Professor as Facilitator: Shaping an Emerging, Living System of Shared Leadership in the Classroom

David S. Bright, Ph.D.
Associate Professor
Wright State University
Department of Management
3640 Colonel Glenn Highway
Dayton, OH 45435
(937) 619-9005
david.bright@wright.edu

Elizabeth Fisher Turesky, Ph.D.
Assistant Professor
Leadership and Organizational Studies
University of Southern Maine
Lewiston-Auburn College
51 Westminster Street
Lewiston, ME 04240
(207) 753-6066
eturesky@usm.maine.edu

Roger Putzel, Ph.D.
Associate Professor
Business Administration
St. Michael's College
Colchester, VT 05439-0211
(802) 654-2458
rputzel@smcvt.edu

Thomas Stang
Wright State University
Department of Management
3640 Colonel Glenn Highway
Dayton, OH 45435
(937) 776-2880
thomas.stang5@gmail.com

Abstract

From the perspective of emergence, professors can facilitate and shape a class as a complex, adaptive, and living system. A case study illustrates phases of emergence in the classroom by tracing how a professor may use this perspective to empower students to share in the leadership of the classroom. Instead of presenting lessons, the professor facilitates emergent activity, creating a classroom structure where students practice leadership behaviors. In this classroom structure, the professor assumes the leadership roles of coach and facilitator. As a result students building the classroom culture together they connect with each other: they develop strong relationships, take initiative, and learn important lessons about leadership. This article concludes with design principles for establishing a classroom of shared leadership in any teaching environment in any subject.

Introduction

In recent decades several critics (Wisnewski, 2010; Aram & Noble, 1999; McAndrew, 1997; Rifkin, 1980) of traditional classroom pedagogy have urged educators to embrace learner-centric teaching, where the professor shifts from a top-down, hierarchical command-and-control instructor to a facilitator, acting as coach, consultant, and gardener. Does allowing a class culture to emerge engage the students? How might a professor facilitate this emergence during different phases of the class? Axley and McMahon (2006) describe the classroom as a system; we focus on three of their systemic elements emergence, connections, and feedback loops.

Emergence in the Classroom

"Emergence" refers to novelty in a system's form or function (Bunge, 2003; Goldstein, 1999). For Bunge (2003) "self-arranging" or organizing among students manifests such novelty. From the "bottom-up," individuals reacting to local stimuli assemble an elegant, system-level pattern (Bunge, 2003; Bedau, 1997).

Several literatures explore people's capacity for emergent organizing. In organization development (OD) bottom-up processes generate informal order in organizational life (Burnes, 2005; Weick, 2000) and are found in T-groups, gestalt theory and emergent leadership (Highhouse, 2002; Martinez, 2010). In addition, several applied OD practices assume that people will generate order (e.g., Olson & Eoyang, 2001; Owen, 2008). For many years OD has viewed organizations as complex and adaptive rather than mechanistic and linear systems (Bushe & Marshak, 2009).

Emergence is a common theme in several strands of complexity science. Axley and McMahon (2006) refer to complex adaptive systems models, network organizations, non-equilibrium and chaos theory, as do many others (Anderson, 1999; Black & Edwards, 2000; Goldstein, 1999; Kauffman, 1995; Mathews, White, & Long, 1999; Waldrop, 1992). Emergence always refers to a new state of an individual, group, organization - or classroom.

Yet ideas about emergence have barely influenced pedagogy. In our experience most professors still operate hierarchically, expecting students to follow instructions. For Robinson (2010) our educational system is implicitly designed to suppress creativity in the service of a linear, industrialist paradigm for the convenience and control of the professor.

Professors may help a more complex and fulfilling system emerge in the classroom. In such an environment, in classes characterized by connectedness and feedback loops, students may develop greater awareness about themselves and about complex organizations (Axley & McMahon, 2006). Connectedness is the configuration of relationships between agents in a system. Highly functioning organizations require a high level of connectedness (Dutton & Heaphy, 2003). People may form connections when confronted with chaos or ambiguity (Blatt, 2006). Students connect when assignments require self-organization.

According to systems theorists (e.g., Katz & Kahn, 1978; Burke, 2002; Axley & McMahon, 2006) positive or amplifying feedback loops provide energy and direction to the activities of interacting agents. For instance, students who experiment inspire their peers and set patterns for classroom interaction. Conversely, negative feedback loops (e.g., "damping feedback," Axley & McMahon, 2006, 305) restrict experimentation. Adaptive organizations flirt with chaos (Pascale, Milleman, & Gioja, 2001), but negative feedback keeps them from going too far.

When connectedness and feedback loops emerge, a system becomes adaptive and can reshape itself indefinitely and perhaps independently (Livne-Tarandach & Bartunek, 2009). Just as fireflies begin flashing in harmony (Radio Lab, 2003); students may synchronize their behaviors and interests. Rather than looking to the professor for leadership and direction, students have their own ideas and take initiative; they gain understanding of themselves and their systems environment; they learn to lead (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005).

Facilitation and Emergence

How can the professor facilitate the emergence of student organizing? Let us compare the facilitator to a gardener. A gardener sets artificial structures that affect plants: soil condition, seed selection, watering patterns, and so forth. Only the plants, however,

can grow. Foliage emerges under the right conditions; the gardener shapes emergence toward a desired outcome. For instance, with some crops (e.g., peas or grapes), the gardener installs a trellis that shapes but does not determine the pattern of growth. On one trellis leaves form unique patterns each year.

Similarly, the professor can set formal conditions for learning: the arrangement of the physical space, the enactment of class routines, and opportunities for student initiative. Students enact a classroom reality in response to these conditions. The professor provides a framework but cannot force students to learn. An initial class template becomes the trellis upon which learning grows.

Teachers interested in creating an emergent learning system may give up some control over the behavior and activities of students – admittedly a terrifying prospect for many professors; hence questions arise.

> *Question 1: How do connectedness and feedback loops develop in a classroom?*

> *Question 2: How can a facilitator foster connectedness and feedback loops in a classroom?*

Methodology

We used a qualitative case study approach in the action research tradition, where colleagues systematically examine their own experiences (Reason & Bradbury, 2001). As professors we examine materials, experiences, and outputs from emergent classes.

Case Selection

We studied classrooms where students and the professor share leadership in the context of studying organizational behavior and management, though our conclusions may well apply to classes on other topics. The organizational behavior courses taught by the authors of this paper depart from the hierarchical classroom approach.

The shared leadership approach includes several common elements. For example, the professor eliminates rows of tables and chairs before the first class. As the course begins, the professor tells the students that they "will learn by doing, reflecting, analyzing and experimenting with new behaviors in a safe environment that is a departure from the traditional and familiar classroom experience." Short lectures, students are told, will either be given in class or posted online, with the professor acting as a guide and facilitator. Students receive a syllabus detailing assignments and required reading that provide structure and organization to the

course, but students and the professor must work out how the classroom will function. Course, group and individual expectations, goals and outcomes are shared and clarified, and many questions are answered by the professor during classes the first week, as students grapple with their learner-centered role in this non-traditional classroom. After grasping this role, students share information, distribute responsibility, motivate each other, and take part in leading the class.

Organizational behavior as a course topic provides an appropriate context for the study of facilitation for several reasons. First, the course covers topics that apply to emergence: leadership, organizational dynamics, conflict management, communicating effectively, power, influence and team development. In teams students practice skills, observe, analyze, and experiment with behavior, give and receive constructive feedback from their peers, and present a project. The structure of the classroom requires students to engage in self-organizing; students assume differentiated roles and responsibilities within their teams. Students choose to present on the topics covered and evaluate one another at the beginning, in the middle and at the end of the course. The class experience generates data that the students may gather, compile, and interpret in a final paper.

Data Collection

Our data collection strategy provided a diversity of perspectives to ensure a credible and dependable representation of professor and student experiences (Yin, 2009). Three sources were examined. First, the course syllabus and manual for a particular collaborative class design provided background on the expectations for students, and assumptions about the role of the professor.

Second, ten hours of interviews with an exemplar instructor for this course explored perspectives about facilitation at different points of the class. Questions included: "What patterns do you observe in this phase of the class?" "What are the students' reactions?" "What developments do you expect?" and "What do you do to facilitate the emergence of these developments?" The responses were transcribed in detail.

Third, to represent the students' perspectives, we drew a sample of 60 from 160 student memos written in two sections of this exemplary teacher's class. In these memos, students wrote their goals, observations, and insights about class events the preceding week, personal lessons learned, and their goals for the next week, thus proving, a snapshot into the student experience at a particular moment. These required weekly memos were written for and judged by peers. The partially randomized selection provided a representative sample on student experiences.

Data Analysis

The analysis followed several steps to ensure confirmability of our data interpretation. First, the authors organized their observations to correspond with the early, middle, and late phases of the class. The data were entered into Atlas-ti, used to manage all analysis and results. Second, following Boyatzis (1998), the student author read and conducted open-coding (Glaser & Strauss, 1967) on the data to generate an initial list of themes. In particular, we were looking for (a) the conditions for emergence (e.g., the appearance of connectedness and feedback loops), (b) the student experience as emergence occurred, and (c) the facilitator's role and actions during each phase. Third, the remaining authors discussed and sorted the open codes into thematic clusters (Boyatzis, 1998) that describe system developments in all our similarly framed classrooms when we function as facilitators. Each coded quotation was reviewed until the author team reached consensus on each theme and its interpretation. Fourth, these themes were arranged on a timeline, as indicated in Table 1, with the essential activities and indicators shown. Finally, we used the themes to again interpret original data to verify that the results were replicable.

Results

Early Phase

Students' reactions to the prospect of a non-traditional, learner-centered course range from disbelief to fear to positive anticipation. The early phase is characterized by stuctural divergence, an anxious emotional climate, and underdeveloped patterns of feedback. The prfessor focuses on shaping emergent structures, nurturing a supportive emotional climate and building students' self-confidence.

Table 1 illustrates the emerging states in a classroom and how the professors facilitate the classroom through each stage. The table depicts themes at each phase. The professors' comments come from our discussions; student papers are cited directly (albeit anonymously).

Table 1
Emergent Developments and Facilitation Activities in the Shared Leadership
Designed Classroom

Phase	Emergent Developments	Facilitation Activities
Early	Structural divergence: • Initiation of connections; students become acquainted. • Structures and assignments presented for students to practice and share leadership. Emergence of initial informal structure as they do. • Experimentation to accomplish goals. Lots of questions and trial and error. Anxious Emotional Climate: • Many students express discomfort with ambiguity and expectation for students sharing responsibility for the learning in the classroom. • Testing of instructor expectations. To resolve ambiguity students ask for direction. • Demonstration of relief and excitement at initial successes. Underdeveloped Patterns of Feedback: • Hesitance to talk authentically about feelings and perceptions; peer-to-peer feedback is almost all positive but *pro forma*. • Students concerned about how peers perceive them, don't want "to look stupid."	Shape Emergent Structures: • Signal that class will operate under different assumptions from what students are used to (e.g., change physical arrangement of classroom). • Lay out a formal structure, with differentiated roles, for students to build their emergent system on. • Clarify assignments, expectations and goals as soon as possible. Nurture a Supportive Emotional Climate: • Create conditions for student-to-student coaching and peer feedback. • Express confidence that they will achieve their goals. • Show students that you care about them. • Be patient. Emergence takes time. Build Confidence: • Be generous with constructive and supportive feedback to students. • Model active listening and effective feedback. • Honor expression of all feelings, positive and negative. • Honor mistakes. Be unflappable when things go awry. • Help students to identify, express, and develop their leadership strengths. • Have fun.

| Middle | **Structural Stability**
 • Emergence of leadership behaviors among students.
 • The system matures; routines taken for granted.
 • Anxiety and confusion gives way to positive engagement.

 Deepened Capacity for Feedback
 • Constructive feedback becomes a valuable asset.
 • Students apply leadership concepts when providing feedback to their teammates.

 Growing Awareness of Self Within a System of Relationships
 • Deepening knowledge of how the system works.
 • Norms emerge norms named earlier phase acknowledged and reinforced.
 • Startling discovery: when initiating leadership behaviors, I can influence others and the system. | **Reinforce the New Formal Structure**
 • Hold students accountable for the their own learning and collective learning in the class.
 • Facilitate team and leadership development and model the leadership to do so.

 Foster Authenticity
 • Encourage students to say what they think/feel. Facilitate trust building.
 • Use student-to-student feedback to open up discussions about meeting expectations of self and others.
 • Encourage students to support each other to take risks to try new leadership behaviors.

 Facilitate Self-discovery
 • Keep appropriate levels of tension in the class to allow students to stretch themselves.
 • Continue to coach and give feedback to students.
 Reinforce and celebrate self-discovery. |
| Late | **Convergence in Task, Process and relationship**
 • Convergence in the use of leadership jargon to explain theory to practice in the classroom and in connection with one's work and life experiences.
 • Concepts used to describe events and developments in the classroom as a laboratory for learning about leadership.

 High Quality Relationships
 • Peer pressure and support for one another brings out the best in everyone.
 • Asking one another for significant personal feedback.
 • Peer coaching.

 Awareness of Transcendent Impacts
 • Papers that are peer reviewed describe learning beyond the course.
 • Recognition of how I react to others.
 • Deepened but detached appreciation of own strengths, weaknesses. | **Encourage Reflection and Perspective-taking**
 • Debrief classroom experience. How did individually and collectively did students achieve goals? What was your experience over the semester?
 • Students interview one another.
 • Students pushed to become self-reflective. How far have I come? Have my goals and attitudes changed? What do I learn next? How have I and do I apply what I learned in this course to the organization where I work now or will work in the future?

 Allow the Momentum to Reach Its Natural End
 • Success = enthusiastic engagement in learning activities.
 • Professor steps forward to coach students in reflecting deeply to find the personal meaning in their experiences over the course of the semester. |

At first, students frequently use terms such as "confusion" and "anxiety," indicating an **anxious emotional climate**. They are uncomfortable with the ambiguity of the class and apprehensive at taking responsibility for activities in class, such as in student-led discussions, leading their team in an experiential

exercise, giving each other feedback, and presenting course content to the entire class or to their team. In the face of this initial anxiety, the professor works to establish a supportive climate by demonstrating passion for students' learning and by expressing confidence that the students will find their way. As in any normal class, students turn to the instructor for direction. Like coaches, a professor responds to anxiety by expressing confidence in students' abilities. The professor shares resources and helps to clarify students' understanding of how they will learn (by doing). The professor does not provide too much direction, which at this stage would undermine the class as it (unconsciously) seeks leadership within itself. The professor allows students to work their way through anxiety and confusion, noting that students learn at the edge of their comfort zone. In the vocabulary of complexity, we expect a novel, informal organization to emerge.

The professor thus **shapes emergent structures** by setting the initial conditions and encouraging students to develop their own patterns of activity. Key facilitative actions include telling students that the class will be a new kind of experience, clarifying expectations, assignments, course and individual goals, and coaching students as they engage in the work of the classroom—learning about organizational behavior and leadership. For instance, the professor rearranges the physical space of the classroom. "The physical message right away is that this is not going to look like another classroom." The professor does other things to signal that this course will be different. They devote class time for students to discuss and share their expectations and learning needs in small groups and then with all present. To reduce dependence and to release emergent energy, they encourage their students to take initiative, to take risks.

When students think and act beyond assignments and grades for the class, the authors believe that they have developed commitment to the their own learning and to that of their peers. As students show evidence of awareness, responsibility, and commitment, they go beyond their original assumptions about what can be learned in the classroom about themselves and others. Students have new, hence emergent, experiences in relationships with peers and their professor.

Structural divergence occurs at the next stage, as students engage in new classroom activities. Students demonstrate new classroom behavior as they join with their peers to complete team projects and engage in activities, simulations and assignments. Early on they make mistakes. Students must feel free to experiment with new ideas and ways of leading in order to learn to identify and correct mistakes as well as to overcome their fear of making them. A new classroom organizational structure emerges when students learn from experience which actions succeed, which fail, and which can be improved upon. Evidence of divergence is also found in the students' stated desire to connect with their peers, to learn who they are and what they do. Students express interest in learning not

only more about one another as individuals, but also in the benefit of learning from one another. In so doing atudents link theory with the practice of leadership and organizational behavior.

During this early phase an **underdeveloped pattern of feedback** prevails in the class. Students feel frustrated, embarrassed, inadequate, or insecure; they struggle to fulfill responsibilities and achieve their goals. They have difficulty sharing authentic information. So the professors **reinforce students' self-confidence** by expressing confidence that the students will succeed and by instituting procedures that give students experience and, thereby, an increased sense of certainty. After presentations, discussions or experiential activities, peer reviews and other constructive feedback help shift the students' mindset towards self-efficacy, confidence and autonomy.

By the end of the early phase, students have presented to the class, led a discussion, facilitated a team exercise, given and received specific, constructive feedback, and reflected upon and discussed perceived successes and failures. They have some experience. Now they express relief and excitement about the classroom undertaking. The professors celebrate these moments as success but more importantly as appreciation and validation of where students are at that moment. Whether feeling fear, stress, or excitement, students are engaged with the enterprise. The professor's actions plant the seeds of psychological safety (Edmondson, 1999), important classroom leadership by students, and a culture where people venture out of their comfort zone.

Middle Phase

Table 1 depicts three developments in the middle stage: structural stability, enhanced feedback and security within a system of relationships. As these features emerge, the professor **reinforces emergent classroom structures**. The professor promotes innovation, authenticity, and self-discovery. In one instance, students insincerely praised a seriously flawed presentation. The professor, after referring to an obviously substandard presentation, strongly challenged the critics to be honest. Students report that the next round of feedback is sharper, more specific and effective.

Such facilitation generates **structural stability**, as new classroom norms develop. Informal leadership emerges as class members routinely play more active roles than in traditionally taught courses. Students look to one another for significant feedback within the safe structure of their classroom. Leadership is not only informal but also shared. Despite formal team boundaries, people communicate across the class, solving problems and making decisions. Now familiar with peers,

professor, roles, and classroom procedures, students come to class expecting interaction that matters.

As students grasp key concepts and become comfortable working in a nontraditional and highly interactive classroom, a positive, supportive environment forms. Psychological safety matures, as evidenced by the frequency and candor of peer feedback. Students understand why they are evaluated and participate in the process. Students report that the polite and positive feedback of the early phase has been supplanted by feedback that hits hard, but does not threaten.

Watching the class structure stabilize, students see how a system works, how the environment shifts, how they fit in, and how the patterns reflect theory. From their observation emerges an **awareness of self within a system of relationships** and how people – they - influence the organization.

Opportunities arise for professors to **facilitate self-discovery**. Organization emerges at the edge of chaos (Axley & McMahon, 2006; Pascale, Milleman, & Gioja, 2001). Self-discovery occurs as students give and receive feedback and understand their own feelings and those of others. For students to learn important lessons about themselves, the classroom needs "safe tension" – an environment where people share candid information, fearing neither failure nor retribution. At this stage the professor redirects attention away from procedural issues towards students' personal development and leadership agendas.

Late Phase

As the last row of Table 1 shows, the late stage of system development features convergence of task processes, high quality relationships, and awareness of transcendent effects. Student behaviors, interactions, and outcomes are consistent and self-sustaining. For example, students come to class ready to conduct an entire session of class with apparent ease. Students interact with consistency: they make requests of one another, report to one another, and provide one another with constructive feedback. In short, the class exhibits a stable organizational form.

Relationships have reached a highly developed state. Students rely upon their peers and influence each other with little hesitation. Rather than disappoint their peers, many students exceed their own expectations. Norms about honesty and self-improvement govern student behaviors. At this stage, students accept and encourage peer-to-peer coaching. They see each other's strengths and weaknesses and encourage one another to improve.

Finally, an **awareness of transcendent impacts** emerges as students discern and understand processes of an organization. Students develop a deeper understanding about how organizational systems actually operate, including how the parts and the whole work together. They see themselves in a different light, having exerted influence within the system. With this new self-awareness comes greater confidence in exercising leadership. Note for instance, this student's statement: "I had never thought in a million years that I would be so passionate about a class and have confidence in myself to stand up and address a full class of students … This experience is one that will stay with me forever… I still reminisce in awe that I was so self-assured."

As the class reaches its conclusion, students also report that discoveries and lessons learned-have created changes beyond the classroom. One student wrote the following: "Being able to present myself in a positive and professional manner on a more consistent basis is going to have to be a personal goal of mine for years to come. Furthermore, I am glad that I was able to have this experience because … it was extremely rewarding for me personally in ways that will carry far beyond this course."

The data also demonstrate learning about the interaction between the individual and the whole. Students learn that every person in a system is connected to every other person. Furthermore, they realize that they can change the system. They have seen small conversations cascade through the classroom and generate systemic change. They have seen change in one team affect the entire class. As one student wrote:
"I have a completely different outlook on the classroom setting. I have become more active … and have been participating more…We couldn't just sit back and get by with the bare minimum because our peers were depending on us. We didn't want to let each other down."

Discussion

We emphasize two points of contribution: First, we have extended Axley and McMahon's (2006) seminal review of complex systems in the classroom, which included three key elements: emergence, connectedness, and feedback loops. We have shown how these elements contribute to a class and develop over its life cycle. Secondly, we have linked the literature on complexity to a student-centered pedagogy that gives students the experience of a complex system. Examples from the authors' classroom experiences have demonstrated how the concept of emergence facilitates a classroom organization.

Connectedness and feedback loops contribute to self-organized learning. To use the gardening metaphor, connectedness buds in the early phase but does not bloom until the middle phase. As Blatt (2006) observed, people connect to confront structural divergence, ambiguity, or uncertainty, as in the early phase. While most professors want students to develop relationships broadly, students in traditional classes connect with others and feel psychological safety only in a small circle of acquaintances. In contrast, our classroom structures foster and capitalize on *connectedness*: students participate with confidence and develop strong relationships widely.

Feedback loops apparently take longer to emerge, perhaps requiring connectedness. Students critiqued their peers' efforts with platitudes and polite commentary in the early phases. As they connected in the middle phase, students critiqued more authentically, sharing both positive and negative perceptions. This more potent feedback eventually taught students important lessons about sharing leadership. Apparently, transcendent lessons require feedback.

Thus, connectedness and feedback loops, essential elements of a complex, adaptive system, require time and cultivation to develop and to produce transcendent learning. Accordingly, the second research question focused on a professor's facilitation of emergence in the classroom. Like gardeners preparing the soil and planting seeds, early in the class the professors create the conditions for student leadership to take root. In a classroom arranged and managed in a new way, students develop ambitious goals and strict norms and confront each other on achievement of and deviance from them. The professors encourage students to take ownership of the classroom by participating in forming the agenda, conducting team presentations, facilitating team learning, and developing leadership activities. In the middle phase, students establish their own formal processes and routines, and the professor helps them learn to observe dispassionately and give constructive feedback. As the class matures, the professor coaches students to harvest their learning through self-discovery, reflection and perspective-taking. Students help one another achieve personal learning objectives and the learning outcomes of the course. Emerging from a template, student organization acquires a life of its own and produces intricate human activity. The system unfolds as students interact and develop relationships with each other and with the professor. By making observations *in vivo*, the professor helps the class become a living laboratory for testing concepts and practices of leadership and organizational behavior. The class becomes its own case study for students, who write about it in their journals and final papers.

Throughout the experience, the professor must not instruct too much, even when confronted with students' initial insecurity. Typically a professor would answer all questions and give clear directions to ease tension. In the shared leadership

approach to the classroom, the professor allows students to be anxious, knowing that innovation and change occur at the edge of chaos (Pascale, Milleman, & Gioja, 2001). The professor should not resolve ambiguity for students, but should coach them to resolve it for themselves. The professor instills confidence and a supportive emotional climate to empower students and then gets out of their way.

The analysis suggests the following design principles for transferring the lessons of this paper to create a classroom where students become more empowered, responsible, self-directed, and aware of systems dynamics:

- **A bottom-up organization emerges from a formal organizational template that functions as a seed.** The instructor provides a template for activity but then allows the organization to evolve. To recall the gardening metaphor, students first see the garden trellis, but then their activities fill in the spaces. Figuratively, the students' emergent activity covers the trellis and becomes the class's novel structure, usually as a unique interpretation of the original, formal organizational template.

- **Give students significant autonomy and responsibility for the class as a system.** Sharing leadership in the classroom enhances student achievement. Students are given assignments of significant responsibility: they plan and lead interactive workshops on key topics, they develop and deliver peer-to-peer teaching; their evaluations of their peers count as part of the grade. Students respond tentatively at first, but ultimately report unmatched learning through such experiences.

- **Create opportunities for students to connect.** Our experience adds evidence to what the literature says: the emergence of an exceptionally effective system requires connectedness (Dutton & Heaphy, 2003). Yet, connectedness does not just happen; it needs attention and nurturing – it needs cultivation. Students more readily step up to classroom leadership after activities where they become acquainted, forge psychological contracts with one another, and develop mutual support.

- **Teach students how to observe and how to share high quality feedback.** Students need to see the professor model good feedback. The professor first demonstrates effective feedback when making observations of students presenting or facilitating. Frank, constructive, and supportive, the professor gently pushes students to be so with one another. We teach students to (a) identify others' effective actions, (b) set measurable self-improvement objectives, and (c) plan suggested changes in detail.

In recent years, the professor's role in higher education has been called into question (Weimer, 2002; Ramsey & Fitzgibbons, 2005). Jarvik (2009) has even called traditional university education obsolete. This study provides a viable alternative: sharing leadership in the classroom. High student engagement results. As their personal and organizational efforts bear fruit, students bear witness to a system emerging inside and outside themselves. They notice new behavior and attitudes in themselves and in others. This experience gives them the courage to engage in active experimentation in the classroom (Kolb, 1984) and to keep growing (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005). Writers such as Alderfer (1972) have called such awareness essential to personal well-being.

A key limitation of this study, of course, is its focus on a specific set of courses. Future work should validate the patterns we have discerned. However, our conclusions fit previous findings and perspectives. For instance, Weimer (2003) and Doyle (2008) have both noted student's initially tentative reaction to learner-centric teaching. In general, our work contributes to the paradigm of the university classroom as a venue for significant, constructivist learning.

Finally, this study may benefit professors who want to incorporate shared leadership in their teaching. The systems perspective informs every classroom setting. No matter what design a professor uses, students align themselves to a template of organization, as did the students in this study. Students are more likely to take initiative and exercise positive peer influence if the curriculum includes time for connecting with one another and for sharing high quality feedback, information, perspectives, and energy. In our view, facilitation from the perspective of emergence, because it creates a memorable experience, generates "sticky" learning. Knowledge sharing and feedback in an emergent organization provide deep, applied learning. The classroom structured as an emergent, living system offers opportunities for students to organize, innovate, and flourish as learners and leaders.

References

Alderfer, C. (1972). *Existence, relatedness, & growth*. New York: Free Press.

Anderson, P. (1999). Complexity theory and organization science. *Organization Science, 10*(3), 216-232.

Aram, E., & Noble, D. (1999). Educating prospective managers in the complexity of organizational life. *Management Learning, 30*(3), 321-342.

Axley, S. R., & McMahon, T. R. (2006). Complexity: A frontier for management education. *Journal of Management Education, 30*(2), 295-315.

Bedau, M. (1997). Weak Emergence. In James Tomberlin (ed.), *Philosophical Perspectives: Mind, Causation, and World*, (vol. 11), Blackwell Publishers (pp. 375-399).

Black, J. A., & Edwards, S. (2000). Emergence of virtual or network organizations: Fad or feature. *Journal of Organizational Change Management, 13*(6), 567-576.

Blatt, R. (2006). High quality connections as an organizing mechanism in low structure situations. Presentation given at the Annual Meeting of the Academy of Management, Atlanta, GA.

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development* (1st ed.). Sage Publications.

Bunge, M. (2003). *Emergence and convergence: Qualitative novelty and the unity of knowledge*. Toronto: University of Toronto Press.

Burke, W. W. (2002). *Organization change: Theory and practice*. Thousand Oaks, CA: Sage.

Burnes, B. (2005). Complexity theories and organizational change. *International Journal of Management Reviews, 7*(2), 73–90.

Bushe, G. R., & Marshak, R. J. (2009). Revisioning organization development: Diagnostic and dialogic premises and patterns of practice. *Journal of Applied Behavioral Science. 45*(3), 348-368.

Doyle, T. (2008). *Helping students learn in a learner-centered environment*. Sterling, Virginia: Stylus Publications.

Dutton, J. E., & Heaphy, E. D. (2003). The power of high-quality connections. In K.S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive Organizational Scholarship: Foundations of a new discipline* (pp. 263-278). San Francisco: Berrett Koehler.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350-383.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine Publishing Company.

Goldstein, J. (1999). Emergence as a construct: History and issues. *Emergence 1*(1), 49-72.

Highhouse, S. (2002). A history of the T-group and its early applications in management development. *Group Dynamics, 6*(4), 277-290.

Jarvik, E. (2009). Universities will be 'irrelevant' by 2020, Y. professor says. *Deseret News*. Retrieved January 8, 2010, from http://www.deseretnews.com/article/705298649 /Universities-will-be-irrelevant.html.

Katz, D., & Kahn, R. L. (1978). Organizations and system concepts. In D. Katz & R.L. Kahn *The social psychology of organizations* (2nd ed., pp. 270-280). New York: Wiley.

Kauffman, S. (1995). *At home in the universe: The search for laws of self-organization and complexity*. New York: Oxford University Press.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Komives, S. R., Owen, J. E., Longerbeam, S. D., Mainella, F.C., & Osteen, L. (2005). Developing a leadership identity: A grounded theory. *Journal of College Student Development, 46,* 593-611.

Livne-Tarandach, R., & Bartunek, J. M. (2009). A new horizon for organizational change and development scholarship: Connecting planned and emergent change. In R. W. Woodman, W. A. Pasmore, & A. B. Shani (Eds.), *Research in Organizational Change and Development* (Vol. 17, pp. 1-35). Emerald Group/JAI.

Martinez, S. M. (2010). Leadership for complexity and adaptability. In S. Jaspar (ed.), *Securing freedom in the global commons.* Stanford, CA: Stanford University Press, (pp. 159-173).

Mathews, K., White, M., & Long, R. (1999). Why study the complexity sciences in The social sciences. *Human Relations, 52*(4), 439-462.

McAndrew, D. (1997). Chaos, complexity, and fuzziness. *English Journal, 86*(7), 37-43.

Olson, E. E., & Eoyang, G. H. (2001). Facilitating organization change: lessons from complexity science. Hoboken, NJ: Pfeiffer Publishing.

Owen, H. (2008). *Open space technology: A user's guide* (3rd ed.). San Francisco: Berrett-Koehler.

Pascale, R., Milleman, M., & Gioja, L. (2001). *Surfing the edge of chaos: The laws of nature and the new laws of business*. New York: Crown Publishing Group.

Radio Lab (2003). *Emergence*. http://www.radiolab.org/2007/aug/14/.

Ramsey, J., & Fitzgibbons, D. (2005). Being in the classroom. *Journal of Management Education. 29*(2), 333-356.

Reason, P., & Bradbury, H. (Eds.) (2001). *Handbook of action research*. Thousand Oaks, CA: Sage.

Rifkin, J. (1980). *Entropy: A new world view*. New York: Viking.

Robinson, K. (2010). *RSA Animate - Changing education paradigms*. (United Kingdom: RSA Events, http://www.cognitivemedia.co.uk). Retrieved January 21, 2011 from http://www.youtube.com/watch?v=zDZFcDGpL4U.

Waldrop, M. (1992). *Complexity: The emerging science at the edge of order and chaos*. New York: Touchstone.

Weick, K. (2000). Emergent change as a universal in organizations. In M. Beer & N. Nohria (Eds.), *Breaking the Code of Change* (pp. 223-241). Boston: Harvard Business School Press.

Weimer, M. (2002). *Learner-centered teaching five key changes to practice* (1st ed.). San Francisco: Jossey-Bass.

Wisniewski, M. (2010). Leadership and the millennials: Transforming today's technological teens into tomorrow's leaders. *Journal of Leadership Education, 9*(1), 53-67.

Yin, R. K. (2009). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.

Author Biographies

David Bright is an Associate Professor in the Department of Management and International Business, Raj Soin College of Business at Wright State University in Dayton, OH. David teaches leadership, organization development, and organizational behavior. His research focuses on the enablers of excellence in organizational life.

Elizabeth Fisher Turesky is an Assistant Professor in the undergraduate and graduate Programs of Leadership and Organizational Studies at the University of Southern Maine, Lewiston-Auburn College. Elizabeth teaches leadership, organizational change and development, and organizational behavior. Her research focuses on the nexus of experiential learning and leadership development.

In his retirement from St. Michael's College, Roger Putzel is working on reducing his carbon footprint and applying the concept of distributed responsibility in new venues, especially high schools.

Thomas Stang is a recent graduate of the Raj Soin College of Business at Wright State University in Dayton, OH. Thomas intends to continue his research and studies in Organizational Development, potentially culminating in an advanced degree.