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Theoretical Understanding: Interview Assignment

As Instructor for the Computer Aided Design (CAD) Technician program at West Valley Occupational Center, I teach AutoCAD software as it is used in industry by Architects and Engineers. As part of my research for my Master's development project, I conducted a conceptual interview for SED course 690. My main goal with this project was to employ an effective research method to determine what the student's approach was to recalling procedural information. The main tasks for this assignment were to document two student interviews and produce a partial transcript of our exchange. This was accomplished by utilizing compact digital recording equipment to capture and latter transcribe the live interviews. From this documentation I had hoped to be better informed as to what pedagogical approach to use in the development of my tutorial application.

I conducted the two interviews shortly after completing instruction for module two of seven for the CAD Design Technician course, some five weeks into the semester. The students had already received over sixty hours of some combination of lecture, discussion, hands-on, and one-on-one coaching. The students had also completed a drawing project and taken an exam to assess their knowledge and understanding of the subject matter covered in module two. I selected two students randomly to conduct my interview. Each was asked to fill a consent form, giving me permission to conduct and record the interviews.

The questions I developed for the interview were rather short and simple. I was

interested more in listening to the student's thought process as it related to procedural knowledge of Basic Drawing Setup- the main subject of module two and the cornerstone of file formatting for the AutoCAD software. Some concepts in module two are difficult to understand, let alone to remember, and are not simple dialog boxes to answer using a wizard. Students must exercise critical analytical skills to make determinations in regard to what commands to use and what values to enter when completing the steps for Basic Drawing Setup. It was my intent to better understand how students conceptualize the steps and work through them so that I might develop better instructional tools to aid in the process. I basically asked each student to describe and perform the five main tasks in Basic Drawing Setup. Each could take as much time as needed but would need to verbalize their process as they performed it. Each interview was recorded so that later I could review the audio for transcription.

Although I had conducted interviews with only two students, it was interesting to compare the two in terms of young adult and older adult learners. In many ways, the two represent very different learning modalities, and devising an instructional strategy to bridge their differences would certainly have a positive impact on overall student performance. My interviews revealed that, while both had some difficulty recalling the steps, the students could eventually complete the process by writing out their steps, doing the calculations, then going to the computer to change the settings. This indicated that “seeing” and performing the process was important to recalling it and correctly executing it. Referring to my literature, I quickly recognized that the dual-coding channel

theory as posed by R.E. Mayer would become central to my development project. I immediately envisioned an important change to my project to address these issues. To make the step by step instruction more dynamic and effective, I planned to pair text and animated illustrations for explanations. I also decided to include more screen shots of the software to enhance the learning context.

Working on this project provided me with not only important tools for research, but also some key information valuable to my development project. To record the interviews I became knowledgeable in the use of compact digital recording equipment and software. This proved to be invaluable and an import tool for future research. By recording the interviews. I was free to interact more directly with my research and flexible to take my time and repeat questions as necessary. Once the attention on the recorder was focused elsewhere, we could go on without other distractions and my students would remain more at ease to speak authentically. This method of research also proved valuable because the chances of representing inaccurate statements was almost eliminated. I could also feel free to ask questions I might not have otherwise planned to ask. Most valuable of all, though, was that I could directly engage my students and get their perspective on my instruction while also gaining insight to their process of problem-solving and their ways of learning.

Conducting these interviews enlightened my understanding of student learning modalities. I was struck by the fact that I could directly obtain this information from students very simply by recording an interview. With the recordings, I could obtain a

highly reliable and valid set of data. And with the insights gained, I was able to make important changes to my development project. I feel this was a great learning experience for me and certainly one of the most valuable of the Master's cohort.