James McManus

Dr Aarón Alzola Romero

Comparative Education

January 21st, 2014

Universal Applicability of "Education"

There exists in the Oxford English Dictionary, seven definitions of the word "education," ranging from the very British "shaping manners and behavior" regarding one's upbringing, to "the rearing of silkworms." One must proceed to the fourth definition, which includes words like "systematic instruction," "teaching," and "training," before one begins to see the more colloquial meaning that society generally affords"education" today. Since "systematic instruction" refers to education as a process and "training" can refer to the learning of a skill, one can extrapolate that some sort of knowledge has been created, as now someone can do a skill which they could not previously; therefore *the process of learning which leads to the creation of knowledge should* suffice as a reasonable working definition of "education." While the universal applicability of our society's colloquial definition of "education" may not apply, if one uses this broader but still accurate definition, it follows that in every culture there must be some form of "education" in order to ensure the group's survival. Therefore, the process of *knowledge creation*, whether formal, informal (Scribner and Cole 1973), or through other means, presents itself in all cultures.

The first part of the working definition deals with education as a *process of learning*, something with which Scribner and Cole (1973) deal quite extensively. They split "social organization[s] of education" into three groups, classifying them as "informal education, formal education in noninstitutional settings, and the formal education of the school" (p. 553-4). Informal education "occurs in the course of mundane adult activities" and "there is no activity set aside solely to 'educate the child'" (p. 554-5). The purpose of this system is solely to teach children the necessary skills and customs to become a functioning adult in that

society (p. 555). Formal, noninstitutional education is practiced in some societies in order to teach youngsters a skill, generally for rituals or folklore passed down from generation to generation (p. 555). Formal schooling focuses mainly on "universalistic values, criteria, and standards of performance" and ensures all students are taught the same material more or less identically (p. 556). At least one of these three systems, informal, formal noninstitutional, and formal schooling, are found in every culture across the world.

Sami Paavola, Lasse Lipponen, and Kai Hakkarainen (2004) spoke of two different metaphors that concern the *process of learning*, specifically the participation in a social community and the acquisition of knowledge (p. 557). The participation metaphor seems to apply mainly to different cultures that find difficulty in separating "knowledge and knowing" from "situations where they are used or where they take place," so they tend to "emphasize communities, social practices, [and] activities" (p. 558, 569). Scribner and Cole (1973) found an example of this in Taleland, Africa, noting that children were "rarely heard to ask 'why' questions" because "learning occurs in real situations wherethe meaning is intrinsic to the context" (p. 555). This society is a great example of a group with an informal learning social organization and a preference towards "observational learning:" they have no time set aside strictly for the education of children (p. 555). Whilst this does not help advance the society intellectually in any way, it works very well in passing down important tribal and survival knowledge necessary for a child to become a functioning adult.

The second metaphor that Paavola, Lipponen, and Hakkarainen (2004, p. 557) mention regarding the *process of learning* is "acquisition." This metaphor states that behavior is driven by "beliefs and desires" and that "the mind is a kind of container of knowledge, and learning is a process that fills the container, implanting knowledge there." According to Scribner and Cole (1973, p. 555-7), societies with formal learning, whether in schools or not, tend to focus on modifying children's beliefs and desires in order to control their behavior.

They have time set aside for education and have teachers who fill students' "container[s]of knowledge" (Paavola, Lipponen, and Hakkarainen 2004, p. 557), either as their only job or as part of another. Labelle and Peden (2003) examined the Aboriginal culture in Canada's Manitoba providence, which has a great example of both an informal and a formal noninstitutional learning system. Children were provided formally with "skills, awareness, and values needed to survive as individuals" (p. 13) learned from their grandparents in the form of "oral traditions," as well as informally by "watching and experiencing what their parents did" (p. 7). The purpose of their education is to give them these practical skills, this knowledge, altering their beliefs and desires slightly so that they can become productive members of society.

If informal education is meant to emphasize a task's practicality and applicability to life, formal schooling tends to do the opposite (Scribner and Cole 1973). Formal education in schools creates a system where "learning-to-learn" sets them apart from their uneducated counterparts; however it does so in a very unnatural way (p. 557). Not only is information shared almost exclusively through language (not observational learning as is human nature), but children are essentially educated on "symbol systems," like the alphabet and mathematics, which have "no natural, that is, nonsymbolic, context" (p. 557). While they do help with concepts later down the road in their academic careers, the key is to make the information relevant to students by using concrete objects or, for example, computer games. FengfengKe (2008) set out to see if computer games were more effective at helping kids with mathematics than "traditional paper-and-pencil drills" (p. 539). Unfortunately, Ke could not test *knowledge creation* itself, only metacognition (a form of knowledge creation), because the students had already been taught mathematics and the games were for practicing skills, not teaching new ones (p. 552). He did find, however, that video games helped students to "visualize and anchor abstract concepts in a meaningful real-life context" and raise positive

attitudes about learning mathematics, proving that they can increase student motivation (p. 541, 548). This could be a key to plugging the gap between the "symbol systems" without natural context (Scribner and Cole 1973, p. 557) and the physical world around students.

The second half, regarding *knowledge creation*, also gives the working definition of "education" applicability to a wide range of cultures and learning processes. Paavola, Lipponen, and Hakkarainen (2004, p. 558) delved into what it means to create knowledge by examining three "innovative knowledge communities:" knowledge creation, expansive learning, and knowledge building. Their analysis of Nonaka and Takeuchi (1995)'s theory on knowledge creation and innovation, seem to relate to our current society's concept of education. Paavola, Lipponen, and Hakkarainen differentiated between Nonaka and Takeuchi's "tacit and explicit knowledge," explaining that explicit knowledge is "easy to articulate and express formally" (Paavola, Lipponen, and Hakkarainen 2004, p. 559), while tacit knowledge is "embedded in individual experience" and involves "personal belief, perspective, and the value system" (Nonaka and Takeuchi 1995, p. viii). Innovation (itself the creation of knowledge), they claimed, came from the externalization of tacit knowledge which articulates beliefs and values using "metaphors, analogies and concepts" (Paavola et al. 2004, p. 559). This allows one to combine the new explicit knowledge with preexisting explicit knowledge, "combination," then accepting this newly created knowledge into one's tacit collection through "internalization" (p. 559). Our society's current goal in business, science, and many other fields rests in innovation and the formation of new ideas. In fact, in her 1995 paper "Restructuring Schools for Student Success," Linda Darling-Hammond asserts that the key to the future of formal schooling is in fact innovation in many different areas. The current formal education system, she maintains, is still based on "hierarchical, factory model institutions" which "process students for their slots in society" (p. 153). What we need, Darling-Hammond claims, is smaller, more personalized schools with less

"overspecialization and bureaucratization that have proved increasingly problematic" (p. 155). "Substantial teacher participation in school redesign and decision-making" is one of the things it would take to make these changes and affect "more powerful and more coherent learning for all students" (p. 155-6). This formal schooling does not have to limit students to linguistic learning, as it presently does, ensuring "teenagers have little to connect to" (p. 154). Darling-Hammond is correct: schools need to be smaller in size and as a whole there must be more emphasis on "preservice and in-service teacher education" (p. 159). Otherwise, students in formal schooling will be learning only how to learn, not how to apply their skills to the natural world around them.

While *the process of learning which leads to the creation of knowledge* is only a working definition, it certainly lends itself to proving the universal applicability of "education" as a concept. There are all sorts of processes of learning, especially the informal, noninstitutional formal, and formal schooling systems, one of which can be found in any society or culture wishing to perpetuate its beliefs and impart practical and/or intellectual knowledge. Participation in a social community and acquisition of knowledge are metaphors of learning processes, widely applicable in any and every society. In fact, knowledge can be created in many different systems and societies through one of at least three systems, and the concept of innovation plays a large part in both this knowledge creation and in modern formal education. Both *the process of learning* and *creation of knowledge* have been shown to be universally applicable across societies and cultures; therefore so is the definitionof education with these elements juxtaposed.

Bibliography

Darling-Hammond, L. (Fall, 1995). Restructuring Schools for Student Success. *Daedalus*. 124 (4), p. 153-162.

Ke, F. (Dec, 2008). "Computer Games Application within Alternative Classroom Goal Structures: Cognitive, Metacognitive, and Affective Evaluation". *Educational Technology Research and Development*, 56 (5/6), Special Thematic Issue on Game-Based Learning, p. 539-556.

Labelle, L and Peden, S. (2003). *Integrating Aboriginal Perspectives into Curricula: A Resource for Curriculum Developers, Teachers, and Administrators*. Winnipeg: Government of Manitoba.

Nonaka, I, and Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.

Paavola, S, Lipponen, L, and Hakkarainen, K. (Winter, 2004). Models of Innovative Knowledge Communities and Three Metaphors of Learning. *Review of Educational Research*, 74 (4), p. 557-576.

Scribner, S and Cole, M. (Nov 9, 1973). Cognitive Consequences of Formal and Informal Education. *Science*, New Series, 182 (4112), p. 553-559.