Distributed Leadership Through the Lenses of Special Education Leaders

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- **This study investigated how two types of leaders of special education, administrators of special education and special education teacher leaders, using Q-sort methodology, prioritize distributed leadership statements.**
- **The findings did not align with role assignments. Rather, two factors emerged: planned distributors, who were generally younger, more educated with less experience at their current position, and working in larger school districts with higher rates of poverty, and embedded distributors, who were predominantly more experienced, less educated, older females working in smaller and more affluent school districts.**
- **The results of this study laid the foundation for understanding how the perceptions of distributed leadership shift over the course of careers as leaders of special education mature in leadership positions.**
- **Using the qualitative and quantitative data from this study, a continuum of distributed leadership is proposed along which three contexts are situated: planned, embedded, and natural.**

In recent years, specifically in the last decade, there has been a substantial amount of research emphasizing the importance of leadership in the field of education (Marzano, Waters, & McNulty, 2005). Distributed leadership is of interest because it provides for a higher level of group problem-solving and higher rates of effective decisions; therefore, it is a leadership model that encourages collaboration, knowledge sharing, and consistent interactions (May, Susskind, & Shapiro, 2013). The majority of the research examines distributed leadership from the perspective of the role of the principal. There is also a void in the literature describing how those charged with educating students with disabilities and with creating a more responsive and collaborative organization prioritize attributes associated with distributed leadership.

Special education leadership is multifaceted. Special education leaders lead, supervise, and manage the provision of special education and related services while ensuring that special education students with disabilities are provided a free appropriate public education in the least restrictive environment (Lashley & Boscardin, 2003). Better understanding of how leaders of special education, depending on their role, prioritize distributed leadership attributes to achieve these necessary goals comes at an important time when much attention is being directed toward improving instruction and increasing achievement outcomes for students with disabilities. To set the stage, we will consider how legislation and professional standards have contributed to the need for distributed leadership skills, review how distributed leadership is defined through research, and examine the roles of special education administrators (ADMs) and special education teacher leaders (TLs).

Contributions of Legislation and Professional Standards to Distributed Leadership

School reforms, most notably to date No Child Left Behind (2002), Individuals with Disabilities Education Act (2004), the American Recovery and Reinvestment

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Act of 2009, which introduced Race to the Top, and the Common Core (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010), have led to demands for leaders to (a) create conditions for education innovation and reform; (b) achieve significant improvement in student outcomes resulting in substantial gains in student achievement, closing achievement gaps, improving high school graduation rates, and ensuring student preparation for success in college and careers; and (c) implement ambitious plans in four core education reform areas. Further, ADMs are responsible for certifying all students are taught by highly effective teachers who utilize scientifically based instructional practices, ensure students have access to and achieve within the general education curriculum, and provide adequate resources to support teaching and learning (Boscardin, 2004; DiPaola & Walther-Thomas, 2003). These new emphases have expanded the duties, roles, and functions of all school ADMs, including ADMs of special education and special education TLs. The contribution of leadership to positive student performance is the first to be scrutinized, despite the fact little is understood about the relationship between leadership and student achievement (Leithwood, Louis, Anderson, & Wahlstrom, 2004). The changing landscape of leadership signals the need to contemplate how best to engage shared forms of leadership.

In addition to legislative mandates, national professional standards provide a solid foundation for role identity (Schulman, 2005) and delineate competencies leaders of special education are expected to possess. The Interstate School Leaders Licensure Consortium Leadership Standards (Canole & Young, 2013) and Council for Exceptional Children (CEC) Administrator of Special Education Advanced Standards (CEC, 2012) identify the knowledge and skills characterizing competent ADMs and leaders. The Interstate School Leaders Licensure Consortium 2014 standards are comprised of 11 standards, and the 2012 CEC Administrator of Special Education Advanced Standards produced are comprised of seven standards. Both sets of standards highlight instruction, assessment, school improvement, ethical principles, and programs and services. The importance of collaboration is also highlighted, but shared leadership is not. Preparation programs, education agencies, and, to a certain degree, the individuals are left to decide how these important standards are implemented in the absence of guidance about best approaches to leadership.

Distributed Leadership

Distributed leadership is intended to support an interactive web of leaders and followers in which roles and responsibilities adjust accordingly to meet the changes within organization (Spillane, 2006; Spillane, Camburn, Pustejovsky, Pareja, & Lewis, 2008; Spillane, Halverson, & Diamond, 2001, 2004; Spillane & Harris, 2008). Distributed leadership is a multi-actor practice in which people contribute to a group or organization through their *individual* actions not necessarily defined by formal roles/positions (Bennett, Harvey, Wise, & Woods, 2003). Viewed as a product of interactions between school leaders, followers, contexts, and artifacts (Spillane), distributed leadership provides an opportunity for *individuals* to exercise leadership aligned with school goals through agential and structural dimensions of the organization (Garand, 2014; MacBeath, Oduro, & Waterhouse, 2004). Elmore (2000, 2002) argued distributed leadership is needed for an organization (i.e., schools) to make instructional improvement, and leaders need to incorporate the model of distributed leadership in order to work cooperatively around the common task of instructional improvement and to create and sustain capacity using professional development.

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The model of distributed leadership focuses on the interactions spanning informal and formal leadership roles (Spillane & Harris, 2008) and how these leadership practices influence the organizational and instructional outcomes (Spillane, 2006). Widely shared leadership tasks within the organization and the work of all individuals contribute to the leadership practice (whether formally or informally designated) of those recognized leaders (Spillane & Harris, 2008).

Other scholars have also demonstrated the relevance of a distributed perspective on inclusive reform (Devecchi & Nevin, 2010), in addition to highlighting the importance of teacher leadership roles in inclusive education (Billingsley, 2007, 2012; Peters, 2002). Billingsley (2007) found that while inclusive

reform was often initiated by key personnel, planning was distributed across individuals in varied positions involving the specific roles within external groups, districts, schools, and parents.

…Embedded leadership [is] defined as a community of people working together towards a common goal in which leadership is assumed, shared, and embedded in the culture of the organization (Macbeath et al., 2004).

The works of Ritchie and Woods (2007), Mitello and Janson (2007), and Hulpia, Devos, and Rosseel (2009) investigated distributed leadership attributes through the examination of interactions and/or perceptions within schools. Ritchie and Woods (2007) found the nature of the distributed leadership within the participating schools could be classified into three types of distribution—emerging, developing, or embedded—using semistructured interviews. Located on one end of a continuum was embedded leadership, defined as a community of people working together towards a common goal in which leadership is assumed, shared, and embedded in the culture of the organization (Macbeath et al., 2004). At the opposite end of the continuum, emerging forms of distributed leadership are located where formal positions are indicative of a more hierarchical structure, stronger forms of control, and external sources of change (Ritchie & Woods, 2007). Developing patterns of distributed leadership, located at the midpoint of the continuum, could be characterized as retaining high degrees control and incomplete structures that extend the boundaries of leadership (Richie & Woods, 2007). Ritchie and Woods' (2007) findings were supported with the research reported by the National College for School Leadership (National College for School Leadership, 2004) and Woods, Bennet, Wise, and Harvey (2004).

By exploring the working relationship between school principals and counselors through the use of a Q-sort methodology, Militello and Janson (2007) found specific characteristics of the relationship between school principals and counselors could potentially foster or inhibit distributed leadership practices. Through the examination of the distribution of leadership among principals, assistant principals, and TLs in large secondary schools using the Distributed Leadership Inventory, Hulpia et al. (2009) confirmed the previous work of Spillane and Camburn (2006) that "leadership is not solely in the domain of one person" (p. 1030), and leadership tasks are distributed among formal members of the leadership team based on function and activity rather than based solely on role or position.

Leadership in Special Education

Research about special education leadership distinguishes the role of special education ADMs from the role of special education TLs (Boscardin & Lashley, 2012). *What Every Special Educator Must Know: Ethics, Standards, and Guidelines For Special Educators* (CEC, 2009) and CEC's (2015) selected job profiles define a special education ADM as an educational leader who determines and articulates the educational standards and goals for special education programs to special educators through collaborative efforts, leading to enhanced opportunities for individuals with exceptional learning needs. Administrators of special education have the challenging responsibility of building positive collaborative relationships with general education ADMs and teachers to assure accessibility to high quality educational programs for all students regardless of ability (Lashley & Boscardin, 2003).

Most special education ADMs lead from the level of central administration, relying on building-level ADMs and special education TLs to transact the day-to-day responsibilities of delivering effective special education programs and services (Elliot & Riddle, 1992). According to the CEC (2015), the responsibilities and roles of special education ADMs include oversight of special education programs, assisting with program development and implementation, ensuring the quality of special education services, and being involved in the education process by working with teachers and parents. Directors of special education are those who are often viewed as key leaders in the provision of programs and services for students with disabilities (Billingsley, 2012). Special education directors initiate change, often being the lead initiator of inclusive reform, while teachers have also been found to be provided both formal and informal leadership to meet the needs of individual students (Billingsley, 2012).

Although the general conception of educational leadership traditionally views ADMs as leaders (Silva,

Gimbert, & Nolan, 2000), there is an increased awareness of the emerging importance of teacher leadership (Fullan, 1994; Poekert, 2012). Special education TLs work closely with ADMs to design and develop instructional programs, monitor operations, and identify problems and solutions (Kilgore, Griffin, Sindelar, & Webb, 2001; Sindelar, Shearer, Yendol-Hoppey, & Liebert, 2006). Special education TLs have taken significant ownership for service-delivery models they have developed (Fisher, Grove, & Sax, 2000) using the professional autonomy and the freedom afforded them (Berry, Daughtrey, & Wieder, 2010). Ritchie and Woods (2007) identified six factors associated with distributed leadership related to head teachers: possesses a clear vision, listens to staff, provides a good role model, identifies and valuies colleagues' strengths, trusts colleagues, and supports colleagues. According to several researchers, a TL works collegially and collaboratively engaging in the problem-solving process at the building levels, mentoring new teachers, assisting with redesigning schools, and providing meaningful professional growth activities for colleagues (Billingsley, 2007; Darling-Hammond, Bullmaster, & Cobb, 1995; Silva et al., 2000).

While the above sources provide comprehensive nominal definitions for special education ADMs and special education TLs and highlight the complex responsibilities associated with these positions, there is no mention of a shared vision of leadership between these two groups. A distributed leadership framework offers a way to more broadly examine the multifaceted, multi-actor characteristics of special education leadership as described by Billingsley (2012) and Boscardin and Lashley (2012). Special education leaders not only have the challenge of creating environments that produce positive educational outcomes, but also of promoting a distributed and collaborative culture that values high quality programs for all students regardless of ability (Lashley & Boscardin, 2003). Investigating distributed leadership opens up the opportunity to determine if perceptions held by two disparate groups, special education ADMs and TLs, are vastly different.

Research Questions

This study seeks to understand the following research questions:

1. Do ADMs of special education prioritize distributed leadership attributes differently than special education TLs, or is the prioritization of distributed leadership attributes influenced by other variables (e.g., age, sex, race/ethnicity, position, experience, educational background, and school and district demographics)?
2. How does the rank ordering of distributed leadership items between sorting groups differ?
3. What rationale (e.g., judgments, attitudes, and perspectives) do participants provide to support their item rankings?

The results of this investigation will improve our understanding of current perceptions of distributed leadership by special education ADMs and special education TLs. Investigating whether leaders of special education as formally defined by roles prioritize distributed leadership attributes differently comes at an important time as demands and responsibilities continue to grow, making it necessary to enlist leadership of others.

Method

Research Design and Rationale

The purpose of Q methodology is to discover what is statistically similar and different between factor dimensions and to identify the attributes of individuals who share common viewpoints using Q sorts (Dennis, 1993). Q methodology is a systematic and orderly research method for investigating individuals' judgments, attitudes, and perspectives, to document and observe interindividual differences in perceptions of distributed leadership attributes among participants who are presented with the same stimulus items (Brown, 1980; Dennis, 1993; Stephenson, 1935, 1953). Brown (1980) stated only a few participants are required (e.g., in the range of 30 participants) in Q methodology because the *n* resides in the number of items selected for the sort. There needs to be enough items to establish the existence of a factor for the purposes of comparing one factor to another (Brown, 1980).

With regards to the range of distribution, the larger the number of statements, the wider the range of available scores should be (Brown, 1980). According to Donner (2001), "There is no clear rule of thumb for the number" of items that should be included in a Q-sort activity, as sorts may include as few as 20 or as many as 60 items. According to Brown (1980), "Most Q samples contain 40 to 50 items and employ a range of +5 to −5 with a quasinormal flattened distribution"

(p. 200). The cell formation limits the number of statements to be placed at any point along the ranking continuum. While the shape of the Q-sort distribution is largely arbitrary, a bell-shape distribution is most common, with fewer cells available on the ends and more cells available in the middle of the continuum. The bell-shaped distribution forces participants to more sharply prioritize higher and lower ranked items. Q sorts utilize multiple data sources (e.g. pre-interview questionnaires, Q sorts, and postsort interviews) to triangulate the data.

Participants

A nonrandom sample of 30 participants was selected for this study—15 special education ADMs and 15 special education TLs—representing 15 districts within one state to increase variability, yet maintain consistency within position descriptions. Nonrandom selection of participants is intentionally employed in Q methodology as a way of ensuring the representation of diverse perspectives. If recruitment had been done randomly, it is possible some or all of the perspectives expressed during the Q-sorting procedure could have been affected by the overrepresentation of a particular perspective, introducing bias into the sorts (Barata, 2007; Brown, 1980; Provost, Boscardin, & Wells, 2010). The special education ADMs and TLs who participated in this study met the definition of highly qualified (i.e., minimum of bachelor's degree, certification to teach, and demonstration of subject matter competency in the core academic area of certification). Special education ADMs were defined as those who oversee the school district's special education programs and assist with program administration to ensure the quality of special education services for students with disabilities and their families, and who work with teachers in the education process. Special education TLs were defined as individuals who serve as building liaisons, department chairs, and/or team leaders at the building base or district levels whose primary responsibilities include navigating the structures of schools, nurturing relationships, modeling professional development, encouraging effective change, and challenging the status quo for positive results (Silva et al., 2000).

The demographic data included (a) current position, (b) gender, (c) age, (d) years in current position, (e) level of education, (f) teaching experience, (g) ethnicity, (h) district enrollment, (i) school enrollment, (j) expenditures, (k) a poverty indicator as measured by a school's free and reduced lunch status, and (l) student achievement as measured by statewide math and English scores used to measure annual yearly progress (AYP). The vast majority of participants were white (n = 29) and were 40 years of age or older (n = 21). In addition, most of the participants were working in school districts whose special education student enrollments (n = 21) and special education expenditures (n = 25) were above the state averages for percent of district enrollment and percent of district budget, 17% and 20.1%, respectively. The majority of participants worked in nonpoverty districts (n = 19). Further, most of the participants (n = 20) had a master's plus 30 additional credits of course work.

The majority of ADMs of special education were females (n = 10) who worked at the district level (n = 12), and had 5 or more years (n = 9) at their current position. The 15 ADMs of special education represented seven school districts. Secondary teaching experience (n = 10) in the area of special education (n = 13) was the most prevalent for this group. The ADMs of special education evenly represented districts with enrollments over 3,000 students (n = 8) and districts with enrollments under 3,000 students (n = 7). Five out of the total 15 ADMs of special education worked in districts that achieved annual yearly progress status for both English Language Arts (ELA) and Math as defined by standardized statewide test scores.

The special education TLs largely were working at the high school level (n = 11) in their current position for 5 or more years (n = 9). Only one TL worked at the elementary building level. The 15 participants in the special education TL category represented 10 school districts. The special education TL participants were evenly represented by gender (with seven male and eight female participants), and worked in districts with enrollments above (n = 8) and below (n = 7) 3,000 students. Four out of the total 15 special education TLs were in districts that achieved AYP status for both ELA and Math as defined by standardized statewide test scores.

Development of Q Statements

For this study, a total of 49 distributed leadership statements that had been previous validated as bona fide distributed leadership attributes culled

from the Distributed Leadership Inventory (Hulpia et al., 2009), the work of Militello and Janson (2007), and items used in surveys and previous Q sorts (Hulpia et al; Johnson, 1993; Militello & Janson, 2007; Mosley, Boscardin, & Wells, 2014; Provost et al., 2010) were piloted by a cohort of eight special education leaders who currently were enrolled in a doctoral special education leadership program. Following completion of the pilot sorting activity, the cohort evaluated the items for redundancy, clarity, accuracy, and appropriateness. Twenty-seven of the original 49 statements remained completely intact, 19 statements were eliminated, and 13 statements were rewritten to conform to the aforementioned criteria following the pilot study, resulting in 40 distributed leadership items being retained for this study (refer to *Table 3* in the Results section for final list). This number falls well within the tolerance limits for number of statements recommended by Donner (2001).

Procedure

At the beginning of each session, participants were required to read and sign an informed consent form previously approved by an Institutional Review Board (IRB). After signing the IRB form and completing the presort demographic questionnaire, participants read the directions for the Q-sorting activity and then were asked to prioritize the 40 distributed leadership statements by assigning each statement to blank cells within the bell-shape configuration (Donner, 2001) on a continuum of −5 (*least important*) to +5 (*most important*).

Participants were asked to prioritize the distributed leadership statements by sorting leadership statements from *most important* to *least important* to the job of a special education leader within the bell-shape configuration. The researcher recorded participants' thoughts during completion of the sort and provided them with support and clarification of directions. Qualitative data were gathered following the Q sorts to gain further insight into the participants' (a) strategies/methods used to rank order statements, (b) rationale for ranking the statements, (c) any particular difficulties with ranking any of the statements, and (d) any issues or thoughts that occurred while completing the Q-sorting activity. Every precaution was taken so as not to influence participants' behaviors.

Data Analysis

Data analysis had both quantitative and qualitative components. The computer software Statistical Package for the Social Sciences was used to analyze the results of the participants' sorts that resulted in a scree plot, principal component plot, rotated factor loadings for each participant, and the factor loadings for statements within each factor (IBM Corp., 2012). The qualitative data generated from the postsort interviews were instrumental in bringing meaning to the sorts.

The scree plot was used to identify the number of factors through visual inspection. Any factor located above the elbow on the scree plot was considered to be a bona fide factor. The rotated principal components plot created a visual representation of participant factor membership. The rotated component matrix values were used to identify clusters of special education leaders who sorted the distributed leadership statements similarly in a way that separated themselves from the rest of the participants' sorts as to represent common perspectives. First, the rotated component matrix factor loading values (a) for each participant were squared (a^2). Next, the squared factor loadings (a^2) across the bona fide factors were summed (h^2) and divided by 2 to explain more than half the common variance. The h^2 value can also generated from the extraction method from principal components analysis, resulting in communality values unchanged by rotation. Lastly, the standard error was calculated by dividing 1 by the square root of N, where N is the number of statements/items, $1/\sqrt{40} = 0.158$. The value for p was then calculated by multiplying the standard error ($\sigma = .158$) by ± 1.96 for $p < .05$ ($1.96 \times .158$), which equaled .31. Assignment to a factor was accomplished by participants meeting two conditions (Schmolck, 2002): 1) $a^2 > h^2/2$ and 2) $a > .31$ ($p < .05$).

The qualitative data collected from the participants' postsort interviews were analyzed to explain the high- and low-ranked items, as well as contribute to the eventual creation of descriptive labels for the emerging factors (Merriam, 1998). These qualitative data along with the distributed leadership statement rankings provided the basis for the eventual emergence of factor themes and labels (Anderson, Avery, Pederson, Smith, & Sullivan, 1997) following the data analysis. Consequently, the relationships with particular demographic and outcome variables and the sorts became more visible.

Figure 1. Scree plot.

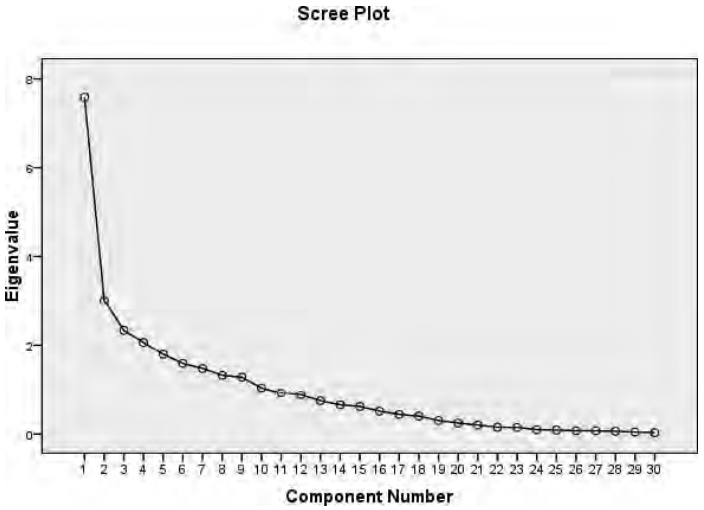
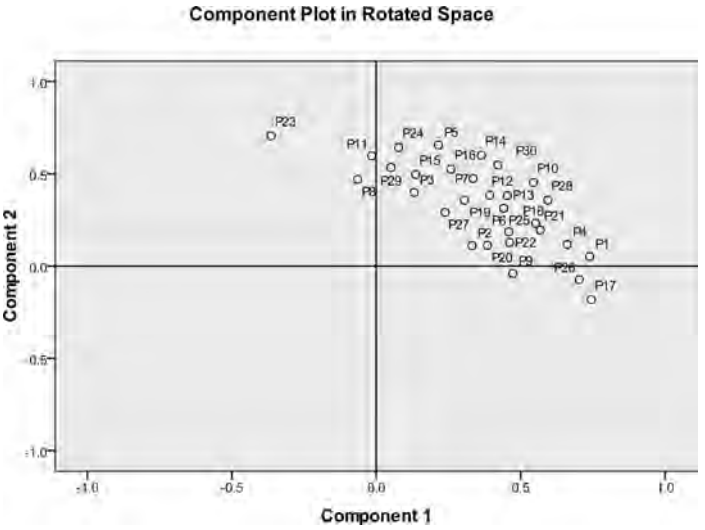


Figure 2. Component plot in rotated space.



Results

In this section, results of the factor analysis conducted are presented and address whether the sorting of distributed leadership statements resulted in factor membership by professional position or if factor membership was the result of other variables, such as educational background, years of experience, district size, and district performance indicators. Item rankings comparisons helped to determine sorting commonalities within and between factors. Data from the postsort interviews assisted with understanding the rationale participants used when prioritizing statements.

Factor Membership

The primary purpose of this research study was to investigate whether ADMs of special education prioritize distributed leadership attributes differently than special education TLs or if the prioritization process would result in factor membership influenced by other variables (Edmonson, 2001). The data were initially subjected to factor analysis using the principal component method. Rotated factors were extracted and the eigenvalues for each of the components were compared to determine the number of components to carry forward in the analysis. Using the scree plot (see *Figure 1*), it was possible to validate two factors prior to the break or elbow on the plot line. Factor A had an eigenvalue of 7.573 and Factor B had an eigenvalue of 2.999. The remaining eigenvalues were insignificant, as they did not result in identifying factors as shown by the flattening of the plot slope.

The scatter plot illustrated similarities and differences among the factors (see *Figure 2*). Factor A members recorded higher factor scores on the scatter plot than Factor B members. This was not surprising given it was the stronger factor of the two factors in terms of the eigenvalues. The plot shows three participants (P12, P13, and P19) who marginally fit clusters and one participant (P27) who did not fit into a cluster on the component plot. Among the marginal outliers, P12 was the only participant who had the same number of years teaching at both the elementary and secondary levels, and was the only participant to have administrative experience at all three levels (Pre-K, elementary, and secondary), P13 was the youngest ADM in this study, P19 was one of only two participants who had experience teaching at the postsecondary level, and P27 was the only K–8 building-based ADM in this study.

Of the 30 participants who participated in the study, 16 participants were members of Factor A, 13 participants were members of Factor B, and one participant did not meet the membership conditions for either Factor A's or Factor B's level of significance (see *Table 1*). Using Schmolck's (2002) preflagging algorithm, it was determined Factor A and Factor B consisted of a total of 16 and 13 special education leaders, respectively. Factor A was composed of eight TLs and eight ADMs, while Factor B included seven TLs and six ADMs. There was one minority special education leader between the two factors.

Factor A accounted for the majority of the variance, and members were generally younger, more educated with less experience at their current

Table 1: Factor membership

	Factor A		Factor B				
Participant	***a* score**	**a^2 score**	***a* score**	**a^2 score**	**$h^2/2$**	**Factor A membership**	**Factor B membership**
P1: ADM, NAYP, NFRL	.739*	.546	.052	.003	.274	Member	
P2: ADM, NAYP, NFRL	.331*	.11	.111	.012	.061	Member	
P3: ES TL, NAYP, NFRL	.132	.017	.399*	.159	.089		Member
P4: ADM, AYP, FRL	.661*	.437	.117	.014	.226	Member	
P5: ADM, NAYP, FRL	.215	.046	.657*	.432	.239		Member
P6: ADM, NAYP, FRL	.441*	.194	.313*	.098	.146	Member	
P7: ADM, NAYP, FRL	.335*	.112	.475*	.226	.169		Member
P8: ADM, NAYP, FRL	.064	.004	.470*	.221	.113		Member
P9: ADM, NAYP, NFRL	.473*	.224	.039	.002	.113	Member	
P10: ADM, NAYP, NFRL	.544*	.296	.454*	.206	.251	Member	
P11: ADM, NAYP, NFRL	.016	.000	.597*	.356	.178		Member
P12: ADM, AYP, NFRL	.393*	.154	.384*	.147	.151	Member	
P13: ADM, AYP, NFRL	.454*	.206	.382*	.146	.176	Member	
P14: ADM, AYP, NFRL	.364*	.132	.601*	.361	.247		Member
P15: HS TL, NAYP, NFRL	.136	.018	.496*	.246	.132		Member
P16: ADM, AYP, NFRL	.258	.067	.525*	.276	.172		Member
P17: DL TL, NAYP, FRL	.745*	.555	.182	.033	.294	Member	
P18: HS TL, NAYP, FRL	.551*	.304	.232	.054	.179	Member	
P19: HS TL, AYPE, NFRL	.305	.093	.357*	.127	.110		Member
P20: HS TL, AYPE, NFRL	.384*	.147	.113	.013	.080	Member	
P21: HS TL, NAYP, FRL	.568*	.323	.196	.038	.181	Member	
P22: DL TL, AYP, NFRL	.462*	.213	.129	.017	.115	Member	
P23: HS TL, AYP, NFRL	.364*	.132	.706*	.498	.315		Member
P24: HS TL, AYP, NFRL	.077	.006	.643*	.413	.210		Member
P25: HS TL, NAYP, FRL	.458*	.210	.186	.035	.123	Member	
P26: HS TL, NAYP, FRL	.703*	.494	.073	.005	.250	Member	
P27: ADM, NAYP, NFRL	.238	.057	.292	.085	.071	Non-member	Nonmember
P28: K8 TL, NAYP, FRL	.594*	.353	.358*	.128	.212	Member	
P29: HS TL, NAYP, NFRL	.051	.003	.535*	.286	.145		Member
P30: HS TL, AYP, NFRL	.421*	.178	.548*	.300	.239		Member

Note. ADM = special education administrator; NAYP = district did not achieve AYP; NFRL = nonfree and reduced lunch district; ES TL = elementary special education teacher leader; AYP = district achieved annual yearly progress; FRL = free and reduced lunch district; HS TL = high school special education teacher leader; DL TL = district-level special education teacher leader; AYPE = district achieved AYP for English Language Arts only; K8 TL = K–8 special education teacher leader. *$p < .05$.

position, and were working in larger school districts with higher rates of poverty. Factor B was responsible for a smaller portion of the variance in the data, predominantly comprised of members who were more experienced, less educated, older females working in smaller and more affluent school districts. Data indicate members from both factors had limited variety in their educational work experiences.

Overall, there were a few demographic similarities between the factors for each group of participants (see *Table 2*). Within both factors, there was a significantly higher percent of special education TLs with teaching experience in both general and special education compared to special education ADMs. A small percentage of participants belonging to each factor had teaching experience at both the elementary and secondary levels, as the majority of special education TLs belonging to each factor had the bulk of their teaching experience at the secondary level. Moreover, there were insignificant AYP differences among special education ADMs belonging to each factor. For instance, 31% of each factor (five Factor A ADMs and four Factor B ADMs) were special education ADMs working in districts not achieving AYP for ELA and 31% (five Factor A ADMs and four Factor B ADMs) not achieving AYP for Math. On the other hand, 37% of Factor A and 23% of Factor B (six Factor A TLs and three Factor B TLs) were special education TLs working in districts not meeting AYP for ELA. Forty-four percent of Factor A and 31% of Factor B (seven Factor A TLs and four Factor B TLs) were working in districts not meeting AYP for Math.

Distributed Leadership Statement Rankings

Once two factors were identified, statements rankings within each factor were analyzed. The qualitative data collected provided additional explanatory data for interpreting judgments, attitudes, and perspectives of the participants as part of their sorting behavior that contributed to the resulting factors. Factor A members' rankings of distributed leadership items ranged from 2.82 to −1.63 with special education leaders favoring the following eight distributed leadership items: (a) a well-functioning leadership team, (b) clear goals, (c) clear roles and responsibilities, (d) task prioritization, (e) support for district goals, (f) the belief in distributing leadership, (g) assignment of responsibilities linked to staff competencies of staff, and (h) an understanding service delivery requires mutual support, advice, and understanding (see *Table 3*).

Factor B's 10 highest ranked distributed leadership items ranged from 1.84 to 0.73. These leaders (a) acknowledged special education services require mutual support, advice, and understanding of other staff, (b) provided time to address the most important needs of students, (c) supported open communication, (d) ensured a well-functioning special education team, (e) promoted a professional collegial atmosphere, (f) helped analyze appropriate interventions, (g) addressed closing the achievement gaps, (h) collaboratively assessed instructional needs, (i) supported routine informal communication, and (j) acknowledged the expertise of educators (refer to *Table 3*). Both Factor A and B special education TLs and special education ADM members gave a high ranking to Item 1, "Ensure there is a well-functioning special education leadership team."

Special education leaders favored eight distributed leadership items: a well-functioning leadership team, clear goals, clear roles and responsibilities, task prioritization, support for district goals, the belief in distributing leadership, assignment of responsibilities linked to staff competencies of staff, and an understanding service delivery requires mutual support, advice, and understanding.

The lowest rankings for Factor A ranged from −0.985 to −1.63. Factor A members gave low rankings to professional development leadership items because these items are driven by external factors requiring uniform alignment from the organizational to individual level. Factor A's low rankings were associated with items pertaining to being available to collaborate with educators to (a) help after school, (b) develop home–school relations, (c) close the achievement gaps, (d) try new practices consistent with their own interests, and (e) pursue their own goals for professional learning. The lowest item rankings for Factor B ranged from −1.84 to −1.01. Factor B's low rankings were associated with items pertaining to (a) core objectives, (b) time management, (c) distributed leadership, (d) task prioritization, (e) autonomy, (f) district goals, (g) interdependency among groups, (h) confidentiality, and (i) trying new practices consistent with their interests. Both Factor A and B special education TLs and special education ADM members gave a low ranking to Item 15, "Encourage educators to try new practices consistent with their own interests."

Table 2: Demographic information by position for Factors A and B

		Factor A		Factor B	
Parameter	**Description**	***N* = 16**	*%*	***N* = 13**	*%*
Current position	Special education TL	8	50%	7	54%
	Special education ADM	8	50%	6	46%
Gender (TL)	Male	5	31%	2	15%
	Female	3	19%	5	38%
Gender (ADM)	Male	3	19%	1	8%
	Female	5	31%	5	38%
Years in current position (TL)	Less than 5 years	4	25%	2	15%
	5 or more years	4	25%	5	38%
Years in current position (ADM)	Less than 5 years	5	31%	1	8%
	5 or more years	3	19%	5	38%
Level of education (TL)	Bachelor	0	0%	1	8%
	Master	1	6%	3	23%
	Master +30	7	44%	3	23%
	Doctorate	0	0%	0	0%
Level of education (ADM)	Bachelor	0	0%	0	0%
	Master	3	19%	2	15%
	Master +30	5	31%	3	23%
	Doctorate	0	0%	1	8%
Teaching experience (TL)	Elementary only	0	0%	1	8%
	Secondary only	5	31%	5	38%
	Both elementary and secondary	3	19%	1	8%
	General education only	0	0%	0	0%
	Special education only	4	25%	3	23%
	General and special education	4	25%	4	31%
Teaching experience (ADM)	Elementary only	2	12.5%	3	23%
	Secondary only	4	25%	1	8%
	Both elementary and secondary	2	12.5%	2	15%
	General education only	1	6%	0	0%
	Special education only	6	37.5%	4	31%
	General and special education	1	6%	2	15%
Free and reduced lunch (TL)	>34.2% (state average) of district population	6	37.5%	1	8%
	<34.2% (state average) of district population	2	12.5%	6	46%
Free and reduced lunch (ADM)	>34.2% (state average) of district population	2	12.5%	3	23%
	<34.2% (state average) of district population	6	37.5%	3	23%
Age (TL)	21–30	1	6%	0	0%
	31–40	3	19%	2	15%

Table 2.–Continued.

Parameter	Description	Factor A		Factor B	
		N = 16	%	*N* = 13	%
	41–50	3	19%	4	31%
	51–60	1	6%	1	8%
Age (ADM)	21–30	0	0%	0	0%
	31–40	3	19%	0	0%
	41–50	4	25%	1	8%
	51–60	1	6%	5	38%
Ethnicity (TL)	White	8	100%	7	92%
	Minority	0	0%	0	8%
Ethnicity (ADM)	White	8	100%	5	92%
	Minority	0	0%	1*	8%
District enrollment (TL)	>3,000 student enrollment	7	44%	1	8%
	<3,000 student enrollment	1	6%	6	46%
	>17% (state average) special education student enrollment	7	44%	4	31%
	<17% (state average) special education student enrollment	1	6%	3	23%
District enrollment (ADM)	>3,000 student enrollment	3	19%	4	31%
	<3,000 student enrollment	5	31%	2	15%
	>17% (state average) special education student enrollment	6	37.5%	4	31%
	<17% (state average) special education student enrollment	2	12.5%	2	15%
Student achievement (TL)	AYP district ELA	2	12.5%	4	31%
	Non-AYP district ELA	6	37.5%	3	23%
	AYP district Math	1	6%	3	23%
	Non-AYP district Math	7	44%	4	31%
	AYP district ELA & Math	1	6%	3	23%
	District aggregate AYP ELA	3	19%	5	38%
	District aggregate AYP Math	2	12.5%	5	38%
Student achievement (ADM)	AYP district ELA	3	19%	2	15%
	Non-AYP district ELA	5	31%	4	31%
	AYP district Math	3	19%	2	15%
	Non-AYP district Math	5	31%	4	31%
	AYP district ELA & Math	3	19%	2	15%
	District aggregate AYP ELA	6	37.5%	3	23%
	District aggregate AYP Math	6	37.5%	3	23%

Note. TL = special education teacher leader; ADM = special education administrator; AYP = annual yearly progress; ELA = English Language Arts. *Indicates that P7, a special education administrator, was the one minority participant in this study and was a member of Factor B.

Table 3: Factor A and Factor B item rankings

Item	Leadership statements	Factor A factor scores ($n = 40$)	Factor B factor scores ($n = 40$)
1	Ensure there is a well-functioning special education leadership team	2.82013 (1)	1.48701 (4)
2	Be accountable for the professional behavior of the special education leadership team	0.26850 (12)	0.35939 (15)
3	Ensure the special education leadership team supports the district goals	1.26607 (5)	−1.42646 (35)
4	Ensure all members of the special education leadership team work in the same strand on the core objectives	−0.15165 (21)	−1.84327 (40)
5	Ensure people are assigned responsibilities based on competencies	0.92982 (7)	0.02726 (20)
6	Ensure members of the special education leadership team divide their time properly	0.45157 (10)	−1.81584 (39)
7	Ensure members of the special education leadership team have clear goals	2.38797 (2)	−0.48833 (28)
8	Ensure members of the special education leadership team prioritize tasks they have to perform	1.50974 (4)	−1.56554 (37)
9	Ensure members of the special education leadership team is willing to execute a good idea	0.50045 (9)	−0.69279 (33)
10	Ensure members of the special education leadership team have clear roles and responsibilities	1.95758 (3)	0.66281 (12)
11	Provide feedback to educators	0.40403 (11)	0.69273 (11)
12	Explain reasons for constructive criticism to educators	−1.02101 (35)	−0.52242 (29)
13	Be accountable after school to help educators when assistance is needed	−1.63027 (40)	−0.52985 (30)
14	Encourage educators to pursue their own goals for professional learning	−1.05848 (36)	−0.37154 (26)
15	Encourage educators to try new practices consistent with their own interests	−1.12218 (37)	−0.64585 (31)
16	Provide organizational support for educator interactions	−0.74246 (32)	−0.48292 (27)
17	Be involved in the summative evaluation of educators	−0.73541 (31)	−0.13207 (21)
18	Be involved in the formative evaluation of educators	−0.50926 (29)	−0.23962 (24)
19	Provide educators with time to address the most important needs of students	−0.41456 (27)	1.82812 (2)
20	Allow the special education leadership team to function autonomously	−0.28170 (25)	−1.45248 (36)
21	Work together with educators to develop programs	0.10826 (14)	0.64977 (13)
22	Acknowledge the expertise of educators	−0.10327 (18)	0.73621 (10)
23	Trust educators enough to make decisions	−0.00654 (17)	0.46274 (14)
24	Allow flexibility with responsibilities	−0.68635 (30)	−0.35550 (25)
25	Support educator(s) in developing a leadership role	−0.17953 (23)	−0.22485 (23)
26	Routinely communicate informally to educators	−0.85764 (33)	0.86673 (9)
27	Promote a professional collegial atmosphere	−0.23771 (24)	1.13516 (5)
28	Support open communication	0.13789 (13)	1.61476 (3)
29	Collaborate with educators on professional development	−0.98502 (34)	0.34614 (16)
30	Collaborate with educators on assessing instructional needs	−0.14229 (20)	0.91361 (8)
31	Collect data on the ground to be shared collaboratively	0.07122 (16)	−0.19523 (22)
32	Assist special educators on analyzing appropriate interventions	−0.16945 (22)	1.12858 (6)
33	Consult with educators	−0.31195 (26)	0.22407 (18)
34	Ensure that all staff understands the importance of confidentiality	−0.44605 (28)	−0.65169 (32)

Table 3.–Continued.

Item	Leadership statements	Factor A factor scores ($n = 40$)	Factor B factor scores ($n = 40$)
35	Understand that the relationship with educators hinges on the belief that leadership should be distributed	0.96595 (6)	−1.68271 (38)
36	Appreciate the work performed and the responsibilities involved with each staff member	−0.13038 (19)	0.32232 (17)
37	Understand that the relationship with educators is one of interdependency	0.07950 (15)	−1.01418 (34)
38	Collaborate with educators to develop home–school relations	−1.58294 (39)	0.10887 (19)
39	Understand that special education services cannot be accomplished without the mutual support, advice, and understanding of other staff members	0.86980 (8)	1.84428 (1)
40	Engage in specific discussions relative to closing the achievement gaps	−1.22241 (38)	0.92256 (7)

Rationale for Statement Rankings

According to the follow-up interviews, Factor A members' reasons for ranking these items high did not digress from the statements themselves; however, special education ADMs' rationales for ranking items did vary from TLs' rationales. Special education ADMs stated they strongly valued the necessity of ensuring the special education leadership team supports the district goals (Item 3), and special education TLs commented on the value of special education leadership teams having clear roles and responsibilities (Item 10) and clear goals (Item 7). Special education TLs ranked Item 4 low because working on the same strand of objectives was not always realistic when addressing and meeting the individual needs of students with special needs.

Both Factor A and B special education TLs and special education ADM members gave a low ranking to Item 15, "Encourage educators to try new practices consistent with their own interests."

Factor B special education ADM members stated in follow-up interviews that special education services cannot be accomplished without the mutual support, advice, and understanding of other staff members, whereas special education TLs expressed the importance of routinely communicating informally with educators as a leadership tool. Factor B members assigned low ranking to these statements for reasons stated as follows: (a) the goals and objectives of the district are secondary to the programming and individualized instruction needed to effectively support students with special needs; (b) constructive feedback should be a practice embedded in the culture of the organization; (c) the distribution and prioritization of leadership tasks should not be assigned, but take place naturally ("tasks prioritize themselves") within the special education leadership team; and (d) while the statements were viewed as important, they were not as important as the higher ranked items. Special education ADMs were the only Factor B members to comment on Item 34, "Ensure that all staff understands the importance of confidentiality," because confidentiality was not as important as the remaining distributed leadership items.

Factor A and B members provided similar rationale for selecting Item 1 as high ranking and Item 15 as low ranking. One Factor A ADM of special education leadership provided the following comment regarding the high ranking of Item 1,

> I chose this because it said, "well-functioning," and so in my mind a lot of other things have to happen for it to be well-functioning, and that means that, looking at the data, supporting your people with feedback, making sure the roles, goals, making sure that people are effectively using time, and also effectively supporting them follows a well-functioning team, and also open communication.

One Factor A TL said,

> … If you don't have a well-functioning team, the people in the team have to have the same thought process and we all have to work together in the best

> interest of the students. If we're not all on the same page then it's not going to work for the student.

One Factor B special education ADM stated he ranked Item 1 high because

> If the special education leadership team isn't well-functioning, then it's not going to be possible to complete the chores of special education, to deliver services, and to be out there creating programs.

The remaining two Factor B members, both special education TLs, provided similar responses stating, "ultimately if you don't have a well-functioning team at the top, things can fall apart really fast," and "without leadership, nothing else is going to work."

"…ultimately if you don't have a well-functioning team at the top, things can fall apart really fast," and "without leadership, nothing else is going to work."

Regarding the low ranking of Item 15 by both members of Factors A and B, one Factor A special education ADM stated,

> Encouraging new practices in their own interests. I kind of feel like you need to stay focused on what the goal is of the district, the core, you know, curriculum. So, yeah, you have interests, but, really, you need to stay up with what's the focus of the district.

One Factor A special education TL added, "Trying new practices that are of an educator's interest are not always in the best interest of the student population. I would encourage teachers to explore new practices that are in the students' best interest."

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Further, one Factor B ADM said,

> Well, one of the things that I noticed in trying to place the cards was that, for me, there was a lot of interrelationship or a lot of cross-over between some of the statements. So when I looked at laying out the statements, what I tried to do was look at "big picture" as being the most important, and least important maybe being the individual components of that big statement…So what I did was, I took the idea that I thought was the bigger picture, and I put that as more important. And the components of that bigger picture, I said, okay, that's only one aspect of that, so I kind of pushed that to the side.

Discussion

Factor Membership

The findings of this study clearly demonstrated perceptions of distributed leadership were not bound by professional roles. The analysis of the Q sorts resulted in two factors. Half of Factor A members were novice females (50%) who aligned with their novice male counterparts by showing a preference for planned leadership. Contrary to the findings of this study, planned forms of leadership are usually associated with more veteran leaders (Meigs, 2008; Michael, 2003). Also, earlier studies found female leaders to be highly collaborative, preferring to work with others to build collective communities (Eagly & Johannesen-Schimidt, 2001; Johnson, Busch, & Slate, 2008; Kawatra & Krishnan, 2004; Slater, 2004). While this membership configuration should be surprising, it is quite to the contrary given federal and state policies require the development of school action plans connected to goals, objectives, and student achievement outcomes. Leaders in free and reduced lunch schools gave higher priority to structure. The work of Horst and Martin (2007) in their earlier research, which found schools with high poverty levels require greater amount of structure by leadership to raise student achievement, supports this perception. Research has shown effective leaders provide structure through open vertical channels of communication (Yukl, 2006), which leads to improved professional growth (Goddard, Goddard, & Tschannen-Moran, 2007; Louis, Dretzke, & Wahlstrom, 2009). As found in Provost et al. (2010), the influence of contemporary educational reform policies cannot be underestimated, particularly in high-need schools in which these Factor A leaders face external demands that often leave little time to establish networks for collaboration.

The largely female, more veteran Factor B participants demonstrated a preference for leadership attributes linked to collaboration, which is similar to

the findings of Kawatra and Krishnan (2004), Johnson et al. (2008), and Schmidt, Kosmoski, and Pollack (1998). The collaborative preferences of this veteran group may have more to do with experience than gender. These experienced leaders may have a more developed understanding and appreciation of the importance of reaching out to others to address demands of leading complex organizations.

The data from this investigation show distributed leadership perceptions most likely follow a developmental continuum (Garand, 2014; Hersey, Blanchard, & Johnson, 2012; Mosely et al., 2014; Schulze, 2014) rather than being bound by a specific role/position (Schulman, 2005). The continuum emerging from this research, as well as the research of others, is one of leaders' perceptions maturing from a goal, accountability, and outcomes orientation to a collegial, supportive, and highly communicative orientation. These findings have implications for developing leaders, selecting leaders, and helping to promote coordination among various actors.

Factor Interpretation

Using the qualitative and quantitative data from this study, as well as the literature (Bennett et al., 2003; Gronn, 2002, 2008; Leithwood & Mascall, 2008; Leithwood et al., 2007; MacBeath et al., 2004; Spillane et al., 2001, 2004), three different emerging perceptions of distributed leadership for special education are explored and labeled: planned distribution, embedded distribution, and natural distribution.

Planned Distribution. The distributed leadership perspectives of Factor A members are consistent with strategic, planned distribution (Macbeath et al., 2004; Ritchie & Wood, 2007). Factor A members' reactions and comments about the necessities of effective leaders of special education reflect attributes described in the distributed leadership approaches of both strategic and collective distribution, which involves the planned appointments of individuals to work interdependently of each other to achieve collective goals (Macbeath et al., 2004; Spillane, 2006). For example, one Factor A ADM summarized her belief statement by stating,

> …Obviously, this notion of top-down leadership, what do we know, I think, about education, because it's hard for me to separate special ed. administration from education and teaching and learning, and where we want to affect change, I see there's a place for top-down at times, and then there's a place where you have to share it and own it to move something forward.

This statement shares the view of distributed leadership as also being *concertive action* where the sum is greater than the equal parts (Gronn, 2002, 2008).

The sorting patterns and comments of Factor A members indicate attributes of distributed leadership described in the literature and include (a) the planned appointments of individuals based on competencies and skill levels (Leithwood, 2005); (b) understanding leadership tasks should be distributed (Bennet et al., 2003); and (c) accountability through the implementation of clear roles, responsibilities, and goals (Macbeath et al., 2004). Clearly indicated in the sorting patterns and comments by Factor A members was the need for careful planning to accomplish the distributed leadership tasks.

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Lastly, the importance of teacher leadership in special education was recognized as important by members of Factor A as part of creating a planned environment. One Factor A special education TL commented that special educators may be "overwhelmed with the idea of leadership." Billingsley (2007) attributed such responses to role confusion and ambiguity situated in special education TL positions.

Embedded Distribution. The embedded distribution label for Factor B is consistent with the distributed leadership item rankings. Embedded leadership attributes are closely connected to cultural distribution, defined as a community of people working together towards a common goal in which leadership is assumed, shared, and embedded in the culture of the organization (Macbeath et al., 2004; Ritchie & Woods, 2007). As a result, the concept of leadership shifts from something planned and structured to a professional learning community where leadership is infused into the culture of the organization and instinctively performed. Embedded distribution relies on data teams and student data to

prioritize instructional and programming decisions, requires collaboration to assess instructional needs and maintain accountability, and depends on high levels of mutual trust, collegiality, and professionalism resulting in long-term positive outcomes.

Perceptions of distributed leadership by Factor B members were closely aligned to the findings of Berry et al. (2010), who found in a school culture where self-efficacy and empowerment are connected, individuals and groups solve their problems and achieve their goals as they grow in confidence. In order for special education services to be accomplished, Factor B members' sorting patterns and comments indicated the necessity for (a) collegiality and professionalism (Zahorik, 1987), (b) strong organizational structures that provide administrative support (Prather-Jones, 2011), and (c) high levels of open communication (MacBeath, 2005) emphasizing meeting student needs. Special education teachers have reportedly referenced the necessity for administrative and collegial support in the workplace (Prather-Jones, 2011). Administrative support has a determining influence on special education teachers remaining in the field of teaching, and finding support from other ADMs was influential on their career decisions (Prather-Jones, 2011). Research indicates the importance of high levels of open communication among teachers who talk to each other on a daily basis (Zahorik, 1987). Further, research supports teacher-to-teacher and teacher-to-principal collegiality as a characteristic of effective schools (Evans, 1991; Miller, Goddard, Goddard, Larsen, & Jacob, 2010).

Research indicates the importance of high levels of open communication among teachers who talk to each other on a daily basis (Zahorik, 1987).

Natural Distribution. The qualitative data collected from members of both factors suggested an emerging distributed leadership model for special education, *natural distribution*. Natural distribution of leadership tasks, similar to the description of spontaneous alignment described by Leithwood et al. (2007), is a pattern of distributed leadership in which leadership tasks are assigned spontaneously with little to no planning while educators work collectively together. Factor B members suggested the distribution and prioritization of leadership tasks should not be assigned, but take place naturally ("tasks prioritize themselves") within the special education leadership team. As a result of insignificant time dedicated to planning, natural distribution is often in response to an immediate need. In this context, role assignments rely on demonstrated skills and competencies needed to perform particular leadership tasks. Examples of natural distributed leadership in special education include reassigning staff responsibilities based on effectiveness, problem-solving skills, and follow through capabilities.

Limitations and Suggestions for Future Studies

The purpose of Q methodology is to seek out diverse points of view through a forced choice process (Dennis, 1993). If participants had been recruited randomly, it is likely some or many of the perspectives expressed during the Q-sorting procedure would have been missed (Barata, 2007; Brown, 1980; Provost et al., 2010). Results from Q methodology are not reflective of the general population or leadership globally (Barata, 2007), nor do they reflect causation. Participants are limited in their responses during the actual Q-sort procedure; however, they have an opportunity to include additional thoughts and opinions during the postsort interviews (Anderson et al., 1997; Barata, 2007; Bracken & Fischel, 2006; Cosman-Ross & Hiatt-Michael, 2005).

The strength of this study rests in the fact that it can be replicated in different environments with varied groups of participants and can accommodate the examination of the leadership attributes and thought processes supporting choices with regard to distributed leadership. The addition of Q statements representing other aspect of distributed leadership, variation to the parameters for participant selection, and the inclusion of general education school leaders also deserve future investigation. The Q method also can serve multiple purposes beyond empirical research. The Q method is an effective tool for examining the alignment priorities held by members of an organization with the organization's vision and mission.

Future studies employing qualitative inquiry might also consider how leaders of special education define distributed leadership by focusing on Spillane's (2006) notion of distribution of activity, Elmore's (2000, 2002) focus on collaborative action, and Gronn's (2008) political perspective on the distribution of power and influence.

Conclusion

This study contextualizes the varied perceptions of distributed leadership held by leaders of special education. When comparing the different contexts for distributed leadership for special education, it is evident experience and expertise along with work environment play a critical role in perceptions, more so than designated leadership roles. The more novice leaders' perceptions aligned with planned distributed leadership, whereas the more veteran leaders' perceptions reflected an embedded distributed leadership preference. According to Gronn (2008), the future of distributed leadership will depend on leaders availing themselves to its multiple forms. Further, the study suggests the possibility that as they mature, leaders will engage appropriate leadership approaches dependent on the situations and expectations for student achievement, staff performance measures, and curriculum reforms, and special education leaders will be able to engage in distributed leadership while meeting the individual needs of students with disabilities, staff, families, and community stakeholders in the era of accountability.

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