

Fractals of Educational Change: Open communication and risk taking

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Gregory Bateson's advice was to look for "the patterns that connect." He implored us to notice the one-universe-Buddhist-like connections between disparate things. One of system theory's useful analogs to this idea is the "fractal." A fractal is a trait or structure that replicates itself from elementary level units to higher order units of organization. The typical example is the leaf of a tree: its structure is similar to the structure of a branch, to the whole tree, and, in some cases, to whole forests. Recently, "the patterns that connect" in the authors' minds come from looking at how students and teachers communicate and take risks and form innovative educational institutions. We contend that the openness and responsiveness of communication among the stakeholders, the encouragement to innovate and take risks, and the acceptance of mistakes as part of the process are all crucial characteristics of educational change at each level.

Gregory Batesonのアドバイスによれば、物と物を結びつけるパターンを捜しだすことが重要である。さらに、彼は、様々な異質の物の中において、仏教的な一つの概念を見いだせ

と説いている。こうした考え方を具現化する理論の一つとして有効なのが“fractal”である。Fractalは、下部組織から上部組織を通して、同じ構造をもつという特性がある。具体的な例としては、木の葉が上げられる。木の葉の組織は、枝から木、そして、森全体の構造と類似している。

本稿では、この“結合”パターンを教育の分野に応用し、学生と教師がコミュニケーションをはかり、新たな試みをする中で、どのようにして学校改革を進めることができるのかを明らかにする。結論として、教育改革には、教室活動、教科教員集団、学校のそれぞれのレベルにおいて、自由かつ達なコミュニケーションを促し、試行錯誤を成功への過程と捉えて支えあうことが不可欠であると主張する。

The Learner and Learner Group

The term “individual learner” is somewhat a misnomer in that students are rarely alone and are unavoidably influenced greatly by other students and particularly friends. Cognitive psychologists have traditionally tried to locate learning processes and progress within individuals’ own brains/minds. However, there is undeniable interaction with co-learners that can greatly affect the outcome of each individual’s learning. Within a Vygotskian perspective, all learning starts out between minds (intermentally) and only gradually is internalized so that we can use the tools intramentally (Lantolf, 2000). Murphey (2001a), for example, showed in detail how one student flexibly used the tools of shadowing and summarizing to extend conversations and learn more from her partners while another student who

simply followed instructions did not.

While individuals may have certain qualities that lead them to communicate openly and take risks, these are normally the result of modeling within in the groups that we have belonged to. These qualities that lead to open communication and risk-taking might be considered as part of one’s personality, attitude, beliefs, habits, or abilities. However, again these are most often formed intermentally (Vygotsky 1962) in social situations in which we see and hear others performing in such ways.

Classrooms present wonderful opportunities for modeling and learning open communication and appropriate risk-taking. While some students may come with a tendency toward these, others will come with the opposite—a learned fear of openly communicating and taking any kind of risks. Thus, the structures that the teacher sets up to facilitate these can be very important to learning.

Several structures that can allow students to learn to interact more easily are described in Murphey (2001b: shadowing, summarizing, action logs and newsletters). Shadowing (Murphey, 2000) is simply repeating all or parts of a speaker’s phrases as in active listening. Summarizing after receiving a certain amount of information also confirms comprehension and improves short-term memory. Action logs ask students to recall what they did in their last class and to comment on the

effectiveness of each activity as to its helpfulness, ease, and interest. Teachers can read these and respond to each student individually. Students can also be asked to read each other's action logs occasionally so they see what other students are thinking. Newsletters are collected comments from the action logs that are printed on a handout or sent via email (without students' names) for the group members to read. The class newsletters reveal to all members openly what individuals are thinking. They allow the teacher to use students' voices openly to direct attention toward the benefits of appropriate risk-taking and open communication. Such structures teach learners how to increase both the amount of participation and the quality of participation through facilitating openness and risk-taking in a safe environment. The above tools also promote near peer role modeling (NPRM; Murphey, 1998), the idea that people who are closer to the participants in age, ethnicity, interests, social status, etc., are usually easier for them to model and "be like" than more different models.

Groups of teachers

Communicative Language Teaching (CLT) in Japan has been emphasized since a new syllabus was introduced into high schools in 1994. However, little is known as to how in-service teachers perceive English language teaching, how they actually teach, how they interact

with colleagues, and how they continue to learn to teach. Using multiple data sources including interviews, observations, surveys of teachers and documents from an English department, Sato (2000; see also forthcoming) conducted a yearlong study. 19 teachers (15 native Japanese speakers, 4 native English speakers) participated. He revealed that these EFL teachers lacked many learning opportunities in their context. In particular, individual teacher learning in classrooms resulted in complacency without developing the teaching culture in the department and the school.

Comprehensive data analysis identified at least three rules for this particular teaching culture: 1) Managing students and task assignments took precedence over teaching; 2) Communication and collaboration centered on keeping pace with other teachers and getting through the day, rather than solving teaching issues; 3) It was particularly important to teach the same way for the common test and to maintain classroom management. Teachers thought they would be evaluated by other teachers according to how well they managed students, kept pace, and directed their teaching toward the common test. For example, a department head relayed that the school had an atmosphere that regarded good teachers as those who emphasized homeroom management. Evaluations centered on teacher capacity for managing students, keeping order, and getting things done, as opposed to actual teaching. As the department

head observed, “this is the school atmosphere, to which everyone was expected to conform.”

Among the busy EFL teachers in this school context there was agreement to keep pace with others and get things done. They discussed the progression of teaching according to the textbook and shared handouts, but they did not seem to have enough time to talk about instructional issues. A young teacher wished he could talk more.

With other teachers of English, I want to talk a little bit more about goals and objectives. But we mainly talk about what to do next, which lesson we will cover before the exam, who will make a supplementary handout, or which section we have finished so far. I wish I could talk more about other important things.

Although the majority of teachers replied that they learned how to teach by watching other teachers, there were only a few peer-observations throughout the yearlong study. Experienced teachers were reluctant to have their classes observed and critiqued, while young teachers socialized themselves to the norm of teaching as the older teachers did. The few peer-observations only helped the young teachers master routine practices. In addition, experienced teachers reported that they had been teaching the same way based on their second language (L2) learning and initial teaching experiences.

As long as they taught the same way according to the existing curriculum, they did not seem to need any new ideas. For example, one experienced teacher reported that he learned about English language teaching through collaboration with Brad (pseudonym). He began teaching oral communication classes with anxiety.

I was lucky to be in charge of a small course with Brad and was influenced a lot by him about English language teaching. While working and talking with Brad, we came to the conclusion that we didn't have always to use the same materials...Another thing is that we came to share our problems with each other, and I began to warm to him... Anyway, I have learned a lot through teaching oral communication classes this year.

As he began to express his doubts, he became more “certain,” in Kleinsasser’s (1993) use of the term, about English language teaching. Paradoxically, the more we openly communicate our anxieties and confusions to others, the more we are apt to develop a certainty about what we are doing and be unrestricted by our routines. He insisted that teachers should extend their “definition of English language teaching” so that they could have a “broad image.” However, his teaching experiences with Brad were little reported or shared, and innovation remained marginalized in this school and department context.

In conclusion, the study described a teaching culture that lacked open communication and risk taking. At the classroom level, only a handful of teachers took risks and tried out new ideas primarily in special classes. This study calls into question teacher-research that relies mainly (in some instances solely) on teachers' views and beliefs in developing and promoting sound educational and learning enriched environments. Collaborative teacher-learning contexts need to be created, studied, and modeled. Teacher development entails both classroom and school improvement (see Lieberman & Miller, 1990).

Institution Level

Innovation in Taiwanese colleges and universities based on the result of a recent research project show that higher education is strongly linked to the external environment in Taiwan. National policies authorize formal connections between Taiwanese higher education and economic development (Chen, 1997). Pressures for continuous institutional change and innovation are often intense. This part looks at faculty members' perceptions of institutional climate in terms of support for innovation and the relationships between perceived organizational variables.

Innovations are defined as the adoption of a new behavior or process into the organization (Damanpour & Evan, 1984). Most innovations are externally

induced; that is, forces external to the organization compel it to adopt new ideas in order to remain competitive or maintain institutional legitimacy and support in complex, turbulent environments (Marcus, 1988). Innovations in higher education may be induced by external governing boards, changes in public policy, demographic shifts among student populations, economic factors, or legal decisions. Alternatively, innovations may be preemptive (Damanpour, 1996). Organizations may seek to influence their environments and convert potential threats into opportunities.

Several factors, however, may constrain the adoption of innovations in higher education institutions. Low-level interdependence among employees, the absence of clear performance indicators, norms favoring the status quo, and internal competition for scarce resources may deter efforts to initiate and implement new ideas (Levine, 1980). Such circumstances suggest the need to improve understandings of factors that contribute to successful innovation in higher education (open communication among stakeholders and the encouragement of risk taking).

Innovative organizations maintain climates supportive of creative functioning among members. Here, members perceive that there is a good chance that their new ideas will be adopted by the organization because they are listened to and taken seriously. Support for individuals may be the most critical element in the innovation

process (Wagner, 1994).

In Chen, Dee, and Henkin's research (1999) 22 of the 78 four-year colleges and universities in Taiwan were randomly selected for inclusion in their study. The institutional sample was stratified on the basis of mission (general university, technology institute, teachers' college) and funding source (public or private). A random sample of 10% of the faculty (N=670) in the selected institutions was invited to complete the Siegel Scale of Support for Innovation (SSSI), a 61-item, self-report instrument that has demonstrated appropriate reliability and validity in previous studies. Analyses are based on responses from 42.5% (N=285) of the invited sample.

Findings suggest that female faculty members feel excluded from decision-making processes. Significant, positive associations were found between support for innovation and three perceptual measures of organizational climate—perceptions of communication, autonomy, and formalization.

Institutions that 1) encourage open communication among faculty, 2) provide opportunities for faculty to determine their own work processes, and 3) establish clear roles and responsibilities for members appear to foster environments conducive to innovation. The strongest relationship found in this study was the association between open communication and support

for innovation. Where communication processes are relatively unrestricted, faculty members tend to perceive higher levels of support for taking risks and implementing new ideas. Open communication may facilitate the exchange of ideas, and on-going discussion may improve decision-making, as the positive and negative qualities of problem-solving alternatives are open to debate (Hirokawa, 1988).

Taiwan's institutions of higher education have served as catalysts for educational reform. Pressure from faculty, staff, and students resulted in substantial reforms found in the government's University Act of 1994. Institutional leaders bear responsibility for support of organizational climates where creativity and innovation are encouraged and the impetus for reform is maintained. To maximize effectiveness and national productivity, Taiwan's higher education institutions will want to prepare not only skilled researchers and engineers and address the constant need for workforce retraining, but also instill in themselves and their students a willingness to openly communicate, take risks, and accept occasional failures—the cost of greater success.

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