First Notes Model

PASS 1

PRIMARY SOURCES

1. **Practices of Distributed Intelligence and Designs for Education**

    1. While providing few answers, I hope to provoke new questions and inquiries, for distributed intelligence is not a theory of mind, or culture, or design, or symbol systems and their impact on human thought so much as it is a heuristic framework for raising and addressing theoretical and empirical questions about these and other topics. (p. 48)

2. **Person-Plus: A Distributed View of Thinking and Learning**

    1. Second, the best use of these physical support systems is an art. It is not so commonly found. And conventional instruction does little to acquaint students with this art, mistakenly expecting the fingertip effect to do the job. (p. 96)

3. **No Distribution Without Individuals' Cognition: A Dynamic Interactional View**

    1. Specifically, the general hypothesis would be that the "components" interact with one another in a spiral-like fashion whereby individuals' inputs, through their collaborative activities, affect the nature of the joint, distributed system, which in turn affects their cognitions such that their subsequent participation is altered, resulting in subsequent altered joint performances and products. (p. 122)

4. **Teaching the Nintendo Generation to Program**

    1. But it's through our use of Squeak and watching students rise to the challenge of multimedia programming that we came to the realization that multimedia-first is a viable way to *introduce* computing. (p. 19)

5. **Wise-Up: The Challenge of Lifelong Learning**

    1. I have used these vignettes, each of them based on research which will be discussed later, to introduce the broad scope and some of the main themes of this book - in particular what we might call the three Rs of learning power: resilience, resourcefulness and reflectiveness. (p. 6)

6. **Learning and Teaching Programming: A Review and Discussion**

    1. Effective novices are those that learn, without excessive effort or assistance, to program. Ineffective novices are those that do not learn, or do so only after inordinate effort and personal attention. It may be productive, in an introductory programming course, to explicitly focus on trying to create and foster effective novices. In other words, rather than focusing exclusively on the difficult and end product of programming knowledge, it may be useful to focus at least in part on the enabling step

of functioning as an effective novice.

7. **Will There Ever Be Consensus on CS1?**

    1. The choice of programming language, the approach by which students are taught and the software tools made available to students have been controversial issues in many ways. While there once was a consensus of some sort within the computer science education community, it is much more difficult to find command ground amount those of us who teach introductory programming courses. (p. 1 of my pdf)

8. **A Brief Tour of the Learning Sciences Via a Cognitive Tool for Investigating Melodic Phenomena**

    1. The emphasis in this article is on MxM as a cognitive tool (Jonassen & Carr, 2000), a technology that affords learners enhanced opportunities to engage in processes of knowledge construction and reflective thinking. (p. 182)

SECONDARY SOURCES

1. **Invent to Learn: Making, Tinkering, and Engineering in the Classroom**

    1. When we talk about a "project," what we mean is work that is substantial, shareable, and personally meaningful. Some projects may take a class period or two to complete, while others may require an entire term. (p. 57)

2. **Distributed Cognition**

    1. The form of distributed cognition advanced by Hutchins (DCog) has adapted the framework of individual cognition to explain how cognitive resources are organized \textsl{within a context}, drawing on actors and other features in the environment to perform problem solving. Hutchins calls this "socially distributed cognition" (1995a). Socially distributed cognition describes group activity in the way that individual cognition has traditionally been described -- computation realized through the creation, transformation, and propagation of representational states (Hutchins, 1995a; Simon, 1981). Central to this is the idea of work being distributed over a range of media and over a number of people. It is concerned with representational states and the informational flows around the media carrying these representations. The DCog framework allows researchers to consider all of the factors relevant to the task, bringing together the people, the problem, and the tools used into a single unit of analysis. This makes it a suitable candidate for developing an understanding of how representations act as intermediaries in the dynamically evolving and collaborative processes of work activities. (p. 196)

3. **Twilight of the Lecture**

    1. But ultimately, learning is a *social* experience. Harvard is Harvard not because of the buildings, not because of the professors, but because of the *students* interacting with one another. (p. 27)

4. **Learning and Cognition: The Design of the Mind**

1. At the pinnacle of Bloom's Taxonomy is the cognitive process of *evaluation*. Why did Bloom choose evaluation as the highest of all cognitive processes? If ideas vary in quality, then to evaluate ideas is to confront that reality directly. The person who evaluates is the one who continually tests ideas for their soundness, workability, defensibility, power, insight, subtlety, and novelty -- for their potential to construct or subvert beliefs, to reconcile or to inflame conflicts, to build knowledge edifices or to kick down the foundations of what we think we know. As one manifestation of metacognition, evaluation is crucial to the pursuit of good ideas and sound plans. Adept thinkers know that knowledge-building is a human enterprise, so declared truth is never definitive, never beyond doubt, never perfect. We evaluate so that we can test and, if possible, improve what we know. This is the essence of complex cognition: forever evaluating and evolving ideas toward something better. (pp. 142-143)