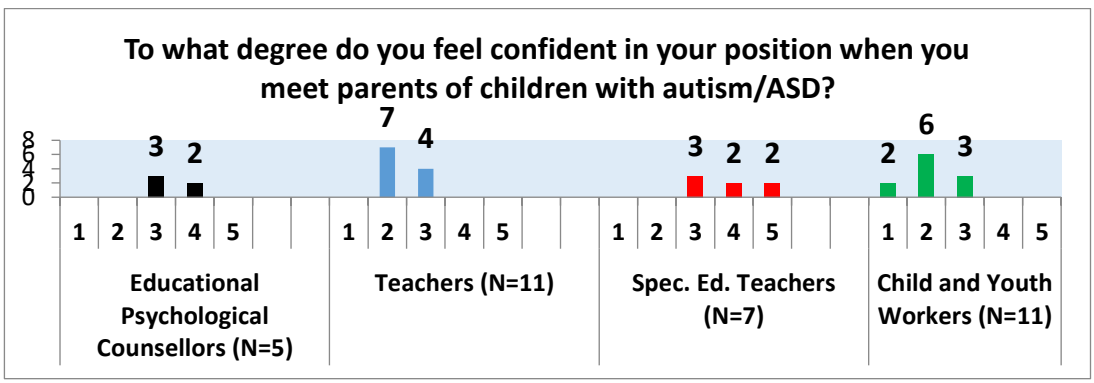

Figure 4. The three professional groups' feeling of confidence in meeting with the parents of children with autism/ASD.

As Figure 4 shows, the majority of the EPCs, teachers, and CYWs felt to some degree a lack of confidence when they met with parents. None of the members of the teachers-group and CYW-group felt confidence to a large or very large degree. The only professional group in which the majority of the group members felt confidence to a large

or very large degree was the special ed. teachers. But even in this group 3 of 7 special ed. teachers felt confidence only to some degree.

If we are to summarize the findings so far, we can say that despite some positive elements in the CIP-municipality's professional groups' competence level, experiences, and feelings of confidence, the four participant groups of professionals needed competence improvement. In other words, the CIP-municipality had several good reasons for asking for and prioritizing the CIP. The EPCs, the teachers, the specialed. teachers, and the CYWs were in need of competence improvement in the challenging field of autism/ASD in a municipality where the incidence rate of autism during the project period was higher than the national and county averages. In the remaining sections of this paper, we will be presenting and discussing the results of post-tests following the CIP compared to the pre-test results at the beginning of the CIP.

Three Methods and Their Theoretical Foundations

As mentioned earlier, Discrete Trial Teaching (DTT), Pivotal Response Training (PRT), and Social Stories™ (SS) were three of the main topics in the CIP syllabus. The theoretical foundations of DTT, PRT, and SS were also presented with the help of the following figure:

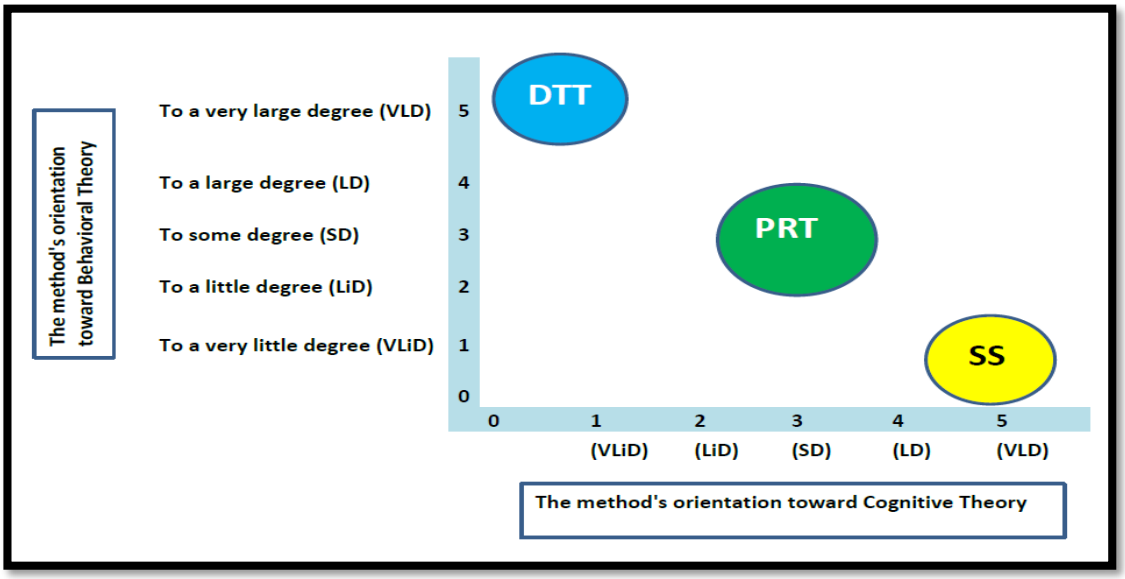

Figure 5. The three methods and their theoretical orientation

Based on the mentioned theoretical orientations of these methods, we used the following criteria for the correct answers:

--For DTT's behavioral theory relation: 4 and 5; to a large and to a very large degree respectively.

--For DTT's cognitive theory relation: 1 and 2; to a very little and to a little degree respectively.

--For PRT's behavioral theory relation: 3; to some degree.

--For PRT's cognitive theory relation: 3; to some degree.

--For SS's behavioral relation: 1 and 2; to a very little and to a little degree respectively

--For SS's cognitive theory relation: 4 and 5; to a large and to a very large degree respectively.

These three methods have been among the most recognized evidence-based and widely implemented methods within the field of autism/ASD (Gray, 2012; NAC, 2009). In addition to their theoretical orientations, the implementation of these three methods in practice was discussed through "case-presentations" and short video films.

In the following sections we'll present:

a) The results which show each of the four participant groups' knowledge about DTT, PRT, and SS at the end of the CIP (post-test) compared to in the beginning of the CIP (pre-test).

b) The results that show each of the four participant groups' conceptions about the theoretical orientations of DTT, PRT, and SS at the end of the CIP (post-test) compared to the beginning of CIP (pre-test).

Educational Psychological Counselors' Knowledge About DTT and Their Conceptions About DTT in Relation to Behavioral Theory and Cognitive Theory

Table 3 below shows the educational psychological counselors' (EPCs') knowledge about DTT that they could use in practice, the EPCs' conception of the DTT with regard to the method's relation to behavioral theory, and the EPCs' understanding of cognitive theory at the end of the CIP compared to at the beginning of the CIP.

Table 3. *Educational Psychological Counselors' self-evaluation of their knowledge and conceptions about DTT, PRT, and SS*

			EDUCATIONAL PSYCHOLOGICAL COUNSELORS' SELF EVALUATION (N=5)								
			Discrete Trial Teaching (DTT)			Pivotal Response Training (PRT)			Social Stories (SS)		
				Conception of DTT's			Conception of PRT's			Conception of SS's	
TIME		GRADING	Knowledge	B. theory- relation	C. Theory - relation	Knowledge	B. theory- relation	C. theory - relation	Knowledge	B. theory- relation	C. theory - relation
In the beginning of CIP (2014)	1	*To a very little degree*	5	2	2	5	2				2
	2	*To a little degree*		1			3		1	1	
	3	*To some degree*		2	3				3	4	2
	4	*To a large degree*							1		1
	5	*To a very large degree*						5			
At the end of CIP (2016)	1	*To a very little degee*			5					5	
	2	*To a little degree*							1		
	3	*To some degree*	1			1	5	5	3		1
	4	*To a large degree*	2	1		3			1		4
	5	*To a very large degree*	2	4		1					
Change from 2014 to 2016			P=.000 ρ=.93	P=.002 ρ=.84	P=.040 ρ=-.65	P=.000 ρ=.93	P=.002 ρ=.94	Identical change	No change	P=.000 ρ=-.96	P=.045 ρ=.64

-The alternative answers to the questions were organized in ordinal scale in column 2:
1: To a very little degree, 2: To a little degree, 3: To some degree, 4: To a large degree, and
5: To a very large degree. The numbers in front of these grades show the distribution of the answers given by the participants.
-The yellow colored boxes show the zones for correct answers at the beginning of the CIP (pre-test)
-The green colored boxed show the zones for correct answers at the end of the CIP (post-test)
-B-theory: Behavioral theory
-C-theory: Cognitive theory

The results in Table 3 show that EPCs, according to their self-evaluation, did not have enough knowledge about DTT and PRT to use these methods in practice at the beginning of the CIP. All of the EPCs signaled that they had a very little knowledge about DTT in the beginning of the CIP. At the end of the CIP, four of five had satisfactory knowledge (two at a large degree and two at a very large degree) and one of them gained knowledge about DTT to some degree. This improvement is significant (P<.05, P=.000 Spearman ρ=.93) indicating that they improved their knowledge about DTT and PRT enough to make them capable of using these methods in practice (the year of pre-test (2014) coded as 1 and the year of post-test (2016) coded as 2 in SPSS).

When it comes to the question regarding the EPCs' conception about the relation between DTT and behavioral theory, it can be seen that all the EPCs had a misconception about DTT in the beginning of CIP, in 2014. As shown in Figure 4, DTT is a strong/very strong behavioral theory oriented method. The above results also show that there is a significant change in EPCs' preconception of DTT (P<.05, p=.002 and Spearman ρ=.84.) All of the EPCs considered DTT at the end of the CIP, in 2016, as a strong or very strong behavioral theory oriented method, which is correct.

The other results related to DTT in the table reveal the EPCs' conceptions of the relation between DTT and the cognitive theory. Only two of five EPCs had a correct understanding of this relationship at the beginning of the CIP. At the end of the CIP, however, all the EPCs had the correct understanding of the DTT's little or very little cognitive orientation. Here also there is a significant improvement (p<.05, p=.040 and Spearman ρ= -.65) in the EPCs' conception about the theoretical orientation of DTT. One can also see a very similar tendency in the development of the EPCs' knowledge about PRT and their conception about this method's theoretical orientation. Four of five EPCs improved their knowledge about PRT to a large or very large degree, and all of them improved their conception about PRT's theoretical relation to behavioral theory and cognitive theory. But with regard to SS, there was not any change. An important outcome in the CIP is that four of five EPCs improved their practice applicable knowledge and conceptions about DTT and PRT. They could thereafter accomplish their counselling jobs as competent counsellors when the challenge is related to DTT and PRT, but not if it is about SS. What about the other three professional groups' improvement?

The Teacher's Knowledge About DTT and Their Conception About DTT in Relation to Behavioral Theory and Cognitive Theory

As shown earlier, there were 11 teachers who completed the CIP and received certificates of attendance and who were therefore included in our paper. They answered the same questions as the EPCs. Table 4 below shows the results.

Table 4. *The teachers' self-evaluation of their knowledge and conceptions about DTT, PRT, and SS*

			THE TEACHERS' SELF EVALUATION (N=11)								
			Discrete Trial Teaching (DTT)			Pivotal Response Training (PRT)			Social Stories (SS)		
				Conception of DTT's			Conception of PRT's			Conception of SS's	
TIME		GRADING	Knowledge	B. theory- relation	C. Theory - relation	Knowledge	B. theory- relation	C. theory - relation	Knowledge	B. theory- relation	C. theory - relation
In the beginning of CIP (2014)	1	*To a very little degree*	7	3	2	11	8		4	2	3
	2	*To a little degree*	4	4	2		1	1	3	3	4
	3	*To some degree*		2	1		1	3	2	1	2
	4	*To a large degree*		1	5			5	1	4	1
	5	*To a very large degree*		1	1		1	2	1	1	1
At the end of CIP (2016)	1	*To a very little degee*			4				1	1	
	2	*To a little degree*	1		5	6		3	3	5	1
	3	*To some degree*	8	1	1	3	7	7	5	4	3
	4	*To a large degree*	1	8	1	1	4	1	1	1	7
	5	*To a very large degree*	1	2		1			1		
Change from 2014 to 2016			P=.000 ρ=.87	P=.002 ρ=.84	P=.041 ρ=-.43	P=.000 ρ=.93	P=.000 ρ=.69	P=.010 ρ=-.53	No sig. change	No sig. change	P=.013 ρ=.52

As the results in Table 4 show, only two of the teachers (N=11) had satisfactory knowledge about DTT to be able to use it in practice at the beginning of the CIP. As a group, their knowledge about DTT improved significantly (p<.05) after the CIP (p=.000, and Spearman ρ= .87) but in our judgment this improvement is not satisfactory for the teachers group. At the end of the CIP, only two of them felt that they had learned to a large degree or very large degree enough knowledge about DTT to be able to use this method in the training and teaching of children with autism/ASD. On the other hand, the teachers improved significantly in their conception about the relation between DTT and behavioral theory (p<.0, p=.002 and Spearman ρ= .84) and experienced a significant change in their

conception about the relation between DTT and cognitive theory (p=.041 and Spearman ρ= -.43.) The results in the above table also show that the teachers as a group have significantly improved knowledge about PRT (p=.000 and Spearman ρ= .93), but only two of the eleven teachers judged their own knowledge to be at a large degree or very large degree. This means that significant improvement does not equate in this case to a satisfactory level of improvement. The teachers' partial misconception of PRT's relationship with behavioral theory at the beginning of the CIP was corrected significantly (p=.000 and Spearman ρ= .69) from pre-test to post-test, from the beginning of the CIP to the end of the CIP. The same is also valid for their conception about PRT's relation to cognitive theory (P=.010 and Spearman ρ= -.53).

With regard to the teachers' knowledge about SS, their knowledge of SS did not change significantly. Only two of eleven teachers had satisfactory knowledge about this method in the beginning and at the end of the CIP. Additionally, five of eleven of them had correct conceptions about SS's relation to behavioral theory at the beginning of the CIP, with that number improving to six by the end of the CIP. The change is not significant.

When it comes to SS's relation to cognitive theory, however, a significant change has occurred (P=.013 and Spearman ρ= .52) . Seven of eleven teachers at the end of the CIP, compared to two at the beginning of the CIP, had correct conceptions. The teachers' overall results show that though there were some improvements in their conception of the three methods at the conclusion of the CIP, a vast majority still did not feel that they learned satisfactory enough knowledge about the three methods to allow them to use them for training and teaching children with autism. What is the situation for special ed. teachers?

The Special ed. Teachers' Knowledge About DTT and Their Conception About DTT in Relation to Behavioral Theory and Cognitive Theory

There were seven special ed. teachers in the sample. Table 5 shows their knowledge about DTT and their conception about DTT in relation to behavioral theory and cognitive theory.

Table 5. *The special education teachers' self-evaluation of their knowledge and conceptions about DTT, PRT, and SS.*

			THE SPECIAL EDUCATION TEACHERS' SELF EVALUATION (N=11)								
			Discrete Trial Teaching (DTT)			Pivotal Response Training (PRT)			Social Stories (SS)		
				Conception of DTT's			Conception of PRT's			Conception of SS's	
TIME		GRADING	Knowledge	B. theory- relation	C. Theory - relation	Knowledge	B. theory- relation	C. theory - relation	Knowledge	B. theory- relation	C. theory - relation
In the beginning of CIP (2014)	1	To a very little degree	5	3	2	6	2		3		
	2	To a little degree	2	1	1	1	3			4	4
	3	To some degree		1	2		2	2	3	2	1
	4	To a large degree		2	2			5	1	1	2
	5	To a very large degree									
At the end of CIP (2016)	1	To a very little degee			6						
	2	To a little degree			1			1		5	
	3	To some degree	1			1	7	6	1	2	
	4	To a large degree	4	3		4			4		5
	5	To a very large degree	2	4		2			2		2
Changing from 2014 to 2016			P=.000 ρ=.90	P=.001 ρ=.79	P=.016 ρ=-.63	P=.000 ρ=.91	P=.003 ρ=.72	P=.002 ρ=-.74	P=.003 ρ=.73	No sig. change	P=.002 ρ=.74

The results show that special ed. teachers as a group significantly improved their knowledge about DTT - enough so that they could use the method in their practices (p=.000 and Spearman ρ= .90). Furthermore, they improved their conception of the relationship between DTT and behavioral theory (p=.001 and Spearman ρ= .79) and between DTT and cognitive theory (p=.016 and Spearman ρ= -.63). An important improvement seems to

be in their knowledge about DTT that make them able to use the method in practice. At the beginning of the CIP, all of the special ed. teachers had very little or a little degree of knowledge about DTT related to the training and teaching of children with autism/ASD. At the end of the CIP, 6 of 7 learned to a large or very large degree knowledge about DTT that they could then use in practice. A similar significant and satisfactory improvement is seen with regard to the special ed. teachers' development of their knowledge about PRT (p=.000 and Spearman ρ= .91) and to their conception about the relation between PRT and behavioral theory (p=.003 and Spearman ρ= .72) and their conception about PRT and the method's relation to cognitive theory (p=.002 and Spearman ρ= -.74).

A similar tendency can also be seen in their improvement with regard to their knowledge about SS (p=.003 and Spearman ρ= .73) and their conception about the relationship between SS and the cognitive theory (p=.002 and Spearman ρ= .74). Of note, there was no significant change in their conception about the relation between SS and behavioral theory. But, as can be seen in the table, this happened because four of seven special ed. teachers had correct conceptions of this relationship at the beginning of the CIP, and five of seven special ed. teachers had the same correct conception at the end of the CIP. In other words, no significant change does not, at least in this case, equate to a negative trend. In all, the results by the special ed. teachers suggest that they as a group benefited from the CIP at a very satisfactory level. In the next section we'll present and discuss the results obtained by child and youth workers (CYWs).

Child and Youth Workers' Knowledge About DTT and Their Conception About DTT in Relation to Behavioral Theory and Cognitive Theory

There were 11 child and youth workers (CYWs) who completed the CIP. Table 6 below shows the results.

Table 6. The Child and Youth Workers' Self-Evaluation of Their Knowledge And Conceptions About DTT, PRT, And SS

			THE CHILD AND YOUTH WORKERS' SELF EVALUATION (N=11)								
			Discrete Trial Teaching (DTT)			Pivotal Response Training (PRT)			Social Stories (SS)		
				Conception of DTT's			Conception of PRT's			Conception of SS's	
TIME		GRADING	Knowledge	B. theory- relation	C. Theory - relation	Knowledge	B. theory- relation	C. theory - relation	Knowledge	B. theory- relation	C. theory - relation
In the beginning of CIP (2014)	1	*To a very little degree*	9	5		9	8	1	4	2	
	2	*To a little degree*	2	5	1	2	3		4		2
	3	*To some degree*		1	5			3	3	9	9
	4	*To a large degree*			5			5			
	5	*To a very large degree*						2			
At the end of CIP (2016)	1	*To a very little degee*			6					4	
	2	*To a little degree*	2	2	5	2		2		4	
	3	*To some degree*	7	5		9	4	8	10	3	
	4	*To a large degree*	2	4				1	1		8
	5	*To a very large degree*					7				3
Chang from 2014 to 2016			P=.000 ρ=.71	P=.000 ρ=.78	P=.000 ρ=-.85	P=.000 ρ=.90	P=.000 ρ=.90	P=.015 ρ=-.51	P=.000 ρ=.73	P=.031 ρ=-.46	P=.000 ρ=.92

CYWs as a group made significant improvement of their knowledge about DTT (p=.000 and Spearman ρ= .71) and in their conception about the relation between DTT and behavioral theory (p=.000 and Spearman ρ= .78) and between DTT and cognitive theory (p=.000 and Spearman ρ= -.85). The significant improvement in the groups' knowledge of DTT, however, is not satisfactory. That said, two of them did become knowledgeable to the degree that they could use the method in training and teaching children with autism/ASD. A similar tendency can also be seen in CYWs' knowledge about PRT and SS. Improvement during the CIP with regard to their knowledge about SS is significant but, again, not satisfactory. None of them felt that they learned knowledge about PRT that they could use in practice, and only one of them felt that his/her knowledge about SS was satisfactory enough to be used in training and teaching children with autism/ASD.

The results so far show that the CIP contributed to varying degrees of knowledge improvement among the participant groups, regarding the three methods that they could use in practice, and about their conceptions of the methods'

theoretical orientation. With this picture as a background, we'll now return to the following questions and compare and discuss the findings:

-To what degree did the members of the four professional groups have overall knowledge about autism/ASD in their work at the end of the CIP compared to at the beginning of the CIP?

-To what degree were the members of the three professional groups able to understand the assessment reports from educational psychological services about children with autism/ASD at the end of the CIP compared to at the beginning of the CIP?

-To what degree did the members of the four professional groups feel confident in their position when they met parents of children with autism/ASD at the end of the CIP compared to at the beginning of the CIP?

The Four Professional Groups' Degree of Overall Knowledge About Autism/ASD in Their Present Work at The End of The CIP Compared to at The Beginning of The CIP

Table 7. *The participant's Self-Evaluation Of Their Overall Knowledge About Autism/ASD in Their Present Work*

			THE PARTICIPANT PROFESSIONAL GROUPS:			
TIME	GRADING		EDUCATIONAL PSYCHOLOGICAL COUNSELLORS (N=5)	TEACHERS (N=11)	SPECIAL EDUCATION TEACHERS (N=7)	CHILD AND YOUTH WORKERS (N=11)
In the beginning of CIP (2014)	1	*To a very little degree*		3		3
	2	*To a little degree*		5	3	2
	3	*To some degree*	4	3	3	6
	4	*To a large degree*	1		1	
	5	*To a very large degree*				
At the end of CIP (2016)	1	*To a very little degee*				
	2	*To a little degree*		1		
	3	*To some degree*	1	6		4
	4	*To a large degree*	1	3	3	7
	5	*To a very large degree*	3	1	4	
Chang from 2014 to 2016			P= .030 ρ= .68	P=.000 ρ= .69	P=.000 ρ= .84	P=.000 ρ= .74

The pre-test parts of these results were also presented separately in the beginning of our paper (see Figure 2), where we concluded that a low degree of confidence among the four professional groups was a 'good' reason on its own for initiating the CIP. As one can see from the participants' answers in Table 7, the CIP contributed significantly to the improvement of all the participant groups' overall knowledge about autism/ASD. A vast majority of the EPCs and CYWs and *all* special ed. teachers considered their overall knowledge about autism/AS to have been improved at a large or a very large degree. We consider this significant and satisfactory improvement in the overall knowledge of four of five EPCs, all the special ed. teachers, and of the vast majority of CYWs as an important pedagogical asset to be kept updated and utilized in the CIP-municipality.

On the other hand, only four of eleven teachers considered their overall knowledge of autism/ASD to be at satisfactory level at the close of the CIP. These four teachers are also a part of the CIP municipality's accumulated pedagogical assets.

These results also reveal that the four educational psychological counsellors with satisfactory overall knowledge about autism/ASD are within a larger group of 22 practicing professionals possessing satisfactory overall

knowledge about autism/ASD. Together, within the CIP-municipality, they can communicate and discuss issues to solve the challenges encountered in their training and teaching of children with autism/ASD.

An important aspect of communication between educational psychological counsellors and the practicing teachers, special ed. teachers, and CYWs relies on reading and understanding the assessment reports and communicating pedagogical issues from common reference points. With this in mind, we considered the following question as important: -*To what degree were the members of the three professional groups able to understand the assessment reports from educational psychological services about children with autism/ASD at the end of CIP compared to in the beginning of CIP?* Table 8 presents the self-evaluation results of the three participant groups' competency to understand the assessment reports from the educational psychological services (from EPCs) at the end of the CIP compared to their evaluation at the beginning of the CIP.

Table 8. *The Participants' Self-Evaluation of The Degree of Their Understanding of The Assessment Reports From The Educational Psychological Services (EPS)*

			THE PARTICIPANT PROFESSIONAL GROUPS		
			TEACHERS (N=11)	SPECIAL EDUCATION TEACHERS (N=7)	CHILD AND YOUTH WORKERS (N=11)
TIME	GRADING				
In the beginning of CIP (2014)	1	*To a very little degree*	1		
	2	*To a little degree*	4		5
	3	*To some degree*	5	4	6
	4	*To a large degree*	1	3	
	5	*To a very large degree*			
At the end of CIP (2016)	1	*To a very little degee*			
	2	*To a little degree*	1		1
	3	*To some degree*	6		6
	4	*To a large degree*	4		4
	5	*To a very large degree*		7	
Change from 2014 to 2016			P=.032 ρ=.45	P=.000 ρ=.94	P=.009 ρ=.54

The table makes clear that there has been significant improvement in the competency level of the participants. While one of the teachers and none of the CYWs had competence to understand assessment reports at the beginning of the CIP (see also Figure 3), there were four teachers and four CYWs who felt capable of doing that at the end of the CIP. Despite this significant improvement in these two groups, though, less than half of the groups considered themselves capable of understanding the assessment reports about children with autism/ASD at the end of the CIP. Still, the special ed. teachers *all* considered themselves capable of understanding the assessment reports about children with autism/ASD to a very large degree at the end of the CIP compared to just three of them in that position at the beginning of the CIP.

As we discussed earlier, close and good relationships, communication, and collaboration with parents are important for the creation of good learning conditions for children with autism/ASD. To achieve successful learning skills for social interaction, social communication, and adaptive skills, close and effective coordination between what is being done at the school and what is being done at home or home environment is essential. Transferring and generalization of the skills and knowledge they learn and

develop at organized and structured settings to real life settings is of the utmost important for this group -but at the same time, it is a huge challenge. We asked the participants to what degree they felt confident when they met the parents of children with autism/ASD that they worked with.

Table 9. *The Four Professional Groups' Feeling of Confidence in Their Position When They Meet Parents of Children With Autism/ASD at The End of The CIP as Compared to at The Beginning of The CIP*

			THE PARTICIPANT PROFESSIONAL GROUPS:			
TIME	GRADING		EDUCATIONAL PSYCHOLOGICAL COUNSELLORS (N=5)	TEACHERS (N=11)	SPECIAL EDUCATION TEACHERS (N=7)	CHILD AND YOUTH WORKERS (N=11)
In the beginning of CIP (2014)	1	*To a very little degree*				2
	2	*To a little degree*		7		6
	3	*To some degree*	3	4	3	3
	4	*To a large degree*	2		2	
	5	*To a very large degree*			2	
At the end of CIP (2016)	1	*To a very little degee*				
	2	*To a little degree*				2
	3	*To some degree*	1	7		1
	4	*To a large degree*		4	1	4
	5	*To a very large degree*	4		6	4
Chang from 2014 to 2016			P= .034 ρ= .67	P= .000 ρ= .72	P= .019 ρ= .61	P=.000 ρ= .69

In the beginning of the CIP, there were only six participants (two EPCs and four special ed. teachers) who felt a high degree of confidence when meeting the parents of children with autism/ASD. At the end of the CIP, 23 of the participants (4/5 EPCs, 4/11teachers, all seven special ed. teachers, and 8/11 CYWs) had a large to very large degree of confidence in their position when meeting the parents of those children with autism/ASD that they work with. Except in the teachers' group, the majority of the members of all the other professional groups improved their level of confidence as professionals when meeting their most important collaboration partner, the students' parents. Another positive point here is that while only two of five EPCs felt a large degree of confidence in their position in 2014 when meeting with parents, at the end of the CIP four of five of them felt confident to a very large degree. We consider the overall improvement in this area as an important and significant outcome of the CIP and a positive factor for collaboration with the parents in the CIP-municipality in the post-CIP period.

Discussion

The results presented above reveal a very clear tendency. The EPCs and special ed. teachers as groups improved their knowledge about DTT and PRT as well as their conceptions about these two methods' relations to behavioral theory and cognitive theory. Thus, we can say that a vast majority in both groups improved their knowledge that can now be used in training and teaching children with autism/ASD. We can also interpret the results of these two professional groups as indicating they have now developed common concepts about and a better understanding of DTT and PRT. They have, through the CIP, established a common repertoire of knowledge and theoretical understanding that could make it easier for the EPCs to succeed in their work and for their professional collaborations with special ed. teachers to improve, enhancing the quality of the training and teaching they provide for children with autism/ASD.

When it comes to the other two professional groups, the results reveal that this type of CIP was not enough for the teachers as a group or the CYWs as a group to improve their knowledge satisfactorily enough to practice DTT and PRT in training and teaching children with autism/ASD. This is our conclusion for these two groups despite the fact that there has been significant improvement in their conception about these two methods' theoretical bases. The CIP has provided opportunities for the teachers and the CYWs to gain significant improvement but not quite satisfactory improvement in their applicable knowledge.

The third method that the CIP targeted to improve the participant professional groups' competence and conception was Social Stories™ (SS). The results of the CIP with regard to this method are mixed. A vast majority of the EPCs, the teachers, and CYWs did not feel at the end of the CIP that they had learned enough knowledge about SS to use it in practice, even though all of the EPCs and the vast majority of teachers and CYWs improved their conception about the method's theoretical foundation. The only professional group of practitioners that gained significant and satisfactory improvement as a group in SS was special ed. teachers. A serious consequence of this situation is that special ed. teachers will not have access to competent educational psychological counselling related to SS's implementation in practice.

Other notable conclusions that one can draw from the above results include the following:

a) The CIP-municipality have four (out of five) competent EPCs in DTT and PRT as a result of the CIP

b) None of the professional groups have access to competent EPCs in SS in the CIP-municipality

c) In the wake of the CIP, the CIP-municipality has teachers and CYWs that improved their conceptions about the theoretical bases of DTT, PRT, and SS significantly.

d) The CIP did not succeed in making two of the professional groups (the teachers and CYWs) competent enough to successfully implement DTT, PRT, and SS in the training and teaching of children with autism/ASD. Nonetheless, the CIP contributed to the development of four competent EPCs who can help them in DTT and PRT if they establish conditions for good collaboration

e) The CIP led to a significant and satisfactory improvement in the overall knowledge of four of five EPCs, all the special ed. teachers, and the vast majority of CYWs. This is an important pedagogical asset to be kept updated and utilized in the CIP-municipality. Even though only four of eleven teachers now consider their overall knowledge of autism/ASD to be at satisfactory level, they are also a part of the CIP municipality's accumulated pedagogical assets.

f) All of the special ed. teachers considered themselves capable enough to understand the assessment reports about children with autism/ASD to a very large degree at the end of the CIP. On the other hand, less than half of the teachers and CYWs improved their competence enough to understand the assessment reports about children with autism/ASD.

g) At the end of the CIP, 23 of the participants (four of five EPCs, four of 11teachers, all seven special ed. teachers, and eight of 11 CYWs) had to a large or very large degree of confidence in their position when they meet with the parents of children with autism/ASD that they work with.

These results also suggest that significant improvement in overall knowledge and conception about the theoretical orientations of DTT, PRT, and SS does not necessarily equate to satisfactory improvement in practical applicable knowledge about the methods. Given that the results show that the EPCs and special ed. teachers are the two groups that most benefited from the CIP, one can assume that it is very likely that their relevant prior educational background accounts for their receptiveness to the CIP's curriculum. The teachers and CYWs do not have as strong a focus on the training and teaching of children with autism/ASD in their educational background as EPCs and special ed. teachers. This is also likely valid for their experience background. With this in mind, one can talk about the *Matheus-effect* in the process of competence improvement: The more relevant the educational and experience background that one has, the more benefits a person gets from CIP-type of competency improvements projects. When a vast majority of all participants improved their conception of the methods' theoretical orientation, but not all of them improved their practical applicable knowledge, this tells us that it is important to have a competence improvement project that *not only* enriches the professionals' theoretical repertoire, but also their operational competence.

Thus, our findings suggest that the type of CIP that we conducted must be supplemented by more practice-oriented and practice-near CIPs in the future. The training and teaching of children with autism/ASD needs theoretically strong practitioners, but also practice-competent professionals: EPCs, teachers, special ed. teachers, and CYWs. Such a double competency is important for the improvement of the operational level in the field of autism/ASD.

The limitation of our study and thus of this CIP is that the theory-practice combination was not explicitly targeted due to the limited amount of hours that were in the CIP's disposition: sixteen , half-day, in-person classes during a two-year period. As a result of this schedule, the participants did not receive direct counselling and supervision in the practice field. This includes the training and teaching of children individually, in a group, in inclusive settings, in self-containing groups, or special units at the schools and the kindergartens. A future practice-oriented CIP should include initiatives and curricula that allow for a) more frequent classes, b) more time devoted to the recognized methods, c) more theory/practice combination, and d) more direct counselling and supervision in the field than the CIP we conducted. Such work may have the potential to strengthen our knowledge about how we can implement collective CIPS that can more effectively improve a) the EPCs' counseling competency and b) the other practitioners' practical competency for utilizing recognized methods for training and teaching children with autism/ASD.

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College and Career Readiness in Elementary Schools

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Abstract
This conceptual article will provide an in-depth exploration of the relevant literature focused on college and career readiness interventions in elementary schools. Beginning with a theoretical framework, a rationale is provided for early intervention by elementary school counselors. While professional guidelines and standards exist supporting early college and career readiness interventions, research outlining evidence-based practices at the elementary level is scarce. Existing practices used by school counselors are outlined.

Keywords: Career development, college and career readiness, elementary education

Introduction

Career development describes "the lifelong psychological and behavioral processes as well as contextual influences shaping one's career over the life span" (Niles & Harris-Bowlsbey, 2005, p 12). During the elementary years, students are at a crucial period when career beliefs and aspirations are being developed (Mariani, Berger, Koerner, & Sandlin, 2016). While scarce, studies exist citing the significance of career-related decisions occuring during the elementary years. One study cited a large number of participants aged 9-10 who believed they already made decisions related to career aspirations (Seligman, Weinstock, & Heflin, 1991). In another study, adults aged 40-55 explained that they made career-related decisions about their current professions during early childhood (Trice & McClellan, 1994). Evidence supporting the need for evidence-based career counseling interventions for elementary students has increased in the research literature, though it remains highly underrepresented, with the majority focused on middle and high school interventions (Knight, 2015; Mariani et al., 2016; Woods & Kaszubowski, 2008).

Interventions focused on college and career readiness have gained traction in the literature, noting the importance related to the development of a college-going mindset and in-depth career exploration as early as elementary school (Knight, 2015; Mariani et al., 2016). Recent predictions highlight the importance of both college and career readiness interventions (Carnevale, Smith, & Strohl, 2010), noting that by 2020, 65% of jobs in the nation will require some form of postsecondary education; however, the U.S. is predicted to be short of five million workers for these jobs by then (Carnevale, Smith, & Strohl, 2014). Job outlook has continuously been stronger for those with postsecondary education, leading to increased income potential. Initiatives such as the North Star Goal launched in 2010 by the Obama administration, which aimed to make the U.S. a leader in postsecondary degree completion, and the Reach Higher Initiative (Reach Higher, 2015) led by former First Lady Michelle Obama focused on the goal of postsecondary access and success. As a result, many states across the country now require career planning before middle school (NOSCA, 2012). School counselors play a significant role in assisting students with career exploration and college readiness. The American School Counselor Association's National Model (ASCA, 2003) described a comprehensive school counseling program as a program addressing the needs of children beginning as early as pre-kindergarten through 12th grade in three domains: academic, career, and personal/social. The career domain highlights the significance of developing skills to locate, evaluate, and interpret career information. Additionally, the career domain includes competencies demonstrating how interests, abilities, and achievement lead to achieving personal, social, educational, and career goals (ASCA, 2003). Since we know that elementary-aged children begin to make career-related choices that influence their future career goals, it is imperative that elementary school counselors become more involved in career-related interventions early on (Mariani et al., 2016; Woods & Kaszubowski, 2008).

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In a qualitative study (n=123) conducted with first-, third-, and fifth-grade children to examine the types of careers they wished and expected to have (Auger, Blackhurst, & Wahl, 2005), results showed that the younger children held more gender specific career expectations (i.e., female students as teachers; male students as truck drivers) while older elementary-aged students aspired to occupations based merely on fantasy. In another study (n=150), the career development needs of fourth-grade students from two rural school districts (Wood & Kaszubowski, 2008) were explored using a scale to measure Donald Super's nine dimensions (Super, 1990) of career development during the growth stage, the period when students fantasize and develop likes/dislikes and abilities/potential relating to careers. Results highlighted the gender disparity related to levels of career curiosity, comprehension of career information, and identification of key career figures that were matched with their career aspirations. Male students in particular scored significantly lower in the area of career curiosity (Woods & Kaszubowski, 2008).

Another study (n=115) showed glaring gender disparities (Blackhurst & Auger, 2008) with respect to elementary and middle school-aged students' career aspirations and expectations for their futures. Results revealed that female students were more likely than their male counterparts to aspire to careers that require a college education, more likely to emphasize career advancement in their rationale for attending college, and less likely to choose sex-typed occupations. There is a clear need for additional discussion about early career interventions and the training provided to elementary school counselors.

Theoretical Framework

In the classic work written by Frank Parsons (1909, p.4), Parsons noted, "We guide our boys and girls to some extent through school, then drop them into this complex world to sink or swim as the case may be. Yet there is no part of life where the need for guidance is more empathic than in the transition from school to work—the choice of vocation, adequate preparation for it, and the attainment of efficiency and success." While Parsons's work, which contributed to the formation of school counseling, spoke directly to the importance of career counseling with youth in general, the contributions by later career theorists provide impetus for early career interventions. Several career development theories provide an understanding of career development from a developmental perspective, describing career development as a life-long process that begins as early as childhood (Super, 1990; Ginzberg, 1952; Ginzberg, Ginsburg, Alexrad, & Herma, 1951; Gottfredson, 1981), while other theories posit that early childhood includes merely a fantasy stage related to career aspirations (Ginzberg, 1952). For the purpose of this article, career development theories focused on a developmental perspective will be discussed and can serve as helpful for elementary school counselors when providing guidance in understanding career paths and aspirations.

Donald Super's Life-Span, Life-Space Theory

Donald Super (1990) was one of the first developmental theorists to highlight career development as a process that unfolds gradually over the life span. Consisting of developmental stages and tasks, Super's Life-span, Life-space approach to career development provides clear concepts that can be considered during college and career readiness planning for elementary students. At its core, the principle of "know thyself" is at the foundation of Super's approach, including concepts such as self-awareness, self-esteem, self-concept, and self-knowledge (Zunker, 2006). In addition, Super suggested that students gain career maturity as they get to know themselves better, leading to more informed career and future planning. Super also suggested that school curriculum offer opportunities for students to make connections between classroom activities and future work roles. This, he believed could provide students with the necessary opportunities to learn more about themselves and, in turn, learn to expand career considerations or at least to be more confident about their early career choices (Super, 1990).

Elementary students fall into Super's *growth* stage (Super, 1990) of career development (birth to age 14). This stage is characterized by development of capacity, attitudes, interests, and needs associated with self-concepts. While this stage could also include middle school-aged students, the significance of early career development focus remains. During the elementary years, students formulate sets of self-concepts by way of interrelationships with peers, teachers, and other adults, while participating in curriculum requirements (Zunker, 2006). These activities, according to Super (1990), serve as the foundation for career maturity during the early elementary years.

Gottfredson's Theory of Circumscription, Compromise, and Self-Creation

Gottfredson's (1981) developmental theory of circumscription, compromise, and self-creation explains the formation of career aspirations. At its core, Gottfredson's theory describes how people become attracted to certain occupations. Similar to Super, Gottfredson believes self-concept to be a key factor in career selection, that is; people choose careers that are compatible with their self-images. Gottfredson posits that by the age of five, children's career aspirations begin to be shaped by influences such as gender expectations, social prestige, and the perceived difficulty of the career (Auger et al., 2005). Self-concept development for elementary-aged children includes three out of four stages:

1. Orientation to size and power (ages 3-5): Thought process is concrete; children develop some sense through sex roles of what it means to be an adult.
2. Orientation to sex roles (ages 6-8): Self-concept is influenced by gender development.
3. Orientation to social evaluation (ages 9-13): Development of concepts of social class contributes to the awareness of self-in-situation. Preferences for level of work develop.

In this model, occupational aspirations or preferences develop with the complexities of all other aspects of growth, thus, aspirations move from the simplistic during the very early stages of development to the more comprehensive into the later stages of early childhood into adolescence. Another important concept of Gottfredson's theory is the process of compromise in career decision-making. Gottfredson suggests that people compromise or create boundaries of acceptable careers based on perceived accessibility. This is significant at the elementary level, as school counselors can aid in the possibility of career foreclosure or elimination based on unclear self-concepts (Gottfredson, 1981; Mariani et al., 2016; Woods & Kaszubowski, 2008).

Two additional theories, though less noted in the career development literature are those of Ginzberg (Ginzberg, 1952; Ginzberg et al., 1951) and Havighurst (1964). Ginzberg's theory of career development includes three periods of development, the first being the fantasy stage (birth-11 years of age). During this stage, children role play and imitate occupations based on fantasy. Toward the end of this stage, children begin to simulate specific job tasks related to those occupations as they transition to viewing their career aspirations more realistically (Ginzberg, 1951; Ginzberg et al., 1951). Similarly, Havighurst (1964) proposed six stages of career development. The first stage, *identification with a worker*, occurs during ages 5 to 10, said to be the most critical stage when a child develops an understanding of the world of work in relation to his or her adult life. Attachment and connection to adults (i.e. parents/guardians, counselors, teachers) could aid in the identification of careers and career self-concept, thus, career-related interventions to assist students early on are critical. Such developmental theories provide a framework for the support of early career-related interventions at the elementary level.

Professional Standards and Guidelines

Both the American School Counseling Association (ASCA) and the College Board National Office for School Counselor Advocacy (NOSCA) have created clear standards and guidelines (ASCA, 2003; 2014, NOSCA, 2012) advocating for college and career readiness across K-12 settings. Most notably is their attention to early career interventions beginning at the elementary level.

The American School Counseling Association's Mindsets & Behaviors (2014) includes clear standards supporting the preparation for college and career readiness. Organized in three domains, one is dedicated to career development. The career development domain guides school counseling programs to help students 1) understand the connection between school and work, and 2) plan for and make a successful transition from school to post-secondary education and/or the world of work and from job to job across the lifespan (2014). All 35 standards categorized into mindsets and behaviors can be applied to each of the domains. Examples of mindset standards include a) understanding that postsecondary education and life-long learning are necessary for long-term career success, b) positive attitude toward work and learning, c) belief in using abilities to their fullest to achieve high-quality results and outcomes. Examples of behavior standards include a) identify long- and short-term academic, career and social/emotional goals, b) use time-management, organizational and study skills, and c) gather evidence and consider multiple perspectives to make informed decisions. While these standards provide guidance for school counselors, they lack direction when considering ways to utilize these standards at different grade levels (ASCA, 2014).

Prior to the creation of the Mindsets & Behaviors standards, the American School Counselors Association provided recommendations related to the functions of elementary school counselors (Campbell & Dahir, 1997). They included the implementation of effective classroom guidance activities (i.e, communication and decision-making skills; individual and small groups addressing topics such as self-image and self-esteem; academic and career assessments (Zunker, 2006).

The College Board National Office for School Counselor Advocacy (NOSCA) published the Eight Components of College and Career Readiness Counseling (NOSCA, 2012), providing a systemic approach for school counselors to implement. They include:

1. College Aspiration: goal of building an early college-going culture;
2. Academic Planning for College and Career Readiness: goal of advancing students' planning, preparation, and participation in rigorous academic programs that connect to college and career aspirations and goals;
3. Enrichment and Extracurricular Engagement: goal of equitable exposure to a wide range of extracurricular and enrichment opportunities that build leadership skills;
4. College and Career Exploration and Selection Processes: goal of providing early and ongoing exposure to experiences and information necessary to make informed decisions;
5. College and Career Assessments: goal of promoted preparation, participation, and performance in college and career assessments by all students;
6. College Affordability Planning: goal of providing students and families with comprehensive information about college costs, payment options, and the financial aid and scholarship process;
7. College and Career Admission Processes: goal of ensuring that students and families have an early and ongoing understanding of the college and career application processes;
8. Transition from High School Graduation to College Enrollment: goal of connecting students to school and community resources to help them overcome barriers and ensure successful transition (NOSCA, 2012).

Components 1-6 are included for elementary school counselors. It is NOSCA's belief that elementary school counselors are in an especially critical role, encouraging early awareness, knowledge, and skills that lay the foundation for the academic rigor and social development needed for college and career readiness (NOSCA, 2012). Again, while thorough in explanation and guidance, few examples of best practices related to the incorporation of these components are provided.

Lastly, the National Career Development Association (NCDA) provides guidelines for elementary school counselors, including three focus areas: a) self-knowledge; b) educational and occupational exploration; and c) career planning. Some K-6 examples (Paisley & Hubbard, 1994) include:

1. Kindergarten students will be able to describe what they like to do;
2. First-grade students will be able to identify workers in various settings;
3. Second-grade students will be able to describe skills needed to complete a task at home or school;
4. Third-grade students will be able to define what the term future means;
5. Fourth-grade students will be able to imagine what their lives might be like in the future;
6. Fifth-grade students will be able to discuss stereotypes associated with certain jobs;
7. Sixth-grade students will be able to identify their own personal strengths and weaknesses.

Existing College and Career Readiness Interventions

Career-related programs and interventions in elementary schools are considered essential to the overall educational experience of all students. Such programs should be intentional and strategic, utilizing theoretical frameworks and professional guidelines that support a holistic approach to college and career readiness at all levels (Auger et al., 2005; Blackhurst & Auger, 2008; Mariani et al., 2016; Woods & Kaszubowski, 2008). Developmental in nature, strong college and career readiness programs should consider activities and counseling strategies that are age-appropriate and should proactively involve key stakeholders, including school counselors, administrators, teachers, parents, and community members (Zunker, 2006.). While survey research has identified the need for early college and career readiness interventions into elementary curriculum, little to no evidence-based interventions exist that school counselors can implement (Mariani et al., 2016).

In a recent study featured in one of the leading school counseling journals in the U.S. (Mariani et al., 2016), a case study demonstrated how one elementary school counseling team used an interdisciplinary, collaborative approach to implement and evaluate a college and career readiness curriculum entitled, "Operation Occupation." This study sought to understand the impact of a college and career readiness curriculum unit used with fifth-grade students (n=43). This intervention was intentionally aligned with the ASCA Mindsets and Behaviors standards and their state's common core standards. Counselors and teachers were involved in the planning and integration of this intervention over the course of one week and taught lessons on wants versus needs, learning styles, personality types, and job skills. In addition, a career fair was planned and teachers used a token economy system in their classrooms whereby students earned pretend money for good grades, appropriate behavior, and contributions to overall classroom engagement (Mariani et al., 2016). Results indicated an increase in students' knowledge and awareness of college and career readiness. While results from this study do not provide strong outcome data regarding students' behaviors toward college and career readiness, it was noted as highly beneficial to the students while creating a positive atmosphere in classrooms in which the interventions were incorporated.

Another example of a college and career readiness intervention is the Communities in Schools (CIS) project, a program which provides site coordinators to PK-12 schools in one district, who assist with establishing relations with local businesses, community agencies, and volunteers who can aide with college and career readiness programs. Results from CIS's internal research (Communities in Schools [CIS], 2015) showed an increase in student attendance, behavior improvement, and achievement level for those who participated in the program. An additional example, as cited in Mariani et al. (2016), include counselor-implemented interventions such as the *Real Game Series*, a K-16 curriculum that introduces students to the world of work and other career information, broken down into two small components for grades 3-4 and grade 5. Other notable programs, though limited in research support, are programs such as *Project Grad*, *First Things First*, and *Believing the Dream*.

Discussion and Conclusion

It is evident that the early exposure to career awareness and interventions beginning at the elementary level is critical to the college and career readiness of students. Since career development involves a life-long process that begins during early childhood, there is a clear need for evidence-based college and career readiness interventions for elementary students. Since the formation of personal and career self-concepts occur at such an early age, proactive and intentional guidance to support the exploration of careers while building college expectations should be further explored. For elementary school counselors to help students develop an early college-going mindset, further research citing evidence-based outcomes is necessary. Several theories suggest the importance of helping students during the formation of self-concept, including helping students become aware of their strengths and limitations, an introduction to the world of work, gender role expectations and moving from the fantasy stage of career aspirations to the creation of aspirations based

on well-informed decisions (Ginzberg, 1952; Gottfredson, 1981; Havighurst, 1964; Super, 1990).

While the American School Counseling Association (ASCA), the College Board National Office for School Counselor Advocacy (NOSCA), and the National Career Development (NCDA) have provided helpful guidelines and strategies to assist elementary school counselors, limited outcome data exists. Existing strategies include the intentional collaboration between school counselors, teachers, and community partners to engage students in a variety of activities both in and out of the classroom. As the need for postsecondary education becomes even greater, early career interventions at the elementary level will become even more critical. Elementary school counselors are charged with a large, yet significant task, which serves as the impetus for all future college and career planning. As additional outcome data becomes available, elementary school counselors will be able to provide clearly established, evidence-based plans of action.

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Counseling Gifted Students: School-Based Considerations and Strategies

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Abstract
Gifted students are a heterogeneous group, inclusive of those of all cultures, backgrounds, interests, and achievements. Gifted students may not display any more or worse psychological, social, or developmental challenges than their peers, but they also are not immune from these challenges. Moreover, the nature of their giftedness may impact both how they experience a challenge and how a counselor might best support them. This article provides information regarding some developmental, emotional, and social challenges faced by gifted youth, as well as some suggestions for appropriate school-based counseling strategies.

Keywords: Counseling, gifted students, gifted and talented students.

Introduction

Counselors working in schools may primarily focus on students with below-average achievement, or who are at-risk for falling behind academically. Unfortunately, educators and counselors can overlook the developmental and emotional needs of gifted students, because these students are often meeting or exceeding educational expectations (Fisher & Kennedy, 2016). In this article, we will provide an overview of gifted youth, with a focus on the diversity that exists within this group. We will also review the potential risks and challenges faced by gifted students in schools, and the strategies that school-based counselors may consider when working with gifted students.

Giftedness is one of many aspects of diversity that a school team must consider when supporting any student. Other dimensions of diversity that impact a student's social, academic, and identity development include race, gender, socioeconomic status, and sexual orientation. As with each of these factors, a student's giftedness is a part of their identity, and a counselor should consider how a student's skills, talents, or abilities may be interacting with other factors in their life when evaluating problem situations or forming treatment plans (Cross & Cross, 2015). With the potential impact and interaction effects of giftedness in mind, counselors can tailor their treatment approaches to best meet the needs of this population of students (Fisher & Kennedy, 2016).

What is giftedness?

Across time and across the globe, there have been and continue to be many different definitions of giftedness and methods for identifying gifted individuals. Some refer to this population as gifted, others use gifted and talented, and still others may identify those with high ability (i.e., high IQ), high academic achievement, or who stand out for remarkable skills or accomplishments across other fields such as art or music. McClain and Pfeiffer (2012) provide a broad definition that covers these various aspects and attributes, describing this population as those who "exhibit outstanding intellectual ability, or promise, and are capable of extraordinary performance and accomplishment" (p. 59). Peterson (2015) describes gifted individuals as those with exceptionally high ability, "regardless of academic performance" (p. 153). Thus, Peterson is arguing that a framework for this definition should be inclusive of both those who have remarkable achievements, as well as those with the capacity to do so. Throughout this article, we will use the term gifted, but we will try to be as inclusive of the broadest possible group of gifted individuals in our coverage of relevant challenges and recommended strategies for supporting these students. Similarly, we encourage all counselors to broaden their view to include the possibility of giftedness as we describe it in any of the students that they work with.

Methods for the identification of gifted students vary widely across and within countries. For example, within the United States, there are no national criteria for giftedness, and students are identified as gifted in varying ways across the 50 States (Fisher & Kennedy, 2016). In Lebanon, little research has been conducted on both the period of adolescence (Ayyash-Abdo, 2007) or on gifted children (Saroupbim, 2009). The country lacks a formal system of education for gifted students, as the emphasis in the national school curriculum remains on mainstream education (Saroupbim, 2009). Conversely, in Israel, The Israeli Ministry's Division for Gifted and Talented Education is responsible for coordinating provision for gifted and talented children in the Israeli educational system and

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offers a variety of special programs for gifted and talented children nationwide (Zeidner & Shani-Zinovich, 2013). According to the current policy of the Israeli Ministry of Education, special educational programs are offered to individuals who are identified as scholastically gifted, based on overall scholastic achievements and cognitive ability tests performance. The nature of each program and the educational program are determined by the instructions issued by the division and by the policy and needs of the local authorities, as well as the program directors. Each program serves students from a specific magnet area in Israel (Peyser, 2005).

Historic and traditional methods of identification often rely on one method of measurement, often a cognitive assessment (i.e., IQ) and a cutoff score (e.g., upper 5th percentile, standard score of 120 or above)(McClain & Pfeiffer, 2012). This method can be problematic for a number of reasons. First, cognitive assessments, like all psychological assessments, inherently contain error. Scores from group administered cognitive assessments contain even more error than individually administered assessments (Hogan, 2015), meaning that the use of a cutoff score could miss a number of examinees whose true scores were masked by testing error. Other identification methods include multiple layers of testing, such as a 2-step process that involves cutoff scores for both cognitive and achievement tests, as is used in Israel (Zeidner & Shani-Zinovich, 2013). For example, Peterson and Lorimer (2011) describe an identification process that includes an IQ score of 2 or more standard deviations above the mean, as well as "commensurate" achievement as measured by test scores and grades (p. 169). Although these methods are more likely to capture more gifted students, reliance on standardized achievement scores will mean that students whose capacity is not yet realized will be missed, and will also exclude students with skills such as music, art, leadership, etc. Score-based methods are also likely to under-identify students with different cultural, economic, or circumstantial experiences (Peterson, 2015.

One of the greatest challenges in studying or working with gifted youth is the heterogeneity that exists within this group (Peterson, 2015; Reis & Renzulli, 2009). Given the breadth of the definitions that exist, as well as the concept that this group includes both those who have exhibited extraordinary achievements and those who have the capacity to do so, along with variability inherent in the fact that gifted individuals also vary on all other dimensions of diversity, it is almost overwhelming to try to provide broad guidance regarding the needs and challenges of gifted youth. In this article, while we are providing suggestions and commonly cited or researched phenomena, we also recognize that with a group this diverse, we are at best providing broad guidance to school-based counselors wishing to work with gifted students. We urge all professionals to carefully consider the unique complexities that make up every child they work with, and hope that the following information provides some useful considerations as they determine their needs and provide supports.

Risks and Challenges of Gifted Youth

A counselor's understanding of the unique challenges that gifted students are more likely to face than their peers must be taken into context with all else that is know about each child as an individual. Family history, educational and life experiences, social history, and cultural, racial, or ethnic background may each also play roles in the current challenges faced by any given client that is referred for counseling. To effectively serve this population, a counselor must be careful to not assume that challenges are due just from a student's status as gifted (Levy & Plucker, 2008), just as they should not assume that challenges are due just to any other factor of the student's identity. Rather, the student's unique development as a gifted person should be considered alongside what counselors know about other aspects of the student's identity, and counseling approaches may need to be tailored accordingly (Fisher & Kennedy, 2016).

By definition, giftedness is an asset, not a risk factor. However, gifted students face the same circumstantial, life, family, and social issues as all students (Bakar & Ishak, 2014; Zeidner & Shani-Zinovich, 2013). Like all students, they may experience pain, loss, anxiety, and depression. When considering risks and challenges that gifted youth might face, counselors should keep two factors in mind. First, counselors must be cognizant that the social, emotional, or developmental needs of gifted students may be overlooked by others, especially if that student is performing well academically (Aljughaiman & Tan, 2008). Second, a student's giftedness may interact with other risk factors and impact how students experience events or challenges (Cross & Cross, 2015). Giftedness in and of itself does not cause problems or distress in students, but understanding a student's giftedness can help a counselor to best understand that student's challenges and how to support them in overcoming them.

Risks and challenges found in gifted students include stress, anxiety, social difficulties, social isolation, and depression (Bakar & Ishak, 2014; Cross & Cross, 2015; Fisher & Kennedy, 2016; Levy & Plucker, 2008). Gifted students are also at risk for underachievement, which is hypothesized to be due to social or emotional factors, or a lack of challenge, support, motivation, or engagement (Reis & Renzulli, 2009). Further, there are several areas in which gifted students, in large part due to the very nature of their giftedness, may need great support for their social and emotional development. These include: perfectionism, academic anxiety, and asynchronous development (Fisher & Kennedy, 2016).

Counseling Recommendations for Gifted Students

In general, counseling approaches for working gifted youth are not qualitatively different than strategies used for all students. However, small adjustments may need to be made as students' needs and development are accounted for (Cross & Cross, 2015; Fisher & Kennedy, 2016), both when evaluating needs and determining areas for support, as well as in how counseling techniques are implemented. In other words, all qualified counselors already possess the core knowledge needed to work effectively with this population, but they might need to adjust their perspective and approach slightly to be most effective with gifted students.

Levy and Plucker (2008) recommend that competent counselors of gifted and talented client possess skills in three practical areas: 1) counseling and therapy skills; 2) consultation skills, and 3) advocacy skills. Other experts add that counselors working with gifted students should be able to teach stress management techniques and help to build social support networks (Reis & Renzulli, 2004; Rice, Leever, Christpoher, & Porter, 2006). Other resources that might be helpful with this population include mindfulness, meditation, deep breathing, progressive muscle relaxation, and guided imagery (Fisher & Kennedy, 2016).

As foundational approaches to all school-based counseling, we recommend that practitioners are familiar with Cognitive-behavioral therapy (CBT) and Solution-focused brief therapy (SFBT). Cognitive-behavioral therapy (CBT) is an evidence-based counseling approach built on the principle that feelings and behaviors are determined primarily by one's thoughts; they are cognitively mediated (Ronen, 2006). For further information on CBT, we recommend *Cognitive therapy for adolescents in school settings* (Creed, Reisweber, & Beck, 2011), *Child and adolescent therapy: Cognitive-behavioral procedures* (Kendall, 2011), and *Helping students overcome depression and anxiety: A practical guid*e (Merrell, 2008). Solution-focused brief therapy (SFBT) is a strength-based counseling approach that focuses on solutions as a way of re-conceptualizing and solving student's problems (Sklare, 2014). Solution-focused counseling works to expand the way a student thinks about problems and solutions by exploring any hints of variation and flexibility in the language of the student (Creed, Reisweber, & Beck, 2011). For further information on SFBT, we recommend *Solution-focused brief therapy: A handbook of evidence-based practice* (Franklin, Trepper, Gingerich, & McCollum, 2012), *Brief counseling that works: A solution-focused therapy approach for school counselors and other mental health professionals* (Sklare, 2014), *Solution-Focused counseling in schools* (Murphy, 2015) and *The power of groups: Solution-focused group counseling in schools* (Cooley, 2009).

Perfectionism and Academic Anxiety

Given that giftedness is often identified via exceptional achievement or ability, it is not uncommon for gifted students to spend proportionately more time and energy in their area of ability that their same-aged peers (Greenspon, 2014; Levy & Plucker, 2008). This intensity can manifest as perfectionism, or the need to strive toward perfection. Perfectionism is not unique to gifted individuals (Cross & Cross, 2015), but perfectionism has been a focus of research in gifted learners (Wang, Fu, & Rice, 2012). Perfectionism can be healthy or dysfunctional (Levy & Plucker, 2008; Reis & Renzulli, 2004; Rice, Leever, Christpoher, & Porter, 2006; Wang, Fu, & Rice, 2012), although the majority of the literature exploring perfectionism and gifted students focuses on dysfunctional perfectionism. Greenspon (2014) describes dysfunctional perfectionism as being characterized by intense anxiety, and as, "simultaneously a desire to be perfect and a fear of imperfection." (p. 988). There is a fine line between striving to reach high standards of excellence and feeling self-defeated through the inability to reach unrealistic expectations of perfection. When that line is crossed, the perfectionistic tendencies become disabling. In schools, perfectionism can lead to anxiety and underachievement (Cross & Cross, 2015; Greenspon, 2014; Pyryt, 2004).

Some scholars have cautioned that the focus on dysfunctional perfectionism within gifted populations may not be a global phenomenon. For example, Fong and Yuen (2014) found that within populations of gifted Chinese students, positive perfectionism was more likely than negative perfectionism. These authors speculated that the traits of perfectionism may be more adaptive in Chinese than Western cultures, and that perhaps the high expectations that are sometimes placed upon gifted students are perceived more positively by Chinese students than their Western peers. Fong and Yuen suggest that when perfectionism is the target of a counseling intervention, counselors should aim to help students minimize or cope with negative aspects but that the overall goal should not be to eliminate perfectionism altogether. Given the variety of findings regarding perfectionism's potential impact, pervasiveness within the population of gifted students, and potential cultural differences in presentation, counselors should be particularly cautious in interpreting perceived perfectionism.

There are two major concerns about perfectionism for gifted students: underachievement and emotional turmoil (Delisle & Galbraith, 2002). Although underachievement may seem asynchronous with the concept of giftedness, perfectionism can explain some underachievement in this population. Perfectionistic tendencies may lead gifted students to not submit work unless it is perfect, which may mean late work or work that is never submitted because it never meets the students' own expectations. As a result, they may receive poor or failing marks. In regard to emotional stress, perfectionism may cause feelings of worthlessness and depression when gifted individuals fail to live up to the unrealistic expectations they set for themselves (Pyryt, 2004). This has several implications for school-based mental health providers, namely the ability to identify perfectionism in gifted students as well as establish effective coping mechanisms/interventions for these students.

Counseling Strategies for Perfectionism. When framing interventions for perfectionism that is having a negative impact on students, it can be helpful to apply strategies, frameworks, and interventions that have been developed for anxiety. As with any intervention within a diverse population, no two gifted students' perfectionism or academic anxiety is going to manifest the same or be driven by the same thoughts, so interventions must always begin with taking the time to really get to know the student as an individual.

One way of looking at perfectionism from a CBT perspective is to break it down into the fundamental thoughts that perpetuate perfectionistic behaviors. Perfectionism can be viewed as a way of thinking or a way of thinking about one's self as they relate to the larger work. This is often attributed to a fear of failure, wherein a student comes to believe that if non-perfect performance is a failure, and that this failure is significantly

representative of who they are and how they are valued, both by themselves and by others (Greenspon, 2014). Mistakes are a natural and often beneficial part of the learning process, but from this perspective, perfectionistic students may have extremely negative or maladaptive reactions because they view failures as directly reflective of their value as a person (Greenspon, 2014). One aspect of perfectionistic thinking is *dichotomous (all-or-none) thinking*, wherein the student believes that a grade is either perfect or it is worthless. An additional component of perfectionistic thinking is *transforming desires (Wants) into demands (Musts)*. For example, a student who wants to do well on a test believes he or she must obtain a perfect score; otherwise they will view themselves as a failure. A third element of perfectionistic thinking is *focusing on unmet goals and challenges* rather than savoring successes. A student who gets a score of nine out of ten on an assignment dwells on the one missed point, rather than focusing on the overall high grade they received (Parker, 2000).

Considering the profound impact these thoughts have on how a student feels and behaves, the cognitive model works with the student to bring these thoughts to the surface and actively evaluate them (Creed, Reisweber, & Beck, 2011). Thoughts that are helpful to the student are strengthened, whereas thoughts that are distorted or unhelpful are modified. The ongoing cycle depicting the ways in which feelings, thoughts, and behavior in a situation are related to each other can be exemplified by the example of a student who struggles with perfectionism. a B on an exam (triggering event), which leads the student to think, "I am a failure" (thought), feeling ashamed and anxious (feeling), and experiencing a panic attack (physical response). In this case, CBT aims to intervene in order to alter this cycle and create a more desirable outcome. It might begin by teaching the student relaxation techniques to manage the physical response; teaching the student how to identify his or her unhelpful automatic thoughts and counteract them with more helpful ones; and helping the student see himself or herself through a less critical lens (Fisher & Kennedy, 2016). CBT can help to reframe the dichotomous (all-or-none) thinking that is typically characteristic of students struggling with perfectionism into a more accurate and healthy thought pattern (Pyryt, 2004).

A Solution-focused (SFBT) approach can also be helpful in addressing perfectionism. If a student's belief is that "If I do not receive an A it is the end of the world," SFBT can invite the student to consider broader ways of thinking about problems and solutions by encouraging them to focus on their strengths. For example, if the student received a 9 out of 10 on one test, they are encouraged to focus on the 9 questions they got right rather than the one they got wrong. Further, similar to CBT, solution-focused counseling can reduce dichotomous (all-or-none) thinking by cultivating a more realistic thought pattern. Considering many students with perfectionism tend to place their worth on their performance, solution-focused counseling aims to expand the student's self identity by separating the student from their problem (Murphy, 2015).

Other counseling strategies for coming with the anxiety associated with perfectionism include relaxation strategies, skill building, and guiding students through real or imaginary failures in a safe way (Cross & Cross, 2015; Goetz, Preckel, Zeidner, & Schleyer, 2008). Skill building can include teaching study or test-taking skills (Goetz et al., 2008). Counselors and other professionals working with gifted youth in educational settings accidently overlook the need for these skills in gifted youth when a student has displayed a pattern of high achievement. However, as students progress in school and are increasingly challenged, it may be that a gifted student who is not used to experiencing failure or frustration in learning is finally facing a skill, subject, or lesson that for the first time might require the study or test-taking skills that most students have either naturally developed or been taught over the course of their educational careers (Bakar & Ishak, 2014; Reis & Renzulli, 2009). Students can be taught to simultaneously work on these strategies as well as an overall self-awareness of when periods of stress are likely to be more intense for them (e.g., when exams are scheduled) (Rice, Leever, Christpoher, & Porter, 2006).

Other Academic Anxiety

Outside of and in addition to perfectionism, gifted students may become anxious when faced with academic tasks such as test taking, to the point at which the anxiety becomes so overwhelming that it significantly interferes with their performance. Being barraged with anxious thoughts while trying to complete academic tasks is a negative form of multi-tasking and taxes working memory (Beilock & Willingham, 2014). Anxious thoughts divert attention and thus degrade student performance, which can be especially prevalent in gifted students who exhibit perfectionistic thinking (Cassady & Johnson, 2002). Recent research has examined the effectiveness of expressive writing in reducing anxiety among students.

Academic and performance-based anxiety in gifted students may be impacted by academic settings. When gifted students are in programs with only other gifted students, comparisons with their peers may shift, such that the student is no longer the highest achiever in his or her class. In gifted-centered classes or programs, gifted students may even have a heightened awareness of the achievement of their peers and how it compares with their own (Wang, Fu, & Rice, 2012), and these students tend to exhibit higher levels of anxiety reasons for anxieity in this population: competition with other gifted students, real or perceived pressures for success or achievement placed upon them by others (Aljughaiman & Tan, 2008; Goetz et. al., 2008; Zeidner & Schleyer, 1999).

Counseling Strategies for Other Academic Anxiety. Recent research has examined the effectiveness of expressive writing (e.g., providing students with a few minutes to write about their feelings or about how they feel about their performance prior to a particular academic task, such as a test) in reducing academic anxiety among students. Park et al. (2014) propose that expressive writing helps to improve the performance of anxious students because it lessens the likelihood that math-related worries will capture attention during the task. Other authors suggest that writing about performance worries may free up working

memory resources to help students better identify, differentiate, and understand their emotional experience (Gohm & Clore, 2000), which can lead to the use of more effective emotion-regulation strategies during the test (Schmeichel & Demaree, 2010).

Other counseling techniques designed for anxiety may also be effective in supporting gifted students through academic anxiety. Techniques focused on relaxation, such as meditation or progressive muscle relaxation strategies may be helpful (Fisher & Kennedy, 2016), especially when students are taught these skills and how to self-implement relaxation when they are anxious (e.g., before or during an exam). When working with gifted youth regarding relaxation strategies, it may be beneficial to engage students on a cognitive level. For example, counselors could work with students to research the efficacy of these strategies, or encourage students to teach these strategies to others as a way to learn them better themselves (Kennedy & Fisher, 2016). From a CBT perspective (e.g., Creed, Reisweber, & Beck, 2011), counselors may work with students to identify and challenge negative or all-or-nothing thoughts regarding exams and their performance that fuel anxiety. For example, a student may have thoughts such as, "If I don't score in the top of the class it means I am not smart," or "my classmates are smarter than me, therefore there is no way that I can perform well on this test." A counselor could help a student to identify and challenge the evidence for and accuracy of these statements, as well as to develop more positive self-talk.

Asynchronous Development

One of the challenges that gifted youth may face involves asynchronous development, which describes the concept that gifted youth are likely to be developmentally advanced in some areas, but not all (Cross & Cross, 2015; Reis & Renzulli, 2004; Zeidner & Schleyer, 1999; Zeidner & Shani-Zinovich, 2013). For example, a gifted student may have extremely advanced skills in one area, such as verbal abilities, but have typically developing skills in areas such as social and emotional development. This can cause stress, anxiety, and social challenges.

Zeidner and Schleyer (1999) describe how asynchronous development may result in school-based test or performance anxiety in gifted students, as they may be more anxious over academic situations because they more deeply understand the implications of their performance than their peers. Cross and Cross (2015) describe how a gifted student may have fears or anxiety regarding facts or issues that his or her peers are unaware, such as when a gifted student's interest and ability leads her to read books that are designed for students who are older and more emotionally mature that she is. For example, a 7 year-old student may have the language skills to read novels typically assigned to secondary students, but that doesn't mean that this student would be emotionally ready to cope with the content of Dostoevsky's Crime and Punishment. Alternately, although many young children are interested in learning about dinosaurs, a gifted young child may ready about their deaths and be emotionally devastated by the permanence of those losses and the possibility that such a global catastrophe could happen to them. In many ways, the adults involved in a gifted student's personal and educational lives must be aware that even when a student is capable of reading or accessing certain advanced information, they may still have age-appropriate abilities to cope with the emotions or fears that may arise from that knowledge (Reis & Renzulli, 2004).

Other authors have noted that asynchronous development may have an impact on a gifted student's social development and social relationships (e.g., Bakar & Ishak, 2014; Cross & Cross, 2015; Reis & Renzulli, 2004). For example, some gifted students may have interests, fears, or other emotions that are more in line with older rather than their same-aged peers, and these difference may place a strain on relationships with classmates. Gifted students may be more socially mature than their peers, which might similarly inhibit social relationships or lead students to deny or hide giftedness or achievement levels for social reasons (Reis & Renzulli, 2004). Children and adolescents don't always enjoy being different; students may feel isolated or be teased, bullied, or ashamed for a near endless list of ways in which they can stand out as being different (e.g., being exceptionally tall, having a physical disability, having an incarcerated parent, being from a minority culture or religion, etc.). Giftedness is no exception to this list, and some gifted students may seek to avoid, hide, or minimize their abilities in order to be more like their peers (Cross & Cross, 2015).

Counseling Strategies and Supports for Asynchronous Development. Depending upon how asynchronous development may be impacting a student, a counselor has a variety of ways to provide support. If a child is experiencing anxiety due to learning or understanding a concept that is above their emotional maturity level, using psychoeducation to teach coping strategies may be beneficial. Self talk and other calming strategies would also be useful (Kennedy & Fisher, 2016). Educating the adults in a gifted student's life can also help them to understand the concepts of asynchronous development, and to be cognizant that just because a student has the ability to cognitively grasp certain information, they may not have the emotional capacity to cope with it without support.

Group counseling interventions, tailored to the needs of gifted youth, can help students cope with social challenges associated with giftedness and/or asynchronous development, and there are many available social skills and friendship skills curricula that may be appropriate for use with gifted students in individual or group settings (Fisher & Kennedy, 2016; Reis & Renzulli, 2004). Counseling groups that include other gifted students can be a unique experience for gifted students who are used to being different from their classmates when it comes to abilities, accomplishments, or interests (Peterson, 2014). Such interventions could help students to build social networks by introducing other students with similar abilities or differences.

When selecting and utilizing programs for any counseling group, the relevance of the content and activities needs to be carefully reviewed and if necessary tailored to the needs of the students involved, and this step is especially important when considering group interventions for gifted students (Fisher & Kennedy, 2016). Peterson and Lorimer

(2011) describe a small group curriculum designed to meet the social and emotional needs of gifted students. Topics covered in this group intervention included personal and interpersonal skills (e.g., feelings, competitiveness, isolation, stress), academic and learning skills (e.g., time management, study skills, procrastination, perfectionism), and general skills (e.g., diversity, gender differences and stereotypes, career development). Reis and Renzulli (2004) suggest that counseling could be used to help students learn about other gifted individuals, thus helping students to better understand their own development as well as learn that there are others that have similar gifts and challenges. These authors suggest counseling activities such as reading biographies or watching films about gifted people may help inspire or encourage youth (Reis & Renzulli, 2004), which can be done in individual or group settings.

Another method for supporting gifted students who may be experiencing social challenges due to asynchronous development is to guide students through a study of social development and social behaviors (Fisher & Kennedy, 2015). In this approach, a counselor could function as a guide or coach, supporting students as they observe and report their findings regarding social phenomena, much as an anthropologist might do. For example, a student who is having trouble with peers because he or she has many interests that are not shared by his or her classmates may wish to learn more about the topics that his or peers find interesting or cool. The student and counselor could work together to discover what these might be, then the counselor could use further counseling sessions to help the student role play some age-appropriate conversation topics.

Conclusion

Gifted youth represent an exciting and challenging population for those providing mental health and other support services in school settings. The experiences, abilities, needs, and challenges of these students are as diverse as the students themselves. However, research on gifted students provides counselors with guidance regarding factors to consider and ideas regarding counseling strategies that may be effective in meeting the needs of these students. Above all, counselors should be cognizant that giftedness is one aspect of a student. It is not more or less important than all of the other factors that make that student who he or she is, but should always be taken into consideration when decisions are made on how to best support that student in times of need.

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Evidence-Based Practices in The Public School: The Role of Preservice Teacher Training

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Abstract
In the last twenty years, the educational system has seen a drastic increase in the number of individuals served under the category of autism spectrum disorder (ASD); which has led to an emphasis on ways in which to meet the needs of this multifaceted group of students. Although evidence-based practices (EBPs) have been identified for this population, research suggests teachers report having only moderate levels of confidence in their ability to implement these EBPs. The purpose of this review of the literature is to identify ways in which public school teachers determine the interventions used to meet the IEP goals of students with ASD, the efficacy of the chosen interventions, and the ways in which teacher preparation can be improved to ensure teachers are better able to identify and implement appropriate EBPs. Findings suggest an emphasis on coursework, and fieldwork specifically related to meeting the needs of students with ASD, should be addressed in preservice teacher training programs.

Keywords: Autism Spectrum Disorder; evidence-based practices; preservice teacher training.

Introduction

Over the last two decades in the United States' educational system, there has been a drastic increase in the number of students classified under the category of Autism Spectrum Disorder (ASD). Under the Individuals with Disabilities Education Improvement Act (IDEIA, 2004), ASD is defined as a developmental disorder, typically evident before the age of 3, which impacts verbal and non-verbal communication and social interaction. Additional characteristics that adversely affect the child's educational performance are resistance to change in routine, engaging in restrictive and repetitive behavior, and unusual sensory response. The past 20 years has seen an increase in the prevalence of ASD, which has reached 1 in 68 nationally (CDC; Center for Disease Control and Prevention, 2016). In addition, the United States Department of Education has reported similar findings with an increase in individuals eligible for services under ASD from 3.29% percent of the special education population in 2005 to 7.02% percent in 2011. In New Jersey, the CDC (2016) estimates 1 in 45 children (or 21.9 per 1,000 8-year-olds) was identified with ASD. This estimate is higher than the average number of children identified with ASD in all areas of the United States where CDC tracks ASD. With this reported rise in autism prevalence within the school system, the need for research to become more focused on ways in which to meet the various needs of this diverse population of students has also intensified; especially in light of findings indicating that students with ASD are struggling in areas related to academics, social skills, communication, behavior, and self-determination (Carter Lane, Cooney, Weir, Moss, & Machalicek, 2013).

One area related to meeting student need is practitioner implementation of evidence-based practices (EBPs) within the school system. Wong et al. (2015) identified 27 EBPs from the literature (See table 1) that could be utilized to teach various skills and concepts to individuals with ASD. Although these 27 EBPs have been clearly identified, integration of these practices into the school system have been minimal (Iovannone, Dunlap, Huber, & Kincaid, 2003). This is educationally problematic because research has indicated that the utilization of EBPs has led to significant improvements in skill acquisition and behavior reduction when these practices are implemented with fidelity (Simpson, McKee, Teeter, & Beytien, 2007). Thus, student educational progress is negatively impacted when these research-based practices are not utilized within student programming.

The focus of this review is to delineate ways in which pre-service teacher training can support the implementation of EBPs, with fidelity, in the school setting. The review further seeks to address information pertaining to teachers use of evidence-based practices in the classroom and ways in which preservice teacher training programs can increase teacher preparedness to better meet the needs of students with ASD.

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Table 1. *Wong et al. (2015) 27 Evidence-based Practices*

1.	Antecedent based-interventions	15.	Prompting
2.	Cognitive behavioral therapy	16.	Reinforcement
3.	Differential reinforcement of alternative, incompatible, or other behavior	17.	Response interruption/redirection
4.	Discrete trial teaching	18.	Scripting
5.	Exercise	19.	Self-management
6.	Extinction	20.	Social narratives
7.	Functional behavior assessment	21.	Social skills training
8.	Functional communication training	22.	Structured play group
9.	Modeling	23.	Task analysis
10.	Naturalistic intervention	24.	Technology-aided instruction and intervention
11.	Parent-implemented intervention	25.	Time delay
12.	Peer-mediated instruction and intervention	26.	Video modeling
13.	Picture exchange communication systems (PECS)	27.	Visual supports
14.	Pivotal response training		

Teacher knowledge of autism and evidence-based practices

Evidence-based practices are interventions that have considerable corroboration in the literature supporting positive outcomes for learners with ASD. The currently identified 27-EBPs can be divided into four categories including: interventions based on the fundamental science of applied behavior analysis (ABA), interventions in which the way they are delivered define the practice, interventions based on assessment and analytic techniques, and behavioral practices that, when used systematically, can be replicated (Wong et al., 2015). These EBPs are also divided by age spans (0-5, 6-14, 15-22); which identify the age in which there is support for their use, as well as, skills that can be addressed utilizing each EBP (ie. social, communication, behavior, play, joint attention, cognitive, school readiness, academic, motor, adaptive, vocational, and mental health). If one looks at the legislation for IDEIA (2004) and No Child Left Behind (NCLB, 2001), it specifically states that teachers are required to utilize scientifically based strategies to meet the needs of students with disabilities. However, research has indicated educators do not consistently use EBPs in the classroom (Hess, Morrier, Heflin, & Ivey, 2008). In a study by Morrier, Hess, and Heflin (2010), fewer than 5% of teachers reported using EBPs for students with ASD. This means that even when teachers did report using EBPs, they also indicated using ineffective practices, and often practices with little empirical support. In fact, teachers have reported using ineffective strategies as frequently as those with a strong research base (Burns & Ysseldyke, 2009).

After further examination, it becomes clear that the successful education of students with ASD is dependent on the teaching skills of the educators working with them (Leblanc, Ricciardi, & Luiselli, 2005). When discussing teacher preparedness to teach students with ASD, one of the more complex issues facing the field of education, is training teachers to identify and implement EBPs for this population of students (Simpson, de Boer-Ott, & Smith-Myles, 2003). Training future teachers in this area will provide them with the skills necessary to make informed educational decisions. Because students with ASD are a heterogeneous group, and have unique educational needs, this will be a more challenging task for teacher education preparation programs (McGee & Morrier, 2005; Simpson & Myles, 1998). Although potentially difficult, providing training in this specific set of skills is imperative because the classroom is where students with ASD receive most of their treatment (Sindelar, Brownell, & Billingsley, 2010). In order for the treatment to be operative, teachers need to be able to implement the most effective interventions. The question that is raised for teacher education preparation programs is how to address the overall deficit in teacher understanding of EBPs, acceptance of these practices, and use of components of programming that are essential for student success (Callahan, Henson, & Cowan, 2008).

As one further investigates this dilemma, several potential reasons why scientifically validated interventions are not utilized in the classroom emerge. One reason could be teacher lack of understanding of the core deficits associated with autism and/or outdated beliefs about the disability (Al-Sharbati et al., 2015). Whaley (2002) found that some teachers did have good general knowledge about ASD, but lacked training related to research based methods that should be used in the classroom. This could lead to these practices being used at low levels, in part, due to not only a deficiency in research based methods training in general, but also a lack of knowledge about which interventions have been identified as evidence-based. Further, when current EBPs are able to be identified, there is the inability to implement these interventions with fidelity. Teachers sometimes view these strategies as not fitting with the interventions already in use within the classroom (Lang et al., 2010), leading to a lack of implementation.

Additional factors that influence application of EBPs include lack of professional development and interaction with a variety of learners (Odom, Boyd, Hall, & Hume, 2010). Public school educators currently report receiving inadequate training in EBPs and not feeling they have the ability to meet the needs of this group of students (Jennett, Harris, & Mesibov, 2003). They also report the training they receive is most frequently provided in professional development one day workshops, through trial and error

while working hands on with students with ASD, or by teaching themselves (Morrier, Hess, & Heflin, 2010). Educators teaching themselves, and having no formal training, typically leads to a lack of implementation fidelity. It can also lead to disregarding core components of specific interventions necessary to correctly utilize these practices (Odom, 2009). There is also evidence to indicate that the most common forms of professional development, including one-day workshops, have limited impact on practitioner ability to implement these interventions (Hall, Grundon, Pope, & Romero, 2010). In addition, once teachers begin working in the public-school system, constraints such as budget and personnel have been identified as road blocks to creating a comprehensive autism program (Callahan et al., 2008). Districts have also sited lack of access to qualified individuals, who specialize in working with students with ASD, to provide in-service teacher training (Lang et al., 2010). All of these points emphasize the need for follow up within the classroom to ensure interventions are being implemented with fidelity as an essential component of effective teacher training (Simosen, Myers, & DeLuca, 2013). One result of public schools being unable to provide the necessary teacher training once they are in the field, due to the professional development limitations and budget constraints, is lack of additional training specific to students with ASD once pre-service teachers enter the field. Therefore, there needs to be a shift in the model for preservice teacher training programs to focus more on preparation of teachers to work with students with ASD, and the use of EBPs, to bridge the gap between research focused on identification of EBPs and positive student outcomes in the classroom (Greenwood & Maheady, 1997).

Preservice teacher training

The National Research Council (2001) reported that most educators graduate from preservice teacher training programs receiving minimal training in evidence-based research practices (i.e., methodologies grounded in ABA) for students diagnosed with autism. This is one of the most needed areas of improvement within higher education. Credential programs training special education teachers often do not teach educators how to meet the needs of students with ASD (Holdheide & Reschly, 2008) because they focus on special education practices that can be used for a broader population, and not specifically for individuals with autism (Williams, Fan, & Goodman, 2010). Special education licensure requirements are also not consistent from state to state leading to varying levels of knowledge for teacher candidates in the area related to meeting the needs of students with autism. This leaves educators unprepared to successfully meet the needs of students with ASD (Suhrheinrich, 2011). This lack of preparation also places teachers at a disadvantage because all teachers, in special and general education, will most likely have a student with ASD in their classroom and they need to be well versed in strategies to meet their unique needs (Loiacono & Valenti, 2010).

Even though the field, as a whole, is not meeting teacher needs related to training in ASD, there has been an increase in the development of teacher training programs, specifically related to teaching students with ASD. Barnhill, Polloway, and Sumutka (2011) conducted a survey of 87 institutes of higher education, across 43 states, in order to determine the number of teacher training programs focused on meeting the needs of students with ASD, the specific topics of focus within these programs, and the emphasis of autism specific coursework. They found that there was an increase in the development, and application, of teacher preparation programs focusing on ASD, however, the topics covered in these programs vary greatly, in part, because there are few states providing guidance as to the requirements for licensure. Many states are providing non-categorical certification and training with no explicit emphasis or licensure provided for specific disabilities (Scheuermann, Webber, Boutot, & Goodwin, 2003). These findings suggest the need for consistency between programs in order to prepare teachers to work with students with ASD upon graduation from teacher preparation programs. This preparation can be accomplished with a combination of university coursework and hands-on training in the clinical placements working with students with ASD.

Preservice teacher training has a direct impact on a teacher's ability to meet the needs of students in the classroom. In order to more readily prepare teachers to work with students with ASD, colleges and universities can replace 1-2 generic education courses with an autism specific course or two. This change would effectively increase teacher knowledge of the disorder and ways in which to better meet student needs (Scheuermann et al., 2003). The research of Callahan, Henson, and Cowan (2008) suggests that the development of an ideal autism program includes training preservice educators in creating individualized programs to address the needs of each student, collecting data in order to make data based decisions for skill acquisition and behavior reduction programming, utilization of EBPs, a focus on maintaining and generalizing skills, and collaboration with a multidisciplinary team. These skills can be taught by using effective methods already in place, such as the application of knowledge of EBPs with individuals with autism, and submission of video with candidates demonstrating the use of an EBP that can be reviewed and conferenced with a mentor (Hall, 2014). The feedback provided from a mentor, while reviewing the video, is an integral component required for teachers to understand how to implement EBPs with fidelity. Research also supports the idea that undergraduate candidates be required to take course work related to ABA, as many EBPs are based on these scientific principles (Wong et al., 2015). The findings of Loiacono and Valenti (2010) further suggest that teachers should gain knowledge related to ABA throughout their coursework because these intervention methodologies are not only beneficial when working with students with ASD, but also when working with students with other disabilities as well. These suggested changes in teacher preparation training programs would provide a cadre of trained professionals to enter the work force knowledgeable of how best to use, with fidelity, the EBPs in classrooms with students with ASD.

Looking at the identified needs within the public school, when special education directors were asked to identify essential skills teachers would need to work with students

with ASD, they included knowledge of characteristics of autism, behavior management, and knowledge as to how to develop communication skills (Hart & Malian, 2013). Training in the field also needs to be provided on all aspects of EBPs being implemented, including preparing and concluding sessions, and not just focus on the technical aspects of the intervention (Downs & Downs, 2012). In addition, teachers should learn how to make instructional decisions that lead to student skill acquisition and behavior reduction (Vince Garland, Holden, & Garland, 2016). These topics could be addressed within autism specific coursework at the undergraduate level providing teachers with an array of strategies which can be used in the classroom, in addition to, field experiences working with students with ASD to apply this content knowledge.

McGee and Morrier (2005) recommended a combination of education in fundamental content related to the diverse needs of students with ASD and working directly with students with ASD to apply the knowledge learned in the classroom. Individuals who received training in effective interventions for students with ASD, in addition to, engaging in fieldwork experiences working with students with ASD had higher levels of knowledge than individuals who did not have these experiences (Sanz-Cervera, Fernandez-Andres, Pastor-Cerezuela, & Tarraga-Minguez, 2017). Thus, coursework pertaining to the utilization of EBPs, accompanied with the opportunity to work with students with autism to implement these practices, is essential in order to prepare pre-service teachers to successfully work with this population.

When training teachers in the university classroom, and then assisting them to successfully implement these practices in the school setting with students with autism, Ruef, Nefdt, Openden, Elmensdorp, Harris, and Robinson (2009) utilized didactic training, followed by videotaped sessions and weekly feedback, in a collaborative school and university model. This model included individuals working directly with students in the public-school, video-taping themselves, and meeting with university graduate students, who had received training in EBPs, to obtain feedback related to implementation. The ability to work hands-on with students with ASD reiterated information provided within university coursework including identifying from the literature, and implementing, research-based strategies, and collecting data to monitor progress and make data based decisions.

In addition to providing feedback from videos, performance feedback has also been successful in training teachers to implement EBPs within the classroom (Fixsen, Blase, Naoom, & Wallace, 2009; McHugh & Barlow, 2010; Suhrheinrich, 2011). Performance feedback includes an observation of the pre-service teacher implementing an intervention in an applied setting, followed by behavior specific feedback (Solomon, Klien, & Politylo, 2012). The purpose of performance feedback is to increase treatment integrity, or the degree to which all core intervention components are implemented correctly (Noell, Witt, LaFleur, Mortenson, Ranier, & LeVille, 2000). When Solomon et al. (2012) completed a meta-analysis related to the effectiveness of performance feedback, they found that there were significant behavioral changes noted regardless of setting, dependent variable, the delay between observation and feedback (immediate vs. next day), or intervention of focus when this method was used. They also found it was effective in all grade levels, from preschool to high school. These findings support the use of performance feedback as an easy-to use strategy, that increases teacher treatment integrity. This strategy could be incorporated in lieu of, or in addition to, video-based feedback in university training programs depending on the ability of the university to provide these services.

In addition to the need for university programs to become more involved in teacher training specific to ASD, Hart and Millian (2013) provided suggestions from qualitative data collected from special education directors focusing on the role of university preparation programs. Respondents indicated that higher education programs could support teacher preparedness by:

- Requiring general and special education teacher candidates to complete fieldwork, and take more courses focused on preparation for, working with students with ASD.
- Providing teacher candidates with specific training in management of problem behavior, determination, and implementation, of accommodations and modifications, and advocacy.
- Supporting practicing teachers once in the field by utilizing in class consultation, online, and webcasts.

Based on the suggestions from the literature as to the content which would be most beneficial to prepare preservice teachers to work with students with ASD, some recommendations for University undergraduate programs include the following: replace one or two generic education courses with autism specific coursework (Scheuermann et al., 2003) and require field experiences working directly with students with ASD (Sanz-Cervera et al., 2017). Within this coursework, address the unique needs and heterogeneous nature of students with ASD. There should also be an emphasis during courses on the principles of ABA and identification of EBPs (Loiacono, & Valenti, 2010). This information is important to include as many of the current EBPs utilize the science of ABA and teachers need to be able to determine appropriate EBPs to meet student goals, as well as, have the ability to implement these interventions with fidelity. Knowledge of ABA will also provide important foundational knowledge necessary for teachers to meet these requirements.

In order to address the fieldwork component, preservice teachers should be required to observe model programs which effectively work with students with ASD. They should also work with students with ASD and implement EBPs (Hall, 2014). This can be accomplished by embracing competency training with performance feedback (Fixsen et al., 2009, McHugh & Barlow, 2010; Suhrheinrich, 2011). The fieldwork component will lead to greater preservice teacher understanding as to how to utilize EBPs for student goal attainment. It will also assist in increasing treatment integrity of EBPs.

Although the information within this review is not all inclusive, information from the literature supports the

need for more training specific to working with students with ASD for all preservice teachers. University coursework needs to provide foundational knowledge related to the core deficits associated with ASD, accommodations and modifications which can be used to support this population, ways in which to identify EBPs most effective in meeting the needs of these students, and knowledge on how to evaluate the effectiveness of such programming. Looking at it from the lens of a teacher, the learning of the above skills would provide the future teacher with knowledge of EBPs related to social skills, communication, behavior, play, joint attention, cognition, school readiness, academics, motor, adaptive, vocational, and mental health; for school age students (Wong et al., 2015). This instructional knowledge, and practical field experience, would incorporate all of the identified areas within this review and would prepare teachers to instruct students with ASD with methods that are research based, and implemented with fidelity. It will also allow teachers to be in accordance with the educational mandates established at the state and federal levels. Future classrooms will then provide opportunities for students with ASD to learn from teachers who are knowledgeable of the EBPs and can accommodate and modify in an educational setting to maximize the unique abilities of each child with ASD.

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Use of Communication and Technology among Educational Professionals and Families

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Abstract
This study explored the perspectives of elementary school families and their preferences in communicating with their child's teacher. The researchers utilized an online survey method which was distributed to the families of one elementary school. Survey questions included areas of communication patterns, perceptions, and advice for improvement regarding communication between teachers and families. Results conclude that there are some discrepancies between family and teacher communication expectations. The intended purposes of these findings are to apply communication methods between stakeholders and families to potentially improve communication methods in schools.

Keywords: Communication, technology, education, teachers, school counselors, families

Introduction

Within an educational setting, effective communication serves as an integral contribution to the academic, social, and emotional success of students. Communication among educators, students, families, and other educational personnel should be analyzed and reviewed periodically to note the effectiveness of the communication. Although there are several mediums for communication between families and educational personnel, they often include the use of technology such as emails, or typical traditional methods such as notes sent home. Ultimately, families feel the need to be connected with their child's educational experience and often seek educators on how to best support students (Currie-Rubin & Smith, 2014). In order to facilitate the best educational experience for students, it is imperative to understand the different perspectives the various stakeholders have regarding communication patterns and methods that families are most comfortable communicating through.

Literature Review

Communication is an essential part of the daily lives of families, educational personnel, and students across all grade levels. According to Nwogbaga, Nwankwo, and Onwa (2015), "communication refers to the process of exchanging information between or among individuals, groups, institutions, and/or organizations in oral, written, or signed forms through any available media" (p. 33). Through effective communication, which includes verbal and non-verbal communication methods, teams have the potential to collaborate in order to meet a goal or complete a project efficiently (Sharma & Sharma, 2014). Several skills contribute to the effectiveness of communication. Some include clarity, empathy, active listening, and conciseness when communicating a message (Sharma & Sharma, 2014). Communication serves many purposes within personal and professional relationships.

Additionally, through formal and informal communication experiences, teams become more comfortable with one another and build a significant rapport which, in turn, can have a positive effect on meeting the overall goal. Small talk, or "phatic communication" (p. 218), surrounds general or personal topics and has the potential to build the most rapport with individuals with a common goal, even though it is not directly related to meeting those overarching goals (Placencia, 2004). This small talk is particularly designed to meet our social needs to build a relationship (Nwogbaga, Nwankwo, & Onwa, 2015). According to Pratt, Imbody, Wolf, and Patterson (2017), emphasizing communication regarding personal and professional topics to build bonds between professionals not only benefits professional communication within that team to meet desired outcomes, but it also benefits the surrounding environment, such as a school setting. Building rapport is particularly important in an educational setting because educators and other school personnel are often working to meet the needs of students and their families simultaneously.

In order to build significant rapport, face to face communication, both formal and informal, is unnecessary for every encounter, however, each should be utilized throughout a given project. Rapport can also be built through the use of technology. Technology has had a significant impact on the way society communicates and has, overall, changed communication expectations. In

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order to implement a method of communicating through technology, it is important to have all stakeholders fluidly trained in the communication method to be effective (Sharma & Sharma, 2014). Each individual taking part in the communication should understand the uses, advantages, and disadvantages of the tool being used. Although there is still significant value held in face-to-face communication, technological advances in the realm of communication have eliminated constraints such as time and space (Yumurtaci, 2017). Stakeholders now have the ability to respond quickly via email, text message, online portal, or discussion boards. The ability for quick responses creates an expectation of efficiency. Communication through technology has clear advantages; however, a piece of communication that is lost virtually is the non-verbal aspect which can affect the reception or tone of the message being sent. Yumurtachi (2017) suggests that technological communication is best used when in conjunction with in person communication at the agreed upon discretion of each stakeholder.

Educational Team Communication

Effective communication strategies are not only important when considering the accomplishment of reaching professional goals, but they are also necessary within functioning educational teams. Educational teams are vital to the success of school functioning and students' academic and social fulfillment. Educational personnel teams include families, general education teachers, special education teachers, school counselors, administrators, related service professionals, and others who contribute to overall school functioning. It is imperative that there is fluid communication within this team to ensure a positive and fluid environment. Research has shown that teams with exceptionally high performances exchange information frequently and feel comfortable providing communication to their teammates (Butchibabu, Sparano-Huiban, Sonenberg, & Shah, 2016). Through the exchange of messages, members of the educational team can relay positive information or concerns that likely affect a student's functioning outside the scope of their respective professional view of the student. The effective use of teams in an educational setting provides systematic, holistic support for students (Mahoney, Lafferty, & Nutter, 2003). This system acts as a safety net to maintain a student's positive outlook on the educational environment.

Beyond the overall school functioning, educational teams can engage in the same professional development programming in order to be comfortable using the same educational jargon while communicating and have the same message overall (Lindeman & Magiera, 2014). This method ensures that there are no team members who are unfamiliar with the terms being used and the reasoning behind the choices being made within a school. Considering the varying professional and educational backgrounds an educational team has, specifically regarding teachers and school counselors, there is a significant amount to learn from one another and each brings different experiences as well as knowledge (Rice & Smith, 1993). Consultation within the various disciplines is to be expected in educational collaboration (Tatar, 2009). According to Tatar (2009), advice or information within respective disciplines in education should be encouraged and "well-received" (p. 122) when working towards a goal in education. In order to effectively work as an educational unit, it is important for each professional to identify and define his or her role and responsibilities within the group (Dagenais, Pinard, St-Pierre, Briand-Lamarche, Cantave, & Péladeau, 2016). Overall, when working in educational teams it is important to keep student success at the forefront of communication regardless of professional objectives.

Teachers Communicating with Families

When considering communication between teachers and families, it is imperative to realize the overlying goal of both stakeholders to educate and socialize the student between the home and school settings (Vickers & Minke, 1995). Traditionally, teachers communicate with families regarding classroom updates, student grades, assignments, or behavioral concerns regarding the student (Kosaretskii & Chernyshova, 2013). Communication methods can include emails, letters home, phone calls, or even text messages depending on the teacher or family's preference. Traditional methods for teachers when communicating with families, have been through the use of bulletin boards, notes sent home, or in-person meetings. These methods are becoming less effective as technology continues to advance (Kosaretskii & Chernyshova, 2013). Both teachers and families are relying more heavily on using technology in order to communicate effectively. Using technology has the ability to build connectedness from the family to the school since communication can be instant. Communication from the perspective of the teachers are likely to include mass-messages that go out classwide unless directly relevant to one particular student, while families communicate through technology typically to gain information regarding their child (Kosaretskii & Chernyshova, 2013). Teachers and families should, ideally, be communicating through dynamic means rather than one-sided.

However, issues such as access and understanding come into concern when using technology to communicate with families. Another issue with teachers communicating with families through technology is that there may be a misperception of tone within the message (Kosaretskii & Chernyshova, 2013). Technological communications are often quick and direct, and can be perceived as negative. It is important for teachers to utilize the appropriate method, or channel, of communication when reaching out to, or responding to, families. As educators, being accessible through various forms of communication lines is important to reach families where they are socially, from a technological sense, and individual needs is important for student success as well as positive rapport with the student's family.

Ultimately, effective communication between educational professionals and families serve as a fundamental factor of a student's social and academic success. In order to maintain proper communication, it is imperative to have the student's best interests behind each line of communication. Although each stakeholder may have the same goal, defining clear roles can best facilitate the process of communication (Dagenais et al., 2016). This

provides each party with a coherent understanding of expectations for further communication.

Rationale and Research Questions

Across the world, and within education, the use of technology has grown. This growth has changed the methods of communication between educational professionals and families. In a recent study by Kosaretskii and Chernyshova (2013), it was noted that 73 percent of middle school educators, and 68 percent of secondary school educators in the United States primarily use technology to communicate with families. In order to bridge the gap within current research, the researchers sought to understand technological communication patterns and perceptions at the elementary level. This study focuses on communication within one school in order to be applicable to its future communication plans in utilizing technology to best meet the needs of students and their families.

Research Questions

1. What are current technology communication patterns between families and teachers, and how are these existing patterns perceived by families?
2. According to families, what are some ways to improve technological communication (i.e. advice from families)?

Methodology

Procedure

A survey method was used for this study. The researchers provided families with an online survey via email, as well as offered a paper option to complete the survey. This mixed-methods study used descriptive statistical analysis to interpret results of multiple choice survey questions, while using qualitative analysis to interpret narrative survey questions. Themes and coding methods were used to analyze narrative, or open ended, survey questions. Survey questions included demographic information, access information, technological communication pattern questions, perception questions, and open-ended advice questions (Appendix 1). In order to maintain participant confidentiality, the researchers used a polling system through Monmouth University to distribute the online survey. Surveys, informed consent letters, and overall information letters surrounding the study were approved by Monmouth University's Internal Review Board. Approximately 330 surveys were distributed via an email link following a letter and email sent home from the principal of the elementary school.

Participants

The participants of this study were families from a New Jersey elementary school that educates kindergarten through third grade students. Out of the surveys distributed, 28 families responded to the online survey. No families requested a paper copy of the survey to complete, and all participants chose the English option to complete the survey. Informed consent was provided upon opening the online survey, as well as a paper copy if requested by participants.

The majority of participants identified themselves as Caucasian (88.9 percent), followed by Hispanic (7.4 percent), and African American (3.7 percent). All participants had at least a high school education, with one third of all participants that completed a Bachelor's or Master's Degree. More than half of the participants identified as having a child in second or third grade. Only 29 percent of all respondents had a child in kindergarten or first grade. Of the total number of families who participated in this study, 89.3 percent have a child in a general education setting, and 10.7 percent had a child in a special education setting. Families were asked if they had multiple students in the school, and to note what grades they were in. These families were grouped as being a one singular response. Three families reported having multiple students in the school, and were asked to identify the grade levels of each child.

Access. Participant's varied in levels of access in terms of technology use. All participants who responded to the survey have internet access at home. The primary use of the internet for 55.6 percent of participants was for checking emails, with 25.9 percent primarily using the internet for social media, and 14.8 percent who chose "Other" as their primary use for the internet, and 3.7 percent using the internet primarily for school updates. Furthermore, 100 percent of participants who responded have a mobile phone with internet access, and 88.9 percent of participants access the internet outside of the home.

Results and Analysis

This study proposed two main research questions to be investigated: (a) What are current technology communication patterns between families and teachers, and how are these existing patterns perceived by families? (b) According to families, what are some ways to improve technological communication? Each question below comprehensively answers the purpose of this study.

What are current technology communication patterns between families and teachers, and how are these existing patterns perceived by families?

Pattern

Survey questions that surrounded the topic of communication "patterns" in the survey included "How does your child's teacher typically communicate with you?", "When your child's teacher does communicate, typically, what do they communicate?", and "How often does your child's teacher use technology to communicate with you?" Among responses to the first question regarding how communication occurs, families were asked to choose all forms of communication that applies to their experiences. Responses indicated that 72 percent of families claimed that their typical communication is through email, while 8 percent of responses stated it is usually via a phone call, and 20 percent of responders chose "Other" as the option. Upon choosing "Other", respondents were asked to explain further. These explanations included "GoogleClassroom", "paper sent home in folder", or participants claimed that communication is simply "lacking" between the family and teacher.

In reference to the question asking what is communicated, 31.4 percent of families responded saying communication is typically surrounding classroom updates, with 28.6 percent stating academic progress is typically communicated. Finally, behavior concerns allotted for 14.3 percent of responses, and "Other" had a response rate of 25.7 percent of participants explaining other communication purposes which included "class mom" duties, volunteer opportunities, or responses to family initiated communications. Participants were asked to choose all options that apply to their communication with their child's teacher. Out of the 28 participants, there were 35 responses to this question, showing that some participants chose multiple purposes of communication patterns.

Next, the survey question surrounding frequency of communication through technology had the highest percentage allotted to communicating at least once per month with 24 percent. Twenty percent of responses were under the category of "Never" when asked how often their child's teacher communicates through technology, leaving 8 percent for "Multiple Times per Week" and 12 percent for the category of "Once per Marking Period" as well as 12 percent for "Bi-Weekly" communication. Out of the total number of responses, 92.6 percent of participants claimed to use the internet for at least one hour per day, with 40.7 percent of that amount being over four hours each day.

Perception

The second portion of the research question surrounded the perception of families in relation to their communications with their child's teacher. Three survey questions asked surrounding family perceptions include, "In what way do you prefer to communicate with your child's teacher?", "Do you feel as though your child's teacher is accessible through technology?", and, "How do you view the flow of communication with your child's teacher through technology?". The majority of family responses; 76 percent, indicated email as their preferred method of communication, while 8 percent preferred the categories of phone calls, text messages, and other. The responses to the category of "other" explained that they preferred in person communication.

Additionally, family perceptions of teacher accessibility through technology showed that 72 percent of families who participated in this study feel as though their child's teacher is accessible via technology. However, four and three respondents answered "somewhat" or "no" respectively. Furthermore, 64 percent of participants perceive the flow of communication as interactive within the teacher-family grouping. Alternatively, 24 percent of responses indicated that communication is non-existent and 12 percent claimed that communication flow is one-sided.

According to families, what are some ways to improve technological communication (i.e. advice from families)?

Open-ended survey questions facilitated participant responses to the second research question. These open-ended questions included "What advice would you give your child's teacher regarding communication with technology?", and "What advice would you give your child's teacher on what not to do when communicating through technology?"

Themes that were identified within the first open-ended question range from overall praise in how technology is used to communicate between the stakeholders, suggestions on technological means of communication, to preferences for in-person communication. Messages of praise included participants responding with no further advice or that the teacher is adequate at technological communication thus far. For example, one participant stated that overall communication is "good primarily due to the ease of technology." Another participant who gave praise to their child's teacher stated "keep it up, over-communication is good". Suggestions on technological means of communication offered the idea of using applications or other forms they prefer. Some examples of suggestions include "use Remind app", "GoogleClassroom", or families of students with disabilities requesting to receive more emails as "communication is vital and reassuring". Participants who indicated that they would not like to use technology responded with statements such as "I would prefer to communicate in person with my child's teacher", "respond to emails, don't just send them", and simply "I'm not a fan [of communicating with technology]."

Regarding advice from families for teachers of what to avoid when communicating through technology, apparent themes were timing and the potential for misunderstanding through technology. Responses surrounding the theme of timing accounted for the time a teacher has and the schedule of families to receive and potentially participate in classroom activities. For example, advice on what to avoid included waiting "last minute" to send out emails as families often "have a full schedule and the more notice [they] are given, the better [they] can assist", as well as asking teachers to "find the time" to respond and try "not to forget to respond". Finally, the opportunity for misunderstandings through technology was expressed by one participant stating that "sometimes [when] communicating through technology, the tone of the email can be misunderstood", and that neither teachers nor families can "assume [the message] was received".

Discussion

Key findings in this study sought to identify technological communication trends between families and educators, receive input on how families perceive these trends, and call upon families to provide advice on how to improve communication through technology in elementary education. First, patterns that were identified through this study were consistent with previous research which states that educators are moving towards a more technology based form of communication, such as email, "GoogleClassroom", or other apps, rather than traditional methods such as a note sent home (Currie-Rubin & Smith, 2014; Kosaretskii & Chernyshova, 2013).The majority of responses acknowledged that email was the primary method of communication between educators and families. The present study also identified the message most commonly discussed in communications between educators and families surrounded the topics of classroom updates and/or behavior concerns which further aligns

with previous research (Kosaretskii & Chernyshova, 2013). The frequency of communication between teachers and families showed a wide range from at least once per month to stating that there is no communication. Very few responses stated that they communicate with their child's teacher multiple times per week. When viewing this participant's response, it was noted that the participant had a student who was classified as receiving special education services and, therefore, expected more frequent communication.

According to the survey, most families preferred email as their primary form of communication with their child's teacher. More than half of the families who participated also felt as though their child's teacher was accessible through technology. However, there are noted discrepancies with perception of communication. Although educators are moving towards technology to communicate with families (Kosaretskii & Chernyshova, 2013), some families indicated that they prefer in person discussions rather than through the use of technology. To acknowledge this discrepancy, it is best to utilize both methods to be a productive team (Yumurtachi, 2017). Both educators and families should be mindful of the common goal of positive academic growth and socialization for students as a team effort (Vickers & Minke, 1995). Furthermore, for educators, this implies the necessary action of surveying families on how they would like to be communicated with throughout the school year. The team-based approach begins with thorough communication.

The perception the families have towards technological communication, according to this survey, show that slightly more than half of the participants view communication as interactive as opposed to one-sided from the teacher or non-existent. Using this information, educators should make an effort to be interactive when communicating with families rather than posting information without allowing some form of response or discussion. Collaboration and interaction could also be beneficial within families using a discussion board. Utilizing online platforms or mobile applications has proven to aid in the development of professional relationships, increase parent involvement, and reinforce information shared among the school community (Can, 2016). Providing families with a platform to work together may facilitate positive relationships as well as become more self-reliant as a group.

Additionally, previous research supports current results in relation to advice from families to improve communication (Tatar, 2009). Families who responded to the survey provided a wide range of advice which included the different levels of appropriateness when using technology as well as the benefits of using technology when considering time constraints. Most families acknowledged that reciprocity when communicating through technology is necessary, and that they would rather receive an abundance of information rather than not enough. This form of advice should be encouraged and welcomed by educators and administrators (Tatar, 2009). According to Can (2016), collaboration among families and educators in regards to communication strategies has an overall positive effect on a student's academic standing and achievement.

Conclusively, despite a family's preference or perception of communication with their child's teacher, an overarching concept required on each end is the general need for communication. Educators expect a level of openness and communication from families, and the same is expectation is held for educators to reciprocate the communication. Early in the school year, it is important to identify how families want to be communicated with, when they are best reached, and what topics they will be reached out regarding. By setting clear expectations and outlining concise processes, both families and educators will be aware of their respective roles as well as what is to be anticipated in future communications.

Implications for Educational Team Members

Although the focus of this study centered on teachers specifically, these concepts could transfer into communication practices within the school-based educational team. In order to be an effective member of the educational team, one must be able to communicate effectively as well as engage in active listening. Many educational professionals appear to be natural communicators. Communication, however, is a skill that is learned and evolves throughout a lifetime (Hurjui, 2014). Team members are expected to communicate through several communication methods to reach families in order to best meet their needs due to advances in technology and changing expectations of schools (Mullen, Griffith, Greene, & Lambie, 2014). Various communication methods could potentially utilize technology or more traditional methods to reach families or educators.

Families are a significant part of the student's life in relation to school success, however, it is important for educational professionals to recognize that the family acts as its own system separate from the school setting. As the forefront of socialization, schools and families act as the prime facilitators (Kraus, 1998). Therefore, educational personnel, specifically school counselors, and families must work to combine these systems to be a cohesive social and academic experience. Additionally, modelling appropriate communication techniques and patterns in school shows young learners how to effectively communicate with their families, peers and eventually supervisors (Hurjui, 2014). Students will likely pick up on the effectiveness of communication within the relationships of the adults in their lives in order to transfer that into real world experiences.

It is also important to overcome any potential barriers to communication in order to resolve issues outside of the classroom that may have an effect on a student's learning (Hurjui, 2014). Barriers could include access or lack of understanding of technology. Research has suggested that, in order to overcome barriers in communicating with students and families, educational personnel should incorporate a family component or approach to the curriculum, ideally in counseling (Kraus, 1998). This model's concepts of teamwork and thorough communication to students, as well as combining the two systems concurrently helps to have a more active communication style and can potentially improve their lives both in school and at home. In order to most effectively bridge the gap between home and school life, it

is suggested to hold in-service professional development trainings to discuss such matters (Gary, 1991). Ideally these trainings would be data driven and interactive based on the district's needs.

Furthermore, in order to meet goals within the educational setting, having a positive and functioning relationship is necessary (Hurjui, 2014). Without strong relationships among the administration, school counselor, student, family, and educators, it is unlikely that each party will comply with an educational plan to meet appropriate goals. Overall, the effects of the aforementioned stakeholders in collaboration with families have an effect far beyond the walls of a school building (Kraus, 1998). This collaboration begins with noting effective communication patterns, techniques, and has adaptability to change with differing feedback or perceptions.

Limitations and Future Research

The researchers identify that there are limitations within this research study. A primary limitation is the limited sample size of responses to the survey. The limited number of responses makes it difficult for the researchers to generalize the results. Furthermore, on a more global scale, another limitation could be the use of one elementary school for this study. The intention behind using one elementary school was for that particular setting to benefit from the results directly, and implement appropriate communication patterns moving forward. To replicate and improve on this study, it is recommended that researchers distribute the survey district-wide in order to create a communication plan for the school community. Future research should surround communication trends among the various members of an educational team such as school counselors, social workers, or administrators. The researchers encourage duplication of this study based on these limitations in order for elementary educators to use best practices in terms of communicating with families through technology.

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Appendix 1

Communication Survey – Sent via email through University Polling Institute software from the School Principal

Demographic Questions

Primary Language Spoken:
- English
- Spanish

Grade Level of Your Child (Note if Multiple)
- Kindergarten
- First Grade
- Second Grade
- Third Grade

Child's Classroom Classification
- Special Education
- General Education

Racial Identification
- Caucasian
- African American
- Asian
- Hispanic
- American Indian
- Other: _____

Highest Achieved Educational Level
- Some High School
- High School Graduate
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Doctorate
- Other:_____

Gender
- _____

Access Questions

Do you have a computer or tablet with internet access at home?
- Yes
- No

How often do you use the Internet?
- Never
- 10 minutes per day
- 30 minutes per day
- 1 hour per day
- 3 hours per day
- 4+ hours per day

What is your primary use for the Internet?
- Social Media
- News Updates
- Email
- School Updates
- Other: _____

Do you have a mobile phone with Internet access?
- Yes
- No

Do you ever access the Internet from locations outside of your home?
- Yes. If so, where? _____
- No

Pattern Questions

In what way do you prefer to communicate with your child's teacher?
- Phone Call
- Text Message
- Email
- Online Parent Portal
- Other: _____

How does your child's teacher typically communicate with you?
- Phone Call
- Text Message
- Email
- Online Parent Portal
- Other: _____

When your child's teacher does communicate, typically, what do they communicate with you? Check all that apply.
- Weekly Classroom Updates
- Academic Progress
- Behavior Concerns
- Other: _____

How often does your child's teacher use technology (email, online parent portal, phone call) to communicate with you?
- Multiple times per week
- Twice per week
- Once per week
- Bi-weekly
- Once per month
- Once each marking period
- Never

Perception Questions

Do you feel as though your child's teacher is accessible through technology?
- Yes
- Somewhat
- No

How do you view the flow of communication with your child's teacher through technology?
- One sided
- Interactive
- Non-existent
- Other: _____

Advice Questions

What advice would you give your child's teacher regarding communication with technology?

What advice would you give your child's teacher, if any, on what NOT to do when communicating through technology?

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Counselors and Special Educators in Rural Schools Working Together to Create a Positive School Community

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Abstract
School counselors and special educators in rural areas working together can be a powerful team to help schools create a positive school community. In one rural school community, they partnered with faculty and staff to implement a School Wide Positive Behavior support program to improve student outcomes. The counselor and special educator, through intentional communication and collaboration, helped develop a positive school community, using the skills and training of their individual disciplines. This article focusses on the roles played in the process.

Keywords: Special education, School counselor, School wide positive behavior support, Rural schools, RTI, Multi-tier behavior program

Introduction

School counselors and special educators in rural areas working together can be a powerful team to help schools create a positive school community. Schools in rural areas often face different challenges than their urban counterparts, challenges of geography, poverty, and school funding can impact the quality of education that students receive. Students in rural schools often have lower educational aspirations, achievement, and attainment compared to youth in other residential areas. Lower rural educational outcomes may be due in part to certain resource deficits shared by schools located in rural communities. These resource deficits include a high number of students who are in poverty, district financial distress, and tough competition for highly qualified teachers (Demi, Coleman-Jensen & Snyder, 2010).

To help meet the challenges facing rural schools, the school counselor and the special educator are well positioned to provide guidance and support for student success and to create a healthy learning community. Together, along with all other stakeholders, they provide a full range of support for children with and without special needs. Both disciplines focus on strategies to prevent problems and to overcome obstructions to student success. Recognizing this resource in areas of behavior and school culture, the school counselor and the special education team has been specifically called upon by legislation to collaborate in supporting students (Shaw, 2014).

The Individuals with Disabilities Education Act (IDEA) of 2004, provides for increased contribution and support of the school counselor within the IEP realm. IDEA requires counselors and special educators to work together to identify the student's needs, academically and socially, which would help students achieve their goals (Milsom et al.).

Counselors and special educators often have long term relationships with the families and students in the community they serve. These relationships can translate into a deep understanding of what the needs and desires of families and students are (Shaw,2016). This is especially important in rural areas where maximizing relatively fewer resources is essential to academic and social success for students with special needs. Creating a positive school climate is one outcome that counselors and special education teachers can help create. A positive school climate can be influential to the processes associated with a student's development of resilience to negative social and academic outcomes (Ungar, 2003).

One school's story

An interesting example of how counselors and special educators took place recently in a rural K-8 school in New York state. The teachers in this school recognized that while the majority of students behaved in a typical fashion, the behaviors of some students had reached problem proportions. This school had recently consolidated with another school in the same town which was closed due to declining enrollment. The school climate and culture were different at each of the schools and students were having difficulty adjusting. At the same time the school also was implementing new academic programs in reading and math. While the team was presented with these serious challenges, the staff believed this was an opportunity to create a school community based on the best interests of the students.

The school staff had attended a workshop on School Wide Positive Behavior Supports and wished to implement a behavior program based on this strategy. Positive

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Behavior Support (PBS) is a three-tiered system approach that proactively addresses behavior concerns by teaching behavioral expectations and includes strategic support for students with more severe behavior issues (Todd, Campbell, Meyer, & Horner, 2008). It is the behavioral component of Response to Intervention process, a process used to quickly identify and address student behaviors (Sugai & Simonson, 2012).

For schools using PBS, the school counselor and the special educator are key members of the implementation team. In many rural schools, they may be the only staff skilled in the assessment, implementation, and monitoring strategies PBS requires.

The PBS model corresponds with the state school counselor standards and the ASCA national model, as well as the Council for Exceptional Children standards for learning environments, and these standards uniquely qualify counselors and special educators to assist students with more intrusive behaviors.

Prior to the beginning of the school year, all staff gathered for their professional development day. When asked what the most pressing challenge to learning was, the staff suggested that behavior management was very important to them. Using the skills from the previous workshop, teachers, administrators, paraprofessionals, and others worked to develop a behavior plan for their school. The meeting was led by the counselor, as her skills lent themselves to managing this meeting by providing expert guidance on behaviors and an understanding of the overall student body, families, and community. In this process, a three-tier system was decided on, the first tier would be universal (all students), the second would be targeted (some students), and the third would be intensive (a few students).

The Plan

The first tier was to have several components, focusing on defining what are the school wide behavior expectations, and once these were decided upon, how those expectations would be explicitly taught, along with a system to reward desired behavior, and a system to log and monitor behaviors in order to prevent and addressing problem behaviors (Ennis& Swoszowski, 2011).

The second tier was designed to support students who are unresponsive to the prevention strategies of the first tier. This tier serves 10-15% of the school population, the group decided that the tier two interventions should be easily implemented and require minimal assessment prior to implementation for students (McIntosh et al., 2009; Mitchell, Stormont, & Gage, 2011).

The team recognized that the third tier is the most intensive, supporting students do not respond to the interventions of previous two tiers. The interventions at this level are individualized and designed to support the needs of a small percentage of the student body. When data indicate that the intervention is not effective, the team then may decide to progress to a special education assessment (Gruman & Hoelzen, 2011; McIntosh et al., 2009).

The First Tier

The team recognized that both the school counselor and the special education teacher, have the training, experience, and skills required to make the program successful. While it was important to the team that communication and collaboration was to happen on all three tiers, they decided that first tier work was within the scope of the general educators, administrators, and staff. Therefore, the team decided that general education classroom teachers would take the lead in the first tier structure, implementation, and monitoring. The special education teacher and the counselor would manage and monitor tiers two and three with input and assistance from school administration.

Effective practices of universal supports have been described in detail for behavior supports. Key features of the practices within a core program include 1) clear goals and expected outcomes, 2) appropriate instruction, 3) monitoring, 4) feedback and encouragement, and 5) error correction (Horner,Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004).

The team agreed to meet bi-weekly to examine the data and update their plan. The counselor would monitor for fidelity, giving feedback so that staff would be more comfortable with sustaining the effort. The steps for sharing data include 1) summarizing data, looking for trends and patterns; 2) investigating the validity of the data; 3) reinforcing staff behavior for collecting accurate and timely data; and 4) sharing a plan for acting on the data (Flannery, Sugai, & Anderson, 2009).

Since the team suggested that since the counselor and special educator be primary shareholders in tier two interventions, they would examine the preliminary referral data and determine first if the student behavior is a manifestation of the student's disability. If so, the next step would be to investigate whether the behavior improvement plan present in the student's IEP is adequate to address the observed behavior. The counselor and special educator are best qualified in this rural school, to decide whether this is an issue requiring further action by the IEP team. In cases where the behavior was not as result of the student's disability, evidence of disability or the observed behavior is not simply corrected, for instance by changing the environment, the team may then suggest the second tier intervention.

The Second Tier

For simplicity and to form a good baseline across the largest group of students, the team decided that for those students without an IEP, they would use a Check-in/Check-out (CICO) process as the primary tier two intervention. This process is simple to implement and would provide a good tracking measure to begin gathering data. Research has shown the effectiveness of the intervention and more importantly student acceptance of the process (Filter et al., 2007).

Check-in/Check-out provides structure to the student's day by explicitly teaching behavioral expectations and a daily routine. While participating, students begin their school

day by checking in form of points and/or positive comments at designated time intervals. At the end of the day, each student checks out with an adult. At the check-out, they graph the results of their day, receive praise (tangible and/or verbal), and obtain a copy of their daily behavior report card to take home.

Student Point Card

Name: Date:

	Math	Reading	Writing	Lunch	PE	Block	Bus
Goal One							
Goal Two							
Goal Three							

Points

2=Great! 1= Good with a warning 0= Required a time out

Today's Goal ☐ **Today's Total** ☐

Today's Goal Met?

YES! ☐ Goal not met today ☐

Parent's signature _____

Comments welcome on back

Figure 1. An example of a student point card used in CICO

The cycle begins again the next school day when the student returns a signed copy of their previous daily behavior report card at the morning check-in. The data collected from the report cards are then used to make decisions about continuing, modifying, or discontinuing the intervention.

The CICO intervention provides excellent opportunities for counselors to bring their relationship skills to bear. The goals of CICO are to increase the opportunities adults have for prompting students to engage in positive behavior, provide behavioral feedback to the student at predictable times throughout the day, developing a meaningful adult-student relationship through positive interaction, and communicate behavioral challenges and successes with families daily (Filter et al., 2007; McIntosh et al., 2009). School counselors and special educators may have more flexibility built into their schedules when compared to classroom teachers and administrators making them more able to counsel students during classroom hours (McIntosh et al., 2009). Given these connections to the roles of a school counselor, taking a strong role in the second tier intervention seemed both reasonable and practical.

The Third Tier

The third tier provides a highly individualized intervention for students who require more support. While much more detailed information on these intensive interventions can be found elsewhere, in this tier, the special educator takes a larger role in assessing and planning, while the counselor now provides greater support to the family and other outside agencies. In this rural school, the team understood that resources for implementing an effective third tier intervention may be lacking, so they depend on the counselor and special educator to bring their skills to bear.

Students in the third tier may be assessed for special education services, if this is the case, the team, based on their data, may ask for a more formal special education referral assessment. However, the counselor and special educator may move forward in the third tier interventions either while awaiting the outcome of the evaluation, or while gathering more data to ensure the evaluation assessment is necessary. In this third tier, collaboration between general educators, counselor, and special educator are essential to make sure the support services are in place to help the student succeed. The special educator and counselor ensure all service providers are able to assess the student and family adequately to ensure the student receives the support services required for success.

Another positive aspect of the school counselor and the special educator working together in this tier, is their training working with students diagnosed with behavioral or emotional disabilities. These students require specialized interventions which should be administered only by highly trained persons. (Simonsen, Sugai, Freeman,

Kern, & Hampton, 2014). This is an area where consultation and collaboration with special educators and counselors can help others on staff develop a more holistic understanding of the needs and nature of these students.

The focus for the team is now individualized, assessment-based intervention strategies, including a wide range of options such as: (1) guidance or instruction for the student to use new skills as a replacement for problem behaviors, (2) some rearrangement of the antecedent environment so that problems can be prevented and desirable behaviors can be encouraged, and (3) procedures for monitoring, evaluating, and reassessing of the plan as necessary (Ennis & Swoszowski, 2011). The counselor, special educator, and administrators, may need to in some situations, develop emergency procedures to ensure safety and rapid de-escalation of severe episodes, this is required when the target behavior is dangerous to the student or others (Simonsen, Sugai, Freeman, Kern, & Hampton, 2014)

An area where the counselor skills come to the forefront is in assisting the special educator in developing a student-centered plan that involves the family and other natural supports, focusing on the student's and family strengths and needs, and developing an action plan to support improved outcomes. This plan typically includes formal services, research-based interventions, including school-based and community services and more informal supports provided by friends, family, and other people drawn from the family's social networks. The counselor focuses on the outside support network, while the special educator focuses on the needs of the student in the school. Third tier interventions are intended designed to focus on the needs of individuals who exhibit patterns of intense problem behavior that may disrupt quality of life across multiple domains such as in school, the home, or the community.

Research has demonstrated the effectiveness of PBIS in addressing the challenges of behaviors that are dangerous, highly disruptive, and/or impede learning and result in social or educational exclusion (Simonsen, Sugai, Freeman, Kern, & Hampton,2014). Staff in this rural school report that PBIS has become a highly effective system in reducing problem behaviors and ensuring a smooth transition for the integration of the two schools into one, and now a key element in the school culture. The staff also noted that the school counselor and the special education teacher's particular specialized skills and reach within the school and with the outside community have been vital to this program's success.

In Conclusion

Student misbehavior adversely affects instruction, the learning environment, and the overall school climate for all learners within the school. Behavior issues interrupt and displace classroom instruction when teachers are forced to redirect and consequence the misbehaving student. In rural schools, a paucity of resources can complicate a school's ability to effectively deal with these issues. However, specialized talents and community resources can and frequently are leveraged by a key relationship within the school, that of the special education and the counseling staff.

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