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November
22–25, 2001

Constructive Chaos in the Classroom

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There are numerous elements that create a rich learning environment and that are vital to the learning process. However, not many educators would consider "chaos" one of these elements. This paper will illustrate the positive use of chaos in the classroom and argue that our classrooms will be more engaging and learner-centered if we can find ways to apply the ideas of "constructivism" along with the idea of "constructive chaos."

Take a moment to think about each of these three words separately: chaos – constructive – learning. What images and words come to mind when you think about them? Now stop to consider what chaos and constructive might mean in relation to the classroom. One might describe a classroom that is traditionally constructive as functionally practical, with order, routine, and a sense of tranquility because everyone is doing the same thing. (Note: This particular definition of a constructive classroom does not have any relation to the learning approach "Constructivism.")

For most people, it is very clear and easy to see the

relationship between the productivity and stability of a constructive classroom and the learning process. Traditionally many teachers have concluded through both their experience as students and through their own teacher education, that classrooms should be quiet places where students sit listening to the teacher and follow her lead and that we as teachers need to provide for the logical transmission of knowledge to students in a methodical way. While these aspects of teaching and learning have their place, they can also lead to a lack of student ownership in the learning process by creating a teacher-centered environment.

It may be more challenging for educators to identify ways that chaos can contribute to the learning process but in doing so we can reframe our perspectives about how learning takes place and is best supported. The diagram in the appendix shows three interlocking circles which illustrate the convergence of "constructive chaos." On the right side, synonyms and related words are listed for chaos. Think for a moment about a classroom characterized by these words. What benefits can you find to having spontaneity, questioning, commotion or controversy in your classroom?

While chaos isn't a term most teachers would apply in a positive sense to what occurs in our classrooms, it brings to light a dimension of the processes of both teaching and learning that we do not often consider. Parker Palmer in *The Courage to Teach* (1998) explains, "In the community of truth, knowing and teaching and learning look less like General Motors and more like a town meeting, less like a bureaucracy and more like bedlam." True learning and change emerge from the upheaval of an individual's or group's current system of thinking and behaving. It is a force of change that supports true education as opposed to the indoctrination of schooling or the "banking model" of education as critiqued by Paulo Freire (Heaney, 1989). Chaos can be disorder in a positive sense because of its association with growth; it requires experimentation, rethinking and re-patterning at community and individual levels.

What is "Constructive Chaos?"

Clearly, there are benefits to both the constructive and the chaotic sides shown in the diagram in the appendix. By choosing one side as our preferred model of teaching we run the risk of either being too confusing, unstable and unfocused or too stale, uninspiring and trapped by routine. Thus, we need to have both sides for a productive, innovative and dynamic balance to occur. It is this balance that represents the ideal of "constructive chaos." One representation of this idea is the metaphor of a field. Each spring a farmer goes out to her field; the earth is packed down and she must plow the field to loosen the soil so that it can support a new crop. Having turned over the soil, new spaces are ready for seeds.

We can look at the learning process in the same

light. Students come to our classes with a range of experiences and knowledge. The embedded ideas must be unearthed and turned over so they can be examined. Teachers need to be able to loosen and pull out this knowledge so that it can be shared among the group. The teacher and students work together creating a new crop of knowledge based on what has been shared and fresh input. The practice of "constructivism" defines this approach to learning. Giambattista Vico, a Neapolitan philosopher, first articulated constructivist ideals when he defined learning as occurring when people actually construct the knowledge themselves (Hanley, 1994).

> "Constructivism emphasizes the importance of the knowledge, beliefs, and skills an individual brings to the experience of learning. It recognizes the construction of new understanding as a combination of prior learning, new information, and readiness to learn. Individuals make choices about what new ideas to accept and how to fit them into their established views of the world." (Hanley, 1994).

This suggests four basic phases that make up "constructive chaos." First is a "centering phase," in which students and teachers gather around what is known and what it is that they are trying to know. Next comes the "chaos phase" during which students question their present knowledge and collect additional information. This phase buzzes with confusion and turmoil as students share and critique the mass of new ideas, skills and attitudes they are grappling with. Experimentation abounds and new skills and knowledge are tried out individually and by the group. Following this space of commotion is the quieter third phase that begins the construction process. Here students spend time working out patterns and drawing connections. During the first part of the constructive phase students reject some pieces and pick up others that came out during the "chaos phase." This phase in the learning cycle is clearly defined through the ideals of constructivism with the students taking action and responsibility for their learning. It is important that students use their own criteria for making decisions about what fits and what does not. In this respect, the students are their own teachers, as described by Shakti Gattegno (1993) and Dr. Gattegno's belief of learning:

> "…(Gattegno's) contribution to education invites teachers to come to see for themselves that learning, in a teaching-learning situation, can be as much an autonomous process and, as much the responsibility of the individual learner, as it is in situations in which the learner is his/her own teacher. …only the person who faces a given challenge, is in a position to mobilize

his/her response to it by exercising his/her ability to respond. Learning, in this sense, is the 'responsibility' of the learner."

The last phase of constructive chaos is also one of construction. The teacher and students come back together so that each member can demonstrate their new understanding and skills. Ideally, the pieces that were pulled apart in the chaos phase have been reconfigured into a new form that is unique to each individual and their experiences.

What are the roles of the teacher and student in "constructive chaos?"

The learning process outlined above builds on the learning ideals of constructivism; much has been written about the actions of teachers and students in such a classroom. In centering on the chaotic element of learning, teachers have paradoxical roles as both agitators and security providers. An atmosphere of trust and support must be in place in order for students to feel comfortable enough to share opinions and examine them without fear of judgment. Charles Curran illustrates the importance of trusting relationships among group members in the learning process:

> "Our learning research has increasingly revealed that 'learning is persons.' The learning process is, therefore, not thought of as simply an acquiring of defined bodies of knowledge and skills, nor as a 'games-we-play' adversary relationship, but as an interaction or 'interflow' of persons."

It is this environment of security that allows questioning to emerge. The teacher who agitates need not alienate her students.

Another challenging but essential role of the teacher lies in the questioning process. It is useful to experiment with how we structure and present questions so that the questions will assist students in seeing parallels and patterns. We need to challenge our own critical thinking skills so that we can model this behavior with the students. In this learner-centered environment teachers also have the role of co-learners with the students, piecing parts together and adjusting our own knowledge and skills.

As teachers are co-learners, students act as co-teachers. Everyone in the classroom has some experience or an idea that they can teach another group member. Students act as investigators and co-teachers validating their agency in the learning process. An important role for students also comes in reflecting on what and how they are learning. Students should be guided by their own awareness.

Making constructive chaos work for you

Teachers can foster an atmosphere of constructive chaos in many different ways. Much of it will be influenced by the attitude we bring to our teaching on a daily basis and it is dependent as well on our personalities. Confidence about our ability to teach affects our receptiveness to chaos. Eleanor Duckworth (1996) notes:

> "It is just as necessary for teachers as children to feel confidence in their own ideas. It is important for them as people and it is important in order for them to feel free to acknowledge the children's ideas. If teachers feel that their class must do things just as the book says and that their excellence as teachers depends on this, they cannot possibly accept the children's divergence and creations."

We cannot separate teaching and learning from who we are (Palmer, 1998). Thus, in considering if constructive chaos can be useful for you. it is necessary to reflect on your own needs for security. Constructive chaos flourishes in an environment of high flexibility and tolerance for ambiguity on the part of both teachers and students. The "chaos phase" is certain to be an awkward time, especially if students feel doubtful about the outcomes. It is important that they understand the reason for the chaos and how it provides a necessary step. Both the teacher and the student need to believe in the validity of what is happening in the classroom.

In addition, it is useful to regularly practice reflection as a teacher and integrate it into daily activities so students will gain skills in self-awareness. Journaling in language learning notebooks, discussion times and feedback sessions will increase students' ability to think critically and notice patterns. As teachers we also need to consider how we can be models for students in the process of questioning how and why. Researching the use of problem posing would be fruitful for teachers as they find ways to engage students that are meaningful. Lastly, it is important to consider risk-taking. How do we model that behavior ourselves and how can we structure the environment of the classroom for increased risk-taking by students? Risk-taking is vital to constructive chaos in all phases of the learning process as it encourages an attitude of openness and elasticity.

Conclusion

This paper is not meant to comprehensively describe or explain the ideas of "constructivism," but to use it as a foundation for focusing in on the chaotic nature that is a component of learning.

> "Language is incredibly complex, intangible stuff. Its 'substance' is of the brain and the psyche; at the same time language is a social thing shared with a

> community of users, each differing from the others in linguistic and other ways. …And if language is complex and intangible and inaccessible, so is learning and instruction. We may approach the study of language and instruction through scientific methods, but it seems doubtful that they will ever be reduced to laws or formulas that will render them predictable."

Blair (1982) points out how elusive languages and teaching them can be. Constructive chaos offers one way to address the messiness inherent in learning. It follows the line of thinking that the method by which we do something should mirror the nature of the thing itself. It is meant to be an idea that we can use in our struggle to make learning meaningful and exploratory rather than stifling of the spirit. As Friedrich Nietsche has said, "One must have chaos in oneself in order to give birth to a dancing star." It might therefore be said, our classrooms must recognize chaos as a key element in creating students who are lifelong learners.

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Appendix 1