It's About Time¹

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GUERRETTAZ AND JOHNSTON'S hereafter G & J) study is a refreshing look at the role of materials in the language classroom; the authors should be congratulated. As their review of the literature makes clear, the role of materials in classroom research has been overlooked, so it is about time we knew more about the use of these ubiquitous resources. In particular, the authors' choice of an ecological approach (van Lier, 1996) is welcome in its respect for the "richness and complexity of classroom life" (p. 781). By their adoption of "a vision of the classroom as a complex, interlocking set of elements and relationships in which any one element can only be understood in the light of its interactions with other elements" (Guerrettaz & Johnston, 2013, p. 783), their research illustrates well the classroom as an ecological system.¹

As the authors point out, central to an ecological approach is the notion of *emergence*. Emergence is a process whereby something new, and possibly unexpected, arises from the interaction of the elements in a system. Emergence is a defining characteristic of a complex system (Larsen–Freeman & Cameron, 2008), of which surely the classroom is one. It is from the perspective of complex systems that I address the question posed by the editor of this Perspectives Column:

Do you think 'materials' provide opportunities for language learning in classrooms, and if so how?

My answer, and one I believe to be consonant with the findings reported in G & J's article, is a qualified "yes." The qualification stems from the fact that an opportunity for learning—or *afford*-

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ance—is a relational concept. An affordance for learning in a complex system is an emergent phenomenon, determined by the perception of the learner in relation to the context, not one autonomous in the context or resident intrinsically in the materials themselves. While my point might seem captious, I think it is important to acknowledge that is it is the learner in relation to the materials who will determine whether there are learning opportunities or not.

Indeed, this is a crucial point present in G & I's article and it is especially crucial from a complex systems perspective. Complex systems are dynamic, the dynamism fueled by the relationship among their components, including participants in the interaction and the environment in which they are used. No materials developer, regardless of how skilled or experienced, can anticipate the uniqueness of the context in which the materials are situated. It takes the teacher as a mediator, along with all the other participants in the learning context, to forge an active and meaningful relationship with the materials, which are otherwise inert. Clearly, teachers with different levels of experience and comfort with the language will exploit materials differently. Furthermore, students will profit from their interaction differentially, and may well find that materials authentic to native speakers are inauthentic to themselves. My response does not in any way denigrate the potential of materials, but it is meant to draw attention to the situational dynamics as one factor that influences learner perceptions and thus whether learning opportunities materialize or not.

As for the 'how' in the question, G & J's research demonstrates that using materials can provide learners with opportunities for making meaning, an important prerequisite to learning, but not prospective evidence of learning in and of itself. Although their study was not designed to investigate acquisition, to do so would require monitoring learners' language resources, enacted

during meaning-making prompted by certain of the exercises in the materials, to determine whether the resources are accessible to learners at another point in time. Therefore, the question with which G & J end their article "What affordances will the materials provide within the classroom ecology?" would be extended to "What opportunities do the materials provide that will, with mediation, engage learners in meaning-making, from which they may perceive affordances for learning that lead to change?"

In the same vein, although data collection in their study began on the first day of class and ended on the last day, it would have been helpful to know how the relationship with the materials changed over time during the course of the term. This is because the contribution of any one influential factor in a complex system waxes and wanes with time. Indeed, the researchers found that the precise role the book played in classroom interaction was variable even within a single exercise. Thus, we get a spurious view of what is happening if we do not account for these microdynamics and if we collapse the passage of time into a static portrait.

I reiterate that G & J have mostly done a splendid job of understanding and executing the requirements of research from a language ecological/complex systems perspective: through their rejection of input-output causality, in their insight that discourse can be both a process and a structure: "structure-process" as David Bohm calls it (Nichol, 2003, p. 2), in their understanding that materials designers and other distal players can also be seen as participants in classroom ecologies by proxy, and in their acknowledgment of the importance of relationships. Indeed, as I hope I have made clear in these remarks, a complex systems perspective would make the dynamic relationship between the learner and the materials central, and assuming that studies like this might now focus explicitly on learning, then studying the evolution of this relationship over time would be essential. As Byrne and Callaghan (2014, p. 187) note, "the very word 'emergence' incorporates time within it." A complex systems/ecological perspective *is about time*—and surely that is true for language learning afforded by materials as well.

Finally, an additional implication of the time dimension for researchers is the need to appreciate that all interactants, both human and material, have a past and have a future, and while these are nondeterministic, they are nevertheless instrumental in shaping the landscape of possible outcomes in the use of materials. Therefore situational, relational, and temporal dynamics and an ecological approach are inseparable: *It is about time.*

NOTE

 1 I have borrowed this title from Elman (2003), who first used it to make a similar point to the one I make here.

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