A Cognitive Learning Model Related to Information Technology

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Abstract: Information technology prompts the need for learning software and hardware. The process of learning can be explained by many established learning theories. This paper will present a view of cognitive learning in relation to acquiring technology skills. This cognitive learning model will be based on Bateson and other theorists. Culture and other attributes of the learner will be acknowledged including the learner's relationship to the teacher.

Many questions exist regarding how to successfully integrate technology into the classroom. Exciting answers have emerged, for example, in the form of WebQuests, an inquiry-oriented, Web-based classroom-learning tool (Vidoni & Maddux, 2002).

As information technology progresses at warp speed, expert educators point to the need for a concomitant theoretical framework to support its effectiveness. Some support Bateson's theory of learning as an appropriate framework. Learning is viewed as a function of expectation and engagement of the student within the context of the learning experience (Harlow & Cummings, 2002). This framework has true relevance as will be noted later in this paper.

Let us focus on a model for cognitive learning with relevance to information technology. The foundation of this model is found in the student's own past experiences. Contributions from technology, art, and culture guarantee the transfer of what students need to function in society. When given these elements, the student creates a wide repertoire of experiences, and curiosity about the world and the technology around her or him. Without these elements, there is limited interaction with the greater world and perhaps a narrowed view of what can be learned about any subject.

Shift your focus to the teacher. The development of the cognitive learning process begins. For example, take a constructivist approach. The teacher establishes multiple learning opportunities using technology. The topic is dictated by the curriculum but the learning process becomes a series of choices designed for the student and a variety of learning activities. The teacher will test new ideas. Either there will be faults with what is to be learned, or the teacher will find relativity to the real world in the learning design.

Glasser tells us, "All behavior is chosen, but we have direct control over only the acting and thinking components" (1998, p.336). His words move the cognitive process towards a decision of what should be learned. The teacher's professional situation also influences the process. What is the best way to offer choices while controlling acting and thinking within the curriculum framework?

Barriers need to be identified. Does the student lack prior experience with technology? Are the student's skills minimal? Is there sufficient time to teach technology skills? (Christensen & Knezek, 2001).

From these questions emerge the learning and teaching strategies offered to the student. The outcome can be an enlarged sense of self for the student when learning opportunities are presented. Bateson would see learning as moving to a higher level whereby "…the computer becomes more than just a resource for attaining information. It is a tool that provides interpersonal connections that previously have been unattainable" (Harlow & Cummings, 2002, p. 99)

With ability to meet new technological challenges, a student can initiate cognitive learning. A computer becomes an instrument used by the student to make learning his or her own (Harlow & Cummings, 2002). In constructing this cognitive learning process, not only have schema been built. The teacher and the student have built a dynamic relationship within the educational setting based on collaboration.

References

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