ED 102 Assignment 6

Cognitive Apprenticeship

Cognitive apprenticeships are modeled after traditional apprenticeships. Whereas traditional apprenticeships involve learning a visible activity or skill, cognitive apprenticeships involve using mentors to model processes that are often invisible; problem-solving, comprehension, and computation. Apprenticeships can be distinguished from traditional instructional methods.

Eg .when I was an apprenticeships, I learned the Bloom’s theory. There have three domine

1. Cognitive Domain

2. Affective Domain

3. Psychomotor Domain.

It also call 3H; Head, Heart and Hand.

Cognitive Domain has seven steps;

-Knowledge

-Understanding

-Application

-Analysis

-Synthesis

-Evaluation

Apprentices learn to become part of a community of expert practitioners by modeling the performance of the teacher. Some characteristics of traditional apprenticeships include: learning related to bodily-kinesthetic endeavors; learning for the immediate value of getting a job done rather than for a symbolic goal a diploma; learning that moves from simple to more complex; learning with standards that develop naturally from and are embedded within the work environment; learning in which teaching is often undetectable because instruction is guided by what the apprentice does rather than by what the teacher says.

In some ways the traditional apprenticeship model is not transferable to many of the skills needed to succeed in modern society because such skills are frequently cognitive in nature and cannot be learned solely through observation and modeling.

Cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Eg. Apprenticeship enables apprentices to acquire and develop the tools and skills of their field through authentic work at and membership in their trade. The apprenticeship helps to emphasize the centrality of activity in learning and knowledge and highlights the inherently context-dependent, situated, and enculturating nature of learning.

The cognitive apprenticeship aims to explain a process by which a novice becomes a member of a community of expert practice. The cognitive apprenticeship model is intended to cross the traditional boundaries between academic and vocational education because each requires knowledge and expertise in the other’s domain.

Eg. Bioreactor must not be able to understand and operate the many computer-based systems associated with newer models. In the past, Bioreactor has been classified strictly as a traditional discipline, computer systems strictly as an academic discipline.

The cognitive apprenticeship model has four building blocks

1.content,

2.methods,

3.sequence,

4. sociology

Students must be exposed to the concepts, facts, and procedural knowledge of a subject. This is the traditional instructional methods and is typically taught out of context. This type of content must be integrated with problem-solving strategies used by experts, metacognitive strategies (planning, setting goals, evaluating) and monitoring one’s own learning, and learning strategies that enable students to recognize relationships among fields, relate prior experiences and knowledge to new knowledge, and learn how to learn and how to memorize.

In a cognitive apprenticeship , the teacher acts as a dispenser of knowledge and the students as sponges charged with soaking up this knowledge. Students should be given opportunities to observe, invent, discover, and collaborate, with the teacher serving as a facilitator who offers hints or guiding questions and monitors individual as well as class progress toward the desired goals. Eg. We teach some knowledge for subject; isolation ,identification methods and biochemical test associate with bacteria by using lecture method. We intended for understanding of bacteriology and nature of bacteria and bacteriological technique.

Learning should be structured in such a way that students participate in increasingly complex tasks. Many skills and knowledge are required to operate in any domain, and skills should be learned in a logical sequence in which students gradually build upon what has previously been learned. Eg. first we teach nature of bacteria, and then how to isolate bacteria, where are they from, and which methods do we used, all are in order to sequences.

The learning environment should reflect an environment as close to the real world as possible. Students retain and transfer knowledge best when it is learned within an authentic context. For all domains this includes the need to learn to collaborate with others to solve problems and carry out solutions.

Educational technology has been used to implement cognitive apprenticeship learning models. The use of computer-mediated communication to facilitate such strategies has assumed many names in recent years. We use electronic networks by teaching that enhance and expand traditional face-to-face mentoring.