The Six Principals of Expertise

Instead of writing my response in prose I felt it would be more beneficial to summarize this chapter in outline form and include some thoughts I had about each principal in addition to their key points.

1. Experts notice features and meaningful patterns of information
    a. I see this principal played out a lot in my HTML class. Beginning HTML students have difficulty troubleshooting and finding coding errors in their HTML documents due to the fact that they aren't readily familiar with proper HTML coding structure.
    b. It also reminds me of an ongoing debate that I have with colleagues in my department about whether we should be teaching breadth or depth. After reading chapter 2, I am more convinced than ever that we need to reduce the number of concepts we teach in a course and focus more on increasing student's understanding of what we are teaching them.
2. Experts have acquired a great deal of knowledge
    a. There is no doubt in mind that this is true, it is one of the reasons I enjoy teaching. The more I teach a subject the more knowledgeable I become in the subject, especially in my field. Since Information Technology is changing all the time I am constantly doing research to prepare to teach my classes. I also find myself reading about various IT subjects from many different authors, thereby getting many different perspectives of the subject matter.
    b. The concept of "pause times" as applied to this principal is intriguing. According to our text "pause time" indicates a sequential search of memory by a novice.
    c. Another important aspect of this principal is that curricula should organized in ways that lead to conceptual understanding.
3. Experts not only have acquired knowledge they are also better at retrieving what is relevant to a particular task because an expert's knowledge is "conditionalized".
    a. This is why we try to convey to our introduction to data communications students how important it is to understand conceptually what activity is taking place at each layer of the OSI model in order to successfully troubleshoot networking problems based on symptoms.
4. Experts have fluent retrieval of information.
    a. Not necessarily quicker because experts first stop to ponder the problem before jumping to solutions.
5. Expertise in a discipline does not guarantee the ability to teach it.
    a. Experts may forget what is easy and what is difficult. I have been told that this is one of my strengths in teaching, having the ability to break complex concepts into simple explanations or analogies.
6. Experts have adaptive expertise
    a. Metacognition is something that we talked about in the last discussion forum as one of the principals of cognitive learning theory. I had some familiarity of it before last week's discussion, but the concept becomes clearer to me each time that I read about it in the

context of the current week's reading. I think this is one of the principals that is important for first and second year college students to understand. Combined with the concept of becoming a lifelong learner. Hatano and Inagaski are cited in the text as writing that "adaptive expertise provides an important model of successful learning" (1986).

b. This is the first time I have read of the difference between an artisan "merely skilled" and a virtuoso "highly competent".