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# Early Intervention & School

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## School-Based Practice: Collaborative Partnerships in a Complex System

■ Nancy Davis, OTD, OTR/L

With the passage of the Education for All Handicapped Children Act of 1975, Pub. L. 94-142, occupational therapy practitioners began to forge their role as related service providers in the educational system. At that time, occupational therapy practitioners brought with them a medical model perspective, and frequently pulled children with disabilities from their classrooms to work in isolated locations to remediate identified deficits (Rourk, 1996). Over the years, school-based occupational therapy has transformed with an emphasis on service provision in the child's least restrictive environment (Chandler, Schoonover, Clark, & Jackson, 2008).

Change is inherent in the educational system, and this change can be challenging as new practice guidelines and processes continually influence school-based practice (Chandler, 2005). A survey of AOTA members who were occupational therapists working in school-based practice indicated that only 32% of respondents perceived that their curriculum adequately prepared them with the collaborative skills to work in this setting (Brandenburger-Shasby, 2005). Further, data from teacher interviews reveals that collaboration between occupational therapists and teachers needs improvement (Casillas, 2010).

Chandler (2005) viewed the change process in the school system from a complex systems perspective, as essential school system information continually flows through interrelated levels and varying modes. Within this system, occupational therapy practitioners are not isolated entities, but rather, interrelated members of a dynamic, emergent social network of communication. As integral members, occupational therapy practitioners must understand both the processes and the power of shared communication.

The nonlinear dynamics systems perspective provides a comprehensive lens and language to view the complex processes of school-based practice (Casillas, Davis, Loukas, & Schumacher, 2008). Importantly, these broad principles can be applied to gain insight and understanding of social communication networks, including educational systems. This article introduces a nonlinear dynamics conceptualization of communication as an emergent and dynamic social system process that can facilitate anticipation, participation, and transformation.

### From the Chairperson

■ Leslie Jackson, MEd, OT, FAOTA

*"So long, farewell, auf wiedersehen, adieu."*

That's a phrase from a song in one of my favorite movies, *The Sound of Music*. In it, the Von Trapp children lament that they have to leave a party when they would prefer to stay. Since 2009, the Early Intervention & School Special Interest Section (EISSIS) Standing Committee has been honored to represent you at an array of Association gatherings and get-togethers that touched on school-based and early intervention (EI) practice. And now, "regretfully they tell us but firmly they compel us, to say goodbye to you."

When we started, the Committee wanted to engage EISSIS members, mentor emerging leaders, and support practitioners through accurate information and resources. We still do. But as it became clear during the debates on the Participation Ad Hoc recommendations, member engagement and support doesn't necessarily look the same in today's environment as it did 3, 5, or 10 years ago—just as practice doesn't look the same as it did just a few years ago (at least it shouldn't look the same).

Change is everywhere. And that means the EISSIS has to innovate. And so do its members. Many EI and school settings are in a state of flux and desperately need help to find practical solutions to their problems. Occupational therapy practitioners have an obligation to "step up" and partner with families, administrators, and teachers to meet the challenges in front of them. Practice is messy sometimes and it takes thoughtful leadership to find ways to work through it without relying on formulas or gimmicks.

The EISSIS Committee operated on the notion that school-based and EI practitioners should be at the forefront of thinking, planning, and strategizing about effective approaches to serving

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children, their parents and teachers, and the organizations in which they work. Let's not be afraid to embrace roles as visionaries, thought leaders, change managers, and organizational developers in order to have the kind of influence we want to have within and across our environments.

Many thanks to Committee members Patricia Bowyer (Quarterly Editor), Dottie Handley-More (Professional Development Coordinator, Communications), and Meira Orentlicher (Professional Development Coordinator, Education/Research) for their service to the members, the Association, and the profession. Thanks also to Jessica Sweeney, a 2011 Emerging Leader, for her work on a Committee project. We are all looking forward to working with the incoming Committee and helping them to accomplish their goals. ■

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## The School System: A Dynamic, Multidimensional Social Community

Walter (1997) defined a community as a dynamic, complex, inclusive, multidimensional system and emergent whole of which we are a part. These terms aptly describe the classrooms, schools, districts, state, and national interconnected levels of a school system.

Communities have been described as “webs of relationships” (Freie, 1998, p. 3). Wenger (2000) further conceptualized communities as self-generating social networks, or “communities of practice.” Further, communities of practice are dynamic social learning systems with fluid boundaries and highly linked interconnections of learning loops across disciplines. It is through social learning systems that new knowledge is created and disseminated (Wenger, 2000). This new knowledge emerges through feedback loops of communication, where instability influences the emergence of novelty (Capra, 2002). Importantly, strengthening informal social relationships enhances the entire social network (Capra, 2002). Thus, conceptualization of the school system as a self-organizing, self-generating network of communication can provide understanding into the processes of learning, change, and transformation.

## The Nonlinear Dynamics of School-Based Practice

The concepts and language of the nonlinear dynamics (NLD) systems perspective emerged from discoveries in mathematics and science (Capra, 2002; Kelso, 1995). General concepts from this perspective can be applied to all living systems, from the complex

patterns of neurological systems to the complex processes of social structures (Capra, 2002).

## Key Concepts and Application to Practice

Kelso (1995) described numerous concepts of nonlinear dynamics. By breaking down Kelso's ideas we can more easily see the potential for practical applications.

- *Living systems have self-organizing patterns, and these patterns may be perturbed, or influenced, by internal and external information. When information becomes meaningful, the system may spontaneously change, and new patterns may emerge.*

The school system shares information through networks of communication. It is through networks of shared communication that a common context of meaning is generated (Capra, 2002). However, information in itself is not meaningful; it must become meaningful to influence change (Capra, 2002; Kelso, 1995). Meaning is generated as information is interpreted and put into a “particular context of concepts, values, beliefs, or circumstances” (Capra, 2002, p. 84).

If communication is not meaningful, shared understanding is constrained, and there will be no emergence of new knowledge. In order to facilitate change, information must not only be shared, but shared through a common language (Shepherd & Hanft, 2008).

For example, the need for interpreters in the school system is generally recognized when individuals or families encounter communication barriers due to language differences. However, it may not often be recognized that there can be constraints of understanding when speaking the *same* language. For example, school systems have specific language, terminology, and acronyms, such as IDEA, NCLB, LRE, and IEPs, that define both the legal structure and the processes of education. Lack of understanding of laws and policies on national, state, and local levels can negatively constrain communication.

- *Feedback loops of information may perturb, or influence, a system to bifurcate, or change.*

The continuous flow of internal and external information influences the patterns of behaviors of living systems (Kelso, 1995). In social systems, varied feedback loops of communication can transform thoughts and beliefs and influence change (Capra, 2002). In school communities, feedback loops can be observed at many levels. Students and teachers engage in dialogue in the classroom learning community, where new knowledge emerges. School-based practitioners communicate with students, teachers, families, administrators, and others both internal and external to the school community to support student participation and influence student outcomes.

Multiple feedback loops of meaningful communication build vital webs of relationships within the educational system. These relationship webs can then influence other parts of the interrelated and interdependent social system external to the school community. Feedback loops of communication can *perturb*, or influence, a system to *bifurcate*, or transform, to new and adaptive patterns of behavior and shared understanding. However, feedback loops of communication may also influence dysfunctional, or maladaptive, patterns. Therefore, it is important that occupational therapy practitioners understand how to influence positive change.

Although methods and modes of relationship building vary, *collaborative* communication has been identified as a process that is essential to successful school-based practice (Hanft & Shepherd, 2008). Hanft and Shepherd defined collaboration as “an interactive team process that focuses student, family, education, and related services partners on enhancing the academic achievement and functional performance of all students” (p. 3).

- *Competition and cooperation provide the instability to influence movement to new attractor patterns. Change is nonlinear; small perturbations may engender large changes.*

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Internal and external forces (information) continually influence change (Kelso, 1995). One force can overcome another, and this critical point of instability can influence a qualitative change, with movement from a base of stability to a new attractor pattern (Kelso, 1995). In social networks, meaningful information may trigger individuals to question their current beliefs or behaviors, causing chaos and uncertainty (Capra, 2002). This chaos may eventually influence the sudden emergence of new knowledge and new meaning (Capra, 2002).

Diversity of components, or perspectives, is essential for a complex system to flourish and transform. When differing perspectives are shared, the push-pull-cooperation-competition emotional tension of conflict may arise. Case-Smith (1998) asserted that “conflict should be embraced as an opportunity for growth” (p. 6). Perturbations from feedback loops of differing perspectives may influence change in one part of a system, or in one person. It is through these critical points of tension and instability that competing perspectives may come together, generating new and cooperative patterns of thought through a collective shared vision.

Competition and cooperation can build strong webs of relationships. However, competing perspectives can also influence communication breakdowns, annihilating relationship webs. When cultural beliefs and expectations of families are incongruent, or in competition, with those of the school system, increased tension may occur, influencing maladaptive relationship bifurcations.

Occupational therapy practitioners can perturb a change process and influence the emergence of self-organization to cooperative relationship patterns. The ability to express and articulate a strong central vision to be understood and embraced by all is a key to building respect and valuing humans (Capra, 2002; Wenger, 2000). It is through listening to the stories of others, and valuing these differences, that social systems can move from competition to cooperation.

### Building Community: Local-, State-, and National-Level Feedback Loops

The school system has a formal, hierarchical socio-political structure; policies from the national level trickle down to state and local districts. Yet, heterarchical nonlinear change processes are evidenced within this structure. These nonlinear processes are important components of the educational system. Issues and concerns at any level may be catalysts to influence change at other levels. An example of a heterarchical educational system change process can be observed in the IDEA Partnership (<http://ideapartnership.org>), funded by the Office of Special Education Programs and housed in the National Association of State Directors of Special Education.

Numerous states, technical assistance centers, and national organizations, including the American Occupational Therapy Association, are participating members of the IDEA Partnership. The Partnership is organized into Communities of Practice, consisting of individuals and organizations with diverse perspectives on the local, state, and national levels coalescing around complex issues of mutual concern. Through this collaborative sharing, bonds are created, and a common language and new meaning emerges (Cashman, Linehan, & Rosser, 2007). Thus, the communities (networks of social relationships) reveal a nonlinear, dynamic process of *feedback loops of communication* (sharing information) through *perturbations* (influences of diverse perspectives) with *self-organization* (emergence of new shared meaning and new knowledge) and *attraction* to novel system patterns (solving complex issues and effectively translating policy and research into practice).

### Perturbations: Influencing System Change

Occupational therapy practitioners can use the metaphoric language and concepts of nonlinear dynamics systems to better

understand the complex social system in which they work. These concepts can be applied in multiple ways at multiple levels. As essential members of a complex and dynamic social system, occupational therapy practitioners should not be passive components of this system; they can actively influence this change process.

School-based practitioners may feel tension from the many expectations confronting them on various system levels. Importantly, this tension is necessary for growth and transformation. Occupational therapy practitioners have not only the opportunity, but also the responsibility, knowledge, and skills to perturb the many layers of interrelated school communities, shaping the future of school-based practice.

### Getting Involved

The American Occupational Therapy Association’s (AOTA’s) volunteer pediatric workgroups are modeled after the IDEA Partnership Communities of Practice. Current workgroups include Autism, Transition, School Mental Health, Early Childhood, and Response to Intervention. Members meet through teleconferences for strategic planning and resource development, including tip sheets, FAQs, virtual chats, and participation in IDEA Partnership activities. AOTA members who are interested in participating in a pediatric workgroup should enter their information into the COOL database ([www.aota.org/COOL](http://www.aota.org/COOL)) for consideration as openings become available. For further information, contact Sandy Schefkind ([sschefkind@aota.org](mailto:sschefkind@aota.org)).

The Issues and Advocacy section of AOTA’s Web site (in the Practitioners section) provides strategies and resources for legislative advocacy on the state and federal levels. The IDEA Partnership provides additional tools and resources, including Users Guides and Dialogue Guides, to engage diverse perspectives, create productive dialogue, and facilitate active participation in the change process.

The school community presents frequent critical points of instability and continuous change. Diverse bonds, a shared vision, and action to create the vision are important components to guide this trajectory. Words, thoughtfully chosen and meaningfully shared, can inspire, influence, and perturb—and one small perturbation can engender a large, nonlinear system change.

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