

## Leadership: Needs Assessment for CAD Design Technician Program, ECC

For this project I had to identify impediments to the student learning process, determine what are the causes, and what, if any, technological solution was appropriate for positive change. This assignment was given in SED 690 as a research project looking at technology issues in secondary education. In order to make this research relevant to my development project, I assessed the needs of the CAD/ Design technician program at Education & Career Center, West Valley. My research involved interviewing the two other instructors in the program aside from myself, and visiting a typical small sized professional office.

I hoped to learn from this study what the goals and objectives were of each individual instructor in relation to the stated curriculum objectives and determine how well these were being carried out with existing methods and resources. I also discovered what were the major impediments to student achievement. Performing this study allowed me to better understand the diversity of teaching pedagogy applied in the classroom, and to identify the necessary tools to improve student learning.

As a technologically based program of instruction, the CAD courses rely primarily on industry-level hardware and software for successful demonstration and practice of entry level responsibilities and tasks. Additional equipment that make learning and understanding possible are the overhead projection equipment that can project the instructor's computer screen to a larger screen which students can observe in greater

detail. This enables an instructor to demonstrate a procedure while at the same time perform it and have students follow along. This method of teaching, however, is not without its shortcomings.

Although explanations with demonstrations are good teaching strategies, the way these get executed sometimes can prove problematic for some students. My study found that, for example, students further away from the viewing screen had a harder time reading the software menus, toolbars, and dialog boxes from a greater distance. In addition, when students had a problem at their own computers, the teaching opportunity was limited to only those that could gather around the student computer. Other problems including outdated computers and software also contributed to a lack of authenticity when it comes to working in a simulated working environment- without the tools used in industry how was it possible to actually have that industry-level quality of experience? Nonetheless, I found that simple, relatively inexpensive technological measures could be implemented to improve the overall learning outcomes.

One key technological tool I found to be effective in the instruction of computer aided design, was classroom management software known as NetOp School. With this software an instructor could, for example, project his screen to a larger viewing screen while also taking control of the students' computers and prevent distractive activities. With a mouse click, the instructor could lock student computers or project another student's computer screen to all others while giving that student control. NetOp school could mainly aid in reducing distractions while also providing all students equal access to

instructor-led demonstrations.

The results of this study provided abundant justification for my requests to the administration for additional funding to replace and update the CAD program's hardware and software. By interviewing the other instructors and students I was able to understand the needs of all those involved in the entire learning process. This also signaled to the instructors and administration my passion for excellence and commitment to improving the overall CAD program. My final recommendations addressed the needs of both students and instructors, while also ensuring that the CAD program's infrastructure would be updated to reflect industry's current trends.

This study was yet another means by which my leadership in education was demonstrated. My rapport with my administration has yielded generous support for the CAD program, but such a large re-investment in the program was partly the result of the success achieved with the Lowe's Green Learning Garden. This was a project I coordinated together with my students, the San Fernando Economic Alliance, Lowe's Home Improvement, and Canoga Park High School. Throughout most of 2008 my students collaborated to develop designs for an interconnected series of gardens showcasing student achievement and providing learning opportunities for sustainable development strategies. This was a great opportunity to teach students valuable real-world skills and empower them to be responsible for a community design project. My efforts and leadership in promoting sustainable design also resulted in the creation of a new solar panel installation training programming on campus.