

Situated cognition. From her naturalistic studies, Lave coined the term “situated cognition” to describe the cognitive process as a “nexus of relations between the mind at work and the world in which it works” (Lave, 1988, p. 1). She further proposed that cognition is not just a psychological phenomenon, but rather it is “stretched across mind, body, activity and setting” (Lave, 1988, p. 18). This view of cognition is not new, but is rather closely associated with the foundational work of educational theorists and philosophers such as Dewey (1974) and constructivist Vygotsky (1978).

Lave and others have researched learning in every day life contexts, as opposed to abstract classroom or laboratory conditions (Lave, 1988; Lave & Wenger, 1991, Resnick, 1987). They have found that when individuals address problems requiring the same knowledge, the context in which the person was engaged greatly influenced how he/she used information to solve a problem. Lave gives an example of individuals attempting to follow weight reduction diets (1991). In their own kitchens, dieters relied on estimation techniques, often physically dividing food into appropriate portions. However, in a classroom setting, these same dieters attempted to use paper and pencil approaches to dividing fractions. This and other research strongly suggest the importance of learning context on how problems are thought about as well as how solutions are generated.

In reporting their research, Lave & Wenger (1991) used the term “legitimate peripheral participation” to describe how individuals gain opportunities to use learning as members of a community. In this community role, individuals

must make a legitimate contribution to a situation that they value and consider “authentic.” These contributions initially are likely to be at edges or the “periphery” of the socially constructed community. As new members progressively demonstrate competence, other members of the community gradually allow novices to engage in more complex activity. In this way, learners are eventually affirmed as full-fledged members. Through participation, learners also construct their identity relative to the community. As a result, learners achieve a mental “meaningfulness” that comes from participation as members of a valued community.

Communities of practice. Wenger has extended this work in situated cognition into a more formalized construct that he now calls *Communities of Practice* (1998). Westheimer and Kahne (1993) view communities as they apply to schools as a process marked by interaction and deliberation among individuals who share interests and commitment to common goals. Wenger extends this definition of community to incorporate a learning viewpoint. To him, learning is a central element that connects at the intersection of *meaning, practice, community, and identity*.

Meaning is a way that we use our increasing abilities to create meaning from our lives and our work. *Practice* (or collective participation) is a way in which our community constructs a mutual history, collective social resources, and common ways of looking at the world. These commonly held values guide our actions and promote continued engagement in the business of the community. *Community* consists of the social networks that define our enterprises as worth

pursuing and recognizes the work of an individual as competent. *Identity* is a way of talking about how learners change as they learn. In this way, the learner creates a personal history of how he/she has become a member of a community of practice.

Based on the principles of *community of practice*, it is the “meaningfulness” that a learner attaches to the content that makes multiple uses of information possible. Wenger, Westheimer, and Kahne do not acknowledge learning transfer as a construct. They believe that learning is a new event in each new social setting. Wenger believes that community members ultimately achieve meaning through the interaction of their “participation” and the “reification” of imaginary and real objects that represent the tools and values of the community. For example, schoolteachers have a number of imaginary symbols that represent in their own minds elements that constitute tools to use within a community of practice. They might be intangibles such as the common beliefs held mentally among colleagues with regard to discipline in the classroom. These beliefs can also be actualized for faculty and students in the physical form of a handbook. It is participation as teachers in the valued enterprise of educating youth, and the use of real and imaginary symbols and tools that give the professional community members meaningfulness. It is also the meaningfulness that shapes our professional identities (Wenger).

Cognitive/social orientation. Individuals learn in different ways than traditional cognitive psychologists believed. When looking at *situated cognition* as a foundation for contextual teaching and learning, it is important to understand

that the theory is moving away from the traditional psychological view of how people learn. This is similar to *blended constructivism*, but situated cognition theorists strongly argue that learning is primarily a social phenomenon. Yet, there is an underlying recognition of the role of cognition. It is this recognition that brings this social view of learning and constructivism together and makes it possible to see philosophic and theoretical consistencies between the theories (St. Julien, 1997).

Nature of knowledge. The nature of knowledge is embedded in the practices of the community. Again, there are similarities to *blended constructivism* as the practices of the community are mutually negotiated and understood. The practices and conventions of a community are determined as the group proceeds in its valued enterprise. Obviously, truth is relative to what is perceived to work in a given context or setting. Acquiring mastery of the practices (knowledge) of the community is the journey towards expertise. It is in this way that *communities of practice* can be seen as a socialization theory. Individuals adopt and use the practices and conventions of the community to become full-fledged members over time.

Learning assumptions. Wenger (1998) identified several principles that should be considered as we design for teaching within a community of practice. Selected principles/assumptions are presented in Table 8.

Table 8

Learning in Communities of Practice

- It involves the whole person in an interplay of participation and reification.
- mechanical recall of isolated information.
- structure and continuity to promote meaningful new mental models while reconsidering prior learning that might be inappropriate.
- settings that require the learner to engage deeply with the community.
- require learners to engage with material that they find interesting. This can be an instructional springboard to introduce learners to ideas and concepts that they might not initially see as inherently interesting.
- we learn. Allow learners to change their positions. This can be done through articulation and reflection strategies.
- exploration so that identities and practices can grow in broader contexts.

Wenger also warns educators who would develop such a community of practice as a foundation for learning: *“Learning cannot be designed. It can only be designed for – that is, facilitated or frustrated”* (1998, p. 229).

Instructional practices. Teaching from a *community of practice* perspective requires a thoughtful and student oriented approach. Brown, Collins & Duguid (1989) suggest that an apprenticeship approach is appropriate for theory that purports to explain how novices become experts moving from the

periphery of a community to a more centralized position in the social structure of the group. They have written about the use of cognitive apprenticeship as a way to think about the design of instruction. Schell & Rojewski (1995) have extended these principles into the design for teaching in secondary and postsecondary career and technical programs.

Principles of cognitive apprenticeship have been advanced as an appropriate means of teaching through the use of “situated” activities (Brown et al., 1989). This form of apprenticeship is based on four interacting elements - content, methods, sequence, and the sociology of the learning community.

Instructional content refers to the types and levels of knowledge required by experts to solve complex problems in the real world. Content can be seen to range from basic knowledge to information that experts use to reflectively compose strategies for learning new things.

Instructional methods include a variety of instructional strategies employed by a facilitating teacher. They range from traditional demonstration to higher-order methods of exploration, articulation, and reflection (Brown, et al., 1989). Articulation and reflection were two key instructional strategies used in this research. Articulation is used to encourage learners to verbalize their knowledge, reasoning, or approaches to problem-solving while reflection enables learners to compare their own problem-solving against those of an expert (Schon, 1990).

Instructional sequence can be thought of as three basic strategies including linear movement through materials, increasing capacity (teaching one

concept to be used over and over in different settings), and global information before local details, where an overview of information is provided before detailed instruction begins.

The final characteristics of the cognitive apprenticeship model are the beliefs, values, and **social settings** in which real-world learning takes place. Three aspects of social contexts are key for a teaching design for situated learning. They are: 1) developing and maintaining a community of practice, 2) encouraging intrinsic motivation, and 3) maximizing cooperation within the community.

Assessment of student work is always contextualized and based on the expectations of the community. Students are judged based on their knowledge and/or competence as a member of the community. So, it is always authentic and in real settings.

These are instructional building blocks that have been well known for many years. However, when taken as an interactive whole, they can constitute the framework for a very different instructional environment including new roles for both the learner and the teacher.

Supporting theories. Some theorists might have difficulty with a juxtaposition of blended constructivism and situated cognition/communities of practice theories. Many purists would argue that learning is either social or it is psychological. Others such as St. Julien argue that both perspectives have merit and are not mutually exclusive. He writes: *“Connectionism can be seen as a perspective that blurs the distinction between the mind and the brain in ways that*

parallel situated cognition's blurring of the distinction between the self and the world" (1997, p. 267).

It is in the area of learning transfer that St. Julien believes a connection exists. Situated cognition describes competence as skills and abilities learned and used in a specific context. Traditional schooling approaches rely heavily on the assumption that information is transportable from the school setting into real world applications. St. Julien believes that the concept of "pattern recognition" is the basic learning building block that connects with the claims of situated cognition. That is, pattern recognition is facilitated when teaching/learning occurs in real and realistic contexts and physical settings.

Example UGA CTL practice from this perspective. Situated learning theory put into actual practice is relatively rare. It is often perceived to be difficult to adopt such practices within the confines of a public educational institution. Here is one example of how situated cognition and communities of practice can be adopted in a teacher education context and situated settings.

Dr. John Schell utilizes a community of practice approach when teaching a split-level course EOCS 4990/6990 Introduction to Contextual Teaching & Learning. Members of the learning community consist of practicing teachers and undergraduate teacher education majors. The course is offered to any one who is interested in a practice using principles of contextual teaching and learning.

The 3 hour course has three main foci: (a) how do experts use knowledge and information in accomplishing their everyday work, (b) what is an appropriate role for service learning, and (c) how does one become a member of the professional teaching community?

Expert use of Knowledge. To examine the use of knowledge in the real world, members of the learning community selected, contacted, made arrangements, and visited a variety of businesses, schools, public institutions, and natural settings. Experts at those locations were interviewed and observed as they conducted their work or provided explanations of industrial processes. The community visited 6 businesses including a large and small bakery, a maintenance shop for a major airline, a local elementary school known for its use of gardens and landscaping as a way to teach interdisciplinary topics, and made a trip to Cawley's Island, S.C. to study natural habits of crabs and other ocean life.

Service Project. Individual members of the community used this class assignment as an opportunity to learn about community needs through providing a service to a selected group. Several designed situated teaching and learning activities for churches and other religious groups of their choosing. Others connected with hospitals and clinics. A science major designed and delivered a lesson on sea-life that she created from the class visit to Cawley's Island.

Life as a Teaching Professional. Each member of the community was connected with a mentor who is a practicing professional teacher. The professional teachers are to give on-going guidance to the undergraduates as they proceed through their teacher preparation program.

Instruction was provided via applications of cognitive apprenticeship methods. A primary emphasis was placed on the importance of reflection in action, reflection on action, and reflection for identification of metacognition.

Relationship to continuum of context. All applications of situated cognition theory are based in real contexts and settings. This places applications



of this theory at the far right end of our continuum of context. Learning allowances are made in the real world. It is in this way that learners are provided opportunities to learn practices and procedures that are actually used in businesses or other types of institutions. This is appropriate because of the tradition of this theory for providing explanations of how peripheral members of a community become socialized as full-fledged members of a group.