

**CULTURE, COGNITION, AND EDUCATION:
EXPLORING THE INTERSECTIONS**

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Abstract. Educational studies have a long-standing history of productive engagement with cognitive neurosciences, including research on learning, memory, knowledge acquisition, language comprehension, etc. However, as fruitful as this cross-disciplinary engagement has proven to be, it is still flawed in some important respects, particularly because it lacks the cultural dimension of analysis, almost completely dismissing the meaning-making processes that shape today's educational environments.

Cultural sociology, on the other hand, has been able to provide rich and theoretically saturated accounts of cultural processes in education that challenged traditional assumptions about the role of schools in the institutional life of modern societies. Nevertheless, this line of theoretical and empirical inquiry is also vulnerable to criticism, largely because of its dogmatic commitment to a set of dubious underlying assumptions about human cognitive capacities imported straight from the classical sociological theory of the 20th century.

Consequently, I argue that given the limitations and conceptual gaps of both approaches, there is a clear necessity to develop an integrative 'best-of-both-worlds' account of culture and education. A good starting point here might be a critical evaluation of those efforts to bridge culture and cognition that already exist in the literature, particularly the ones that constitute the so-called Sociology of Culture and Cognition research program.

One well-developed account is the dual-process model of culture brought forward by Vaisey and Lizardo. Drawing on the psychological ideas about automatic and non-automatic cognitive processes, this approach states that social actors are primarily driven by 'deeply internalized cultural schemas', but are also capable of deliberation and justification to some extent. This approach explicates the distinct types of cognitive processes that occur in different enculturation phases, including the acquisition, storage, processing and use of culture, which in turn might help educational sociologists to develop a more viable and robust account of how cultural factors exert causal influence on educational choice.

Another recent integrative proposal comes from Vaisey and Valentino, who suggest that key cultural sociological terms (such as values, frames,

narratives, etc.) need to be translated into the language of the judgment and decision-making (JDM) sciences, with a particular focus on such common JDM-terms as beliefs, preferences and endowments. This proposal seems quite promising given that cultural sociologists frequently theorize about choice, decision-making and judgment in education, but often lack precise conceptual and methodological tools for this work.

I then argue that the major source of constraints for the said approaches lies in their reliance on the standard computationalist model of cognition, which has recently come under criticism by the so-called ‘enactivist’ approaches to cognition that focus on the mutual interaction between mind, body, and environment rather than on internal computational processes. Although no full-blown enactivist account of culture has been developed yet, Turner outlines the directions in which the work on an alternative conceptualization must proceed, focusing in particular on the ideas of empathic understanding (made possible by mirror neurons), joint attention, affordances, scaffolding, pattern recognition, predictive processing, and much more. The ideas of affordances and scaffolding might prove to be specifically relevant for educational researchers, since schooling, for instance, is largely considered to be a textbook example of designed affordances, where each step enables future steps, but also requires the next affordance.

Finally, some important philosophical issues pertaining to the link between culture and cognition are addressed. I argue that no viable model of culture and cognition (and education) could ever be developed, unless we clarify the ontological status of the different ‘levels of explanation’ (i.e. social, psychological, neuronal, molecular etc.) and the causal relations between these levels. In this respect, I argue, the philosophical ideas of emergence and downward causation deserve particular attention from cultural theorists.

Keywords: Culture, Cognition, Education, Dual-Process Framework (DPF), Enactivism

Introduction

Educational studies have a long-standing history of productive engagement with cognitive neurosciences, including research on learning, memory, knowledge acquisition, language comprehension, communication, etc. (McNamara D.S., 2006). Today, the journal *Cognitive Science* even lists education as one of the seven disciplines comprising the interdisciplinary field of cognitive science, although some scholars insist it is better thought of as an area of application rather than a contributing discipline (Thagard P., 2005: 330). However, as fruitful as this cross-disciplinary engagement has proven to be, it is still flawed in some important respects, particularly because it lacks the cultural dimension of analysis, almost completely

dismissing the meaning-making processes that shape today's educational environments. If culture is given any attention at all in these studies, it is at best conceptualized as some vague one-dimensional variable, which doesn't give due credit to its depth and complexity.

Cultural sociology, on the other hand, has been able to provide rich and theoretically saturated accounts of cultural processes in education that challenged traditional assumptions about the role of schools in the institutional life of modern societies. Nevertheless, this line of theoretical and empirical inquiry is also vulnerable to criticism, largely because of its dogmatic commitment to a set of dubious underlying assumptions about human cognitive capacities imported straight from the classical sociological theory of the 20th century (Bergesen A., 2004; Turner S.P., 2007a; Lizardo O., Strand M., 2010). The explanatory models of modern cultural sociology often fail to identify psychologically plausible mechanisms of cultural acquisition and transmission (Turner S., 2007a), resorting to far-fetched 'collective object' accounts (Turner S., 1994) that have no grounding in empirical reality. Moreover, even some of the most refined theoretical accounts in contemporary cultural sociology still rely heavily on the long discredited Parsonian conception of enculturation as internalization of conceptual schemes through socialization (See: Alexander J.C., 2003: 16; 152-153). Extensive research literature on memory, knowledge acquisition, and information retrieval renders implausible the assertion that individuals are able to possess coherent, complex and elaborately structured value systems or ideologies that the standard Parsonian account expects they should (Martin J.L., 2010; Lizardo O, Strand M., 2010: 205). This, of course, seriously undermines the validity of any research on the link between culture and education that presupposes some sort of 'internalization of symbolic orders' on the part of the respondents.

Consequently, I argue that given the constraints and conceptual gaps of both approaches, there is a clear necessity to develop an integrative 'best-of-both-worlds' account of culture and education. This task is by no means an easy one, for the explanatory models and description languages of different disciplinary fields are never easily compatible: it takes a lot of translation work (Thagard P., 2005) to bring them together at least partially. However, a good starting point here might be a critical analysis of those efforts to bridge culture and cognition that already exist in the sociological literature. For instance, I suggest that some interesting findings and implications for educational research can be found in the works of the authors belonging to the field of the so-called Sociology of Culture and Cognition (DiMaggio P., 1997; Cerulo K., 2002, 2005). Although the ontological and epistemological presuppositions of these authors may differ significantly, they all share a

commitment toward physical realizability and psychological plausibility of culture conceptualizations, as well as a general distaste for the Parsonian 'internalized' accounts of culture (Lizardo O, 2016).

Methodology

Integrative approaches and their limitations

One well-developed account that deserves to be recognized here is the dual-process model of culture brought forward by S. Vaisey and O. Lizardo (Vaisey S., 2009; Lizardo O., 2017). In its essence, this model strives to reconcile the culture-as-rationalization view (advocated, for example, by the author of influential 'toolkit theory' A. Swidler) that envisions culture as fragmented, incoherent and strategically used by social actors to 'make sense' of their actions rather than serving as an actual source of motivation (Swidler A., 2001) with certain less controversial elements of the classical model of culture. Drawing on the ideas from cognitive psychology, this model presupposes the existence of two qualitatively distinct types of mental processes, namely the automatic and controlled processes (which, according to Vaisey, roughly correspond to what Giddens called the practical and discursive consciousness respectively). It is thus posited that culture exists in two analytically separate modes: on the one hand, social actors are driven primarily by deeply internalized cultural schemas (i.e. practical consciousness), but are also capable of deliberation and justification (i.e. discursive consciousness) when required by the demands of social interaction (Vaisey S., 2009: 1867).

Lizardo expands on Vaisey's initial proposal by positing a distinction between the declarative and nondeclarative modes of culture, as well as between public and personal culture (Lizardo O., 2017). While the notion of public culture encompasses externally available symbols, codes, frames, narratives, etc. (i.e. the elements inherent to the 'standard' account of culture), the distinction between declarative and nondeclarative personal culture is meant to capture the asserted duality of culture: on the one hand, culture consist of phenomenologically transparent, symbolically mediated knowledge acquired through 'fast learning' and encoded in the declarative memory system (Ibid: 4-5), on the other hand, however, it is also comprised of perceptual and motor skills, dispositions and cognitive-emotive associations acquired via 'slow learning' and stored in the non-declarative memory system respectively (Ibid: 5-6). What is especially important with regard to education research is that Lizardo provides a detailed account of the links between culture and action. He explicates the distinct types of cognitive processes that occur in different enculturation phases, including the acquisition, storage, processing and use of culture (Lizardo O. et al., 2016). This, in turn, might help educational sociologists to develop a more

viable and robust account of how cultural factors exert causal influence on educational choice by unambiguously identifying the underlying cognitive mechanisms of cultural transmission.

Another closely related but substantially different integrative proposal comes from S. Vaisey and L. Valentino, who advocate for an approach to culture based on the concepts borrowed from the so-called judgment and decision-making (JDM) sciences (Vaisey S., Valentino L., 2018). What this proposal essentially comes down to is an attempt to translate some key cultural sociological terms (such as values, frames, repertoires, narratives, etc.) into the JDM language, relying on such notions as beliefs, preferences and endowments (Ibid: 137). Vaisey and Valentino demonstrate that most of the concepts inherent to cultural sociology can in fact be realistically re-interpreted in JDM-terms without losing almost any of their explanatory power (Ibid). This proposal seems quite promising given that cultural sociologists frequently theorize about choice, decision-making and judgments in education, but often lack precise conceptual and methodological tools for this work. For instance, one of the most common notions in cultural sociology, narratives, are redefined by Vaisey and Valentino as ‘causal beliefs’, i.e. the beliefs about one thing causing another, particularly in the sociocultural realm (Ibid: 139-140). This provides cultural sociologists with a more naturalistic understanding of meaning-making (or sense-making) processes in education that dispenses with the dubious conception of narratives as external autonomous entities that influence people’s behavior through some unclarified tacit mechanisms. I then argue that the major source of constraints for the said approaches lies in their reliance on the standard model of cognition that conceives of mental processes as combinatorial information-transforming processes governed by computational rules (Eck D., Turner S.P., 2017). This computationalist model, however, has recently come under criticism by the so-called 4E (embodied, embedded, enactive, and extended) approaches to cognition that tend focus on the mutual interaction between mind, body, and environment rather than on internal computational processes (Barsalou L.W., 2008). As Soliman and Glenberg suggest, perhaps culture could be better understood as a web of sensorimotor rather than conceptual knowledge (Soliman T., Glenberg A.M., 2014). Although such theorists as Lizardo attempt to incorporate the bodily component into their accounts of culture in one form or another, their efforts are somewhat overshadowed by their reliance on the Bourdieusian practice theory that itself rests on questionable cognitive assumptions (Turner S.P., 2007b). As S.P. Turner, an enthusiastic proponent of the enactivist approaches, has pointed out, considering Bourdieu as a purely ‘embodied’ social theorist is an unwarranted interpretation, for he not

only used the cognitivist language extensively, but was also fond of quasi-teleological ‘group will’ explanations that are considered unrealistic by the modern cognitive sciences (Ibid: 353-358). Turner argues that it is perfectly possible to develop an embodied, enactive and dynamic account of culture without resorting to interpretive devices borrowed from neo-Kantian philosophy such as frames or habitus (Turner S.P., 2018: 7-8). Although Turner himself doesn’t provide a full-blown theoretical account of culture, he outlines the directions in which the work on an alternative ‘enactivist’ conceptualization must proceed, focusing in particular on the ideas of empathic understanding (made possible by mirror neurons), joint attention, affordances, scaffolding, pattern recognition, predictive processing, and much more (Ibid). The ideas of affordances and scaffolding might prove to be specifically relevant for educational researchers, since schooling, for instance, is largely considered to be a textbook example of designed affordances, where each step enables future steps, but also requires the next affordance (Ibid: 140-141).

Discussion

Last but not least, some important philosophical issues pertaining to the link between culture and cognition must be addressed. First of all, I claim that the issues of model compatibility and intertheoretical translation deserve particular attention of all cultural cognitivists. Vaisey and Valentino propose a useful analytical typology of interdisciplinary interaction strategies that comprises four possibilities: a) maintaining the status quo; b) selectively importing cognitivist concepts; c) exporting the language of cultural sociology; d) ‘strategic assimilation’ (Vaisey S., Valentino L., 2018: 136-137). I align myself with Vaisey and Valentino’s assertion that only the latter strategy, strategic assimilation, seems to be viable in the long term. That is, if sociologists want to engage in the transdisciplinary enterprise of cognitive neuroscience, they need to learn the cognitivist language (Ibid). This point resonates with Thagard’s metaphorical notion of ‘trading zones’: scholars within distinct disciplines are compared to members of different ethnic groups who establish communication and understanding by engaging in the ‘exchange of goods’ in designated zones (Thagard P., 2005). I argue that the success of the new cultural sociology of education will depend solely on the ability of cultural-educational sociologists to gain access to these ‘trading zones’, which in turn will only become possible when they start learning the lingua franca of cognitive sciences.

Additionally, I argue that no viable model of culture and cognition (and education) could ever be developed, unless we clarify the ontological status of the different ‘levels of explanation’ (i.e. social, psychological, neuronal, molecular etc.) and the causal relations between these levels (Thagard P.,

2013). In this respect, I argue, the philosophical ideas of emergence and downward causation deserve particular attention from cultural theorists (Chalmers D., 2006; Zahle J., 2017). Drawing upon D. Chalmers' distinction between strong and weak emergence as well as strong and weak downward causation (Chalmers D., 2006), I claim that conceiving of sociocultural phenomena as emergent in the strong sense is a philosophically and empirically unwarranted position, since it entails radical metaphysical implications (Ibid: 246) that the social philosophers are unlikely to back up with sufficient evidence. It therefore seems more reasonable to conceptualize sociocultural phenomena as emergent in the weak sense, which entails a commitment to a kind of ontological, yet not epistemological intertheoretical reductionism. It means that sociocultural phenomena can in principle be deduced from the facts at the psychological and neuronal level, but are still unexpected given the principles governing these lower levels and cannot be fully explained by appeal to theories describing the more basic phenomena (Zahle J., 2017: 125; Chalmers D., 2006: 254-255).

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