

Situating the “Mind Game”: Some Limits of and Modest Hopes for Cognitive Science

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Can we develop a scientifically respectable theory of mind? If so, what might it mean for education? These are two important questions arising from Shelby Sheppard’s challenging essay. By my read, her answer to the former is either that we cannot or that we ought not try, thus rendering the latter inconsequential. In making this claim, Sheppard leads us through a discussion of the problems inherent to cognitive psychology’s mind-as-computer, information processing (IP) model as well as the disturbing educational consequences associated with the adoption of IP. She concludes by offering educators an alternative that promotes a commonsense understanding of the mind.

I share Sheppard’s worries regarding the educational problems associated with the strict adoption of IP. I also possess a healthy skepticism of the possibility that science will render the mind wholly understandable. However, I find myself in the position of defending science as one way to help us understand the mind. In what follows, I will take issue with several points advanced by Sheppard and offer situated cognition as a potentially fruitful way to think about thinking in the context of education.

My first concern is with Sheppard’s unexamined assumption that our choice is between a liberal conception of education — be it Hutchins’s great books, Margaret Nussbaum’s *cultivated humanity*, or some other variety¹ — and the impoverished IP conception. It is possible that the liberal ideal is actually partially to blame for the narrowing of what it means to be educated. The tendency of knowledge in the liberal tradition to be above and removed from the everyday life of knowers might contribute to the shift from liberal education as a transformative process to something more akin to a laundry list containing what needs to be known to be educated (as in E.D. Hirsch’s “cultural literacy”). Sheppard writes, “[O]n the IP game, the development of mind is an account of the relationship between mind and *information*, rather than between mind and *knowledge* as was the case in the historical examples.” I agree that the strict IP model suggests a lifeless and disconnected conception of knowledge. But insofar as the liberal tradition tends to conceive of knowledge as existing independently of those who might know it, I believe it runs the risk of fostering a similarly barren conception.

My second concern centers on Sheppard’s claims that “educators should not be solely concerned with ‘how’ students can become better ‘thinkers,’ but also with ‘what it is’ that they ought to think about in order to become educated persons.” It is not that easy to determine the content required in order for one to be considered “educated.” Furthermore, the history of cognitive science reveals a concern with content, as emphasis on “intelligent” searching by machines led to a recognition that considerable content knowledge is required to accomplish all but the most

rudimentary problem-solving tasks. An interest in expert systems followed, whereby cognitive researchers equipped computers with massive databases of facts. Interest in expertise carried over into educational literature; so blaming cognitive scientists for failing to attend to content is misplaced.²

My third concern is what I read on Sheppard’s part as a misunderstanding of, or even latent hostility toward, science. One rationale she offers for rejecting IP is that it is “based on a theory of mind which is deemed fallible by those who posited the theory in the first place and the basic assumptions of which have been shown to be fallacious.” Scientific theories, by their very nature, are fallible, which any number of different philosophies of science support. William James claimed that the best way to make progress within the scientific field of psychology was “to understand how great is the darkness in which we grope, and never to forget that the natural science assumptions with which we started are provisional and revisable things.”³ In this sense, the trouble Sheppard points to regarding IP may not be with it, but with a failure to recognize its limits.⁴

Sheppard’s call for a commonsense alternative to IP seems to move toward un- or pre-scientific thinking. As I understand her, IP fails to capture the “uniquely human” nature of the endeavor of education, which leads into her suggestion that we ought to trust the commonsense or folk descriptions of how we know. Commonsense psychology tends to feature explanations for where our intentions, desires, will, and the like come from. It has helped us think and communicate about the mind for centuries but it has not been subject to scientific scrutiny. My argument is that the complexity of the mind is such that scrutiny from multiple vantage points can be beneficial. There is a place for commonsense understandings of the mind, but why limit ourselves to these when it is possible that if properly appreciated, scientific, or other forms of inquiry might provide useful insight?

Consider situated cognition. Brown, Collins, and Duguid describe the agenda for research on situated theory as follows: “To explore the idea that concepts are both situated and progressively developed through activity, we should abandon any notion that they are abstract, self-contained entities. Instead, it may be more useful to consider conceptual knowledge as, in some ways, similar to a set of tools.”⁵ Situated cognition proponents advance a theory of the mind that is not entirely cooped up in the head. That is, knowing takes place as people live in and act on particular environments and the focus switches from formal thinking (theory) to acting (practice).⁶

Researchers have attempted to explore the situated perspective in a number of ways, from using rigorous experimental methods to anthropological and ethnographic work.⁷ The gulf between knower and known presupposed in the liberal conception of education is bridged when cognition is situated, for knowledge is seen as constructed in “everyday” contexts. The situated perspective can help us to form a scientific understanding of the mind. Its framing of mind as interactions between people and their environments gives us something we can observe and study scientifically without having to resort to the behaviorist’s bracketing off of meaningful mental activity or to the IP tendency to reduce mental activity to machine-like

workings. When approached with humility, the situated perspective offers a corrective to the troubles that Sheppard rightfully points out can emerge from IP.⁸

Finally, I wholeheartedly endorse Sheppard's call for philosophers of education to involve themselves in debates involving the nature of mind and their implications for education. If I am right that multiple perspectives are called for, then philosophers of education have a role to play as those who might help give perspective to the perspectives. Denis Phillips said it very well: "With respect to such a vital matter as the nature of human cognition, philosophers of education ought not to withdraw from the debates and sit on the fence — for, wherever cognition is situated, it is probably not situated *there!*"⁹

1. For more on different strains of liberal education, see Landon Beyer, "The Outcomes from Engaging Liberal Education and Critical Inquiry: Matrimony, Divorce, or Kissing Cousins?" *Philosophy of Education 2002*, ed. Scott Fletcher (Urbana, Ill.: Philosophy of Education Society, 2003).

2. For example, see K. Anders Ericsson and Jacqui Smith, eds., *Toward a General Theory of Expertise: Prospects and Limits* (New York: Cambridge University Press, 1991); and Carl Berietter, *Surpassing Ourselves: An Inquiry into the Nature and Implications of Expertise* (Chicago: Open Court, 1993).

3. William James, *Psychology: Briefer Course* (New York: Holt, 1892), 468.

4. Eric Bredo notes how symbol processing researchers slipped from computer-as-model to computer-as-explanation of how mind really is. See Eric Bredo, "Cognitivism, Situated Cognition, and Deweyian Pragmatism" *Philosophy of Education Yearbook 1994*, ed. Michael S. Katz (Urbana, Ill.: Philosophy of Education Society, 1993), 47–56.

5. John S. Brown, Allan Collins, and Paul Duguid, "Situated Cognition and the Culture of Learning," *Educational Researcher* 18, no. 1 (1989): 32.

6. Dewey anticipated this emerging perspective. His psychology featured human-environment interactions. Sheppard's description of Dewey's mind as "biological apparatus" might miss the point that the biological apparatus was the *whole human organism* and not a disembodied mind. See John Dewey, *The Quest for Certainty* (New York: Capricorn, 1960).

7. For an example of the "harder" and "softer" sides of situated research, see Mark Johnson and Tim Rohrer, "We Are Live Creatures: Embodiment, American Pragmatism, and the Cognitive Organism," in *Body, Language, and Mind*, vol. 1, ed. Jordan Zlatev, Tom Ziemke, Roz Frank, and René Dirven (Berlin: Mouton de Gruyter, forthcoming); and Barbara Rogoff and Jean Lave, *Everyday Cognition* (Cambridge: Harvard University Press, 1984), respectively. For an overview of situated theory, see Bredo, "Cognitivism."

8. Bredo argues that situated cognition must "situate" itself to ensure that it does not make claims on how the mind *really is*. See Bredo, "Cognitivism," 55.

9. Denis Phillips, "Bredo, Dewey, and the Pessimistic Method," *Philosophy of Education Yearbook 1994*, ed. Katz, 57–60.