Celebrating Diversity and Complexity in Schooling: A review of *Systems Theory for Pragmatic Schooling: Toward Principles of Democratic Education*, by Craig A. Cunningham, 2014. New York, NY: Palgrave MacMillan, xi + 176 pp. ISBN 978-1137449313.

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This paper is a review of *Systems Theory for Pragmatic Schooling* written by Craig A. Cunningham, who offers a way to “think differently” about schooling for “enlarging the possible around what it means to educate and to be educated” (Osberg, 2009, p. iv) in the social context, based on the perspectives of Dewey and complexity theory.

Dewey (1916) says, “A democracy is more than a form of government; it is primarily a mode of associated living, of conjoint communicated experience” (p. 94). It seems obvious that if democracy is the way of living in a democratic manner, we cannot learn democracy without experiencing democracy.

Cunningham intentionally uses the term *schooling* in his title and throughout the book; in fact, he rarely uses the term *education* in this book. I think that the terminology is meaningful here because the term *schooling* implies a community, having mutual interest with interactions (Dewey, 1916), being with other people to learn something, in contrast to education, which is more broad and is not as intentional or as organized (pp. 9-10). Using a systems perspective for schooling means to include the social community, for “there is a ‘social’ at whatever level from the smallest collective assemblage of human beings to the level of the world system as a whole” (Byrne & Callaghan, 2014, p. 45). In reality, to be alive means to be with others, and society needs people being able to work well with others. Thus, democracy is an excellent way of living as a member of a community or a society that allows for individuality. Schooling can and should allow young people to heuristically experience what it means to live with others. That is the reason that we cannot give up schooling, though our system of education looks dreary.

Cunningham problematizes factory models in schooling: schools are not factories, students are not products, and teachers are not machines. He explains that schools, students, and teachers are all living systems. Living systems are complex systems, and they are continuously interacting with environments in terms of exchange of energy/material and computation of information (Mitchell, 2009). Through the ongoing process of interactions, structural coupling, the “environment and unity act as mutual sources of perturbation, triggering changes of state” (Maturana & Varela, 1987, p. 99). This is the way that “complex systems – both natural and

human constructed” (Mitchell, 2009, p. 102) – keep or transform their complexity and diversity. For example, if our ecosystem – a complex living system including both living beings and the environment – loses its diversity, it will not function well. Differences and similarities can generate more productive culture in society as well (Cunningham, 2014).

Cunningham points out that complexity and diversity are often regarded as something problematic or nettlesome, for we are familiar with trying to understand something in simplistic, linear, and binary ways because of our biologically and epistemologically inherent uncertainty (Maturana & Varela, 1987; Morin, 2008). However, systems theory, “the study of the similarities of different kinds of systems” (Cunningham, 2014, p. 13), helps us recognize how complexity and diversity have contributed to the appropriate operations of both nature and society. The world we live in is and should be both complex and diverse. If not, there would not be novelty and creativity. Fortunately, almost all things in the world themselves are enough complex and diverse unless we attempt to reject the natural ways they are and try to reduce their diversity and complexity.

Then we might question why diversity and complexity in the schooling should be valued. First of all, it is important that teaching and learning are fundamentally quality-based activities; thus, the ‘uniqueness’ and ‘autonomy’ of each student, teacher, and school should be respected in order to maximize potentiality (Cunningham, 2014, p. 122), which also means that teaching and learning are hardly quantitatively measurable.

In addition to the potentiality, diversity and complexity are correlated to the emergence of “interrelationships and interactions” (Cunningham, 2014, p. 47) which are critical aspects of “interest” for learning; Dewey (1913) says, “The etymology of the term *inter-esse*, “to be between,” points in the same direction. Interest marks the annihilation of the distance between the person and the materials and results of his action; it is the sign of their organic union” (p. 17). This idea is related to Cunningham’s explanation about how inquiry is the process of the combinations of knowing, meaning, and value in a situation (Chapter 2). Interest is “dynamic” (Dewey, 1913, p. 16). Interest is something that naturally emerges in the process of living – intertwining of diversity and complexity. Teachers cannot generate interest for students, yet they should try to find out the way for “embracing what is always already present in relations and interactions” (Doll & Trueitt, 2010/2012, p. 172).

Furthermore, democracy can exist on the ground of diversity and complexity, and *vice versa*. Schools should be the place to experience the democratic way of living, and the democratic and communicative atmosphere in schooling can emerge by keeping in mind that diversity and complexity are critical aspects of each person, learning/teaching, life/situation and society. If all people think about something in the same way, we cannot expect a new idea.

Complexity is not only the state of living systems and but also the operating principle of living systems. It is undeniable that diversity encourages complexity (as cited in Cunningham, 2014), and complexity maintains diversity. Therefore, diversity and complexity can make it possible that “having good ideas selected naturally and organically allows for maximum overall flexibility and adaptability” in democratic communities (p. 111). One of the important points Cunningham makes in the book is that systems in schooling are always located in the relationships and interactions with a bigger society. The socioeconomic and political culture of a society continually affects systems in schooling.

Perhaps it might be natural that we have had trouble with seeing diversity and complexity with different perspectives, for they are factors actually making problems or situations more complicated. Our logic tends to prefer linear thinking, and with the simplistic thinking is never enough to see the entire complex reality at once. However, what we can trust is, though we still

have blind spots or cannot predict correctly, the fact is that complex living systems are always changing with pursuing “equilibration” and “reequilibration” (Doll, 1984/ 2012, p. 74). Unless we overlook the possibilities of diversity and complexity, we do not have to be pessimistic with our schooling anymore.

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