

OAT Research Discussion Summary

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Summary

“How People Learn” is a product of the National Research Council that explores pedagogically relevant research in the areas of brain-based learning theory, cognitive learning theory, socio-cultural learning theory, and more. Though originally published in 2000, the distillation of information into key findings and their potential application to teaching and learning helps this volume retain its value to educators and education researchers.

Commentary

Our discussion was restricted to chapter 1 - “Learning: From speculation to science”, and provided an opportunity for OAT staff to review the historical development of scholars’ understanding of how people learn. However, the real value of the work becomes apparent in the opening discussions on 3 key findings in learning research, which are:

- 1) Students come to the learning process with preconceptions which may inhibit learning, and to which they may revert if they are not exposed and examined,
- 2) Students need to develop a depth of factual knowledge, beyond the ability to repeat facts and trivia,
- 3) It is important to not only train students in metacognitive strategies, but to also integrate metacognition into our instructional practice.

These three key findings are the springboard for a number of implications for teaching, and the design of environments that nurture the learning process.

The implications for teaching include:

- Teachers must draw out and work with the pre-existing understandings students bring to the learning process.
- It is important that teachers teach some subject matter in depth, providing a firm foundation of factual knowledge.
- The teaching of metacognitive skills must be integrated into the curriculum.

With an emphasis on “understanding”, the authors point out a couple interesting misconceptions. First, confusing a constructivist theory of knowledge with a theory of knowing. That is, some mistakenly assume that applying constructivist principles to teaching and learning means the teacher never tells the students anything directly. Obviously, it is critical that students explore concepts and issues. However, the need for students to develop a solid foundation of factual knowledge requires some direct instruction from the teacher. Another misconception noted in the chapter is mistaking hands-on learning for learning with understanding. The authors highlight the importance of ongoing formative assessments that help make students’ growth in understanding visible to both teacher and student. This is especially important in our role as technology mentors and coaches, given the appropriate context, to lead faculty to a better understanding of applying technology rather than merely providing a list of steps to follow.

The implications for designing classroom environments (or any learning environment) are:

1) Classrooms must be learner centered. That is to say, instructors must take pains to know their students (culture, need for scaffolding, etc.), and manage the level of difficulty in learning activities so as to keep students challenged, but not so challenging as to discourage them.

2) A learner-centered environment is knowledge-centered. That is, the goal is for students to understand, not to merely accumulate facts. According to the authors, “Knowledge-centered environments also look beyond engagement as the primary index of successful teaching” (p.24).

3) Ongoing formative assessments designed to make students’ thinking visible to both teachers and students are essential. It is important to for the teacher to accurately understand students’ preconceptions in order to know where they are in the learning process.

4) Learning is fundamentally affected by its context. Nurturing and guarding a healthy sense of community enables students to learn more effectively. The community described in this chapter is characterized by a number of characteristics such as, feeling safe in asking questions, admitting you don’t know the answer, trust, belonging, common goals and purposes, and more.

The importance of community in both the traditional and online classrooms has its own body of literature that deserves a broader hearing and application in higher education. A few key research articles on the importance of community in learning are listed below.

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Research on the impact of community on student learning and persistence

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