# *Integrating Work Based Learning with the Academic Classroom*

By
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Are the allied health occupational programs offered today adequately preparing graduates for the real world of work recognizing both the physical environment and the mental environment? Can academic design and course contents be synchronized to represent the real world of work? Today's heath care employers are demanding critical thinkers. Many students are not critical thinkers by nature. Nor, have traditional curriculums of the past guaranteed or demonstrated the internalization of critical thinking. So, how can today's educators of current occupational programs transform the neophyte into a practicing professional? Browne and Keeley (1988) found that direct training or active learning combined with practice and reinforcement is needed to facilitate the development of critical thinking skills.

What constitutes critical thinking? Can work based training sites be empowered to help assist allied health programs develop critical thinkers? Can didactic components of the curriculum be in concert with work based or clinical education centers? Today's health care environments are presenting educators' with challenges like no others from the past. This paper addresses methods utilizing distant education for improved integration of experiential learning with academic curriculums.

The primary purposes of work based or clinical education are to elevate the neophyte to the level of a practicing professional who can appropriately function in both the physical and mental work environments. Medical work environments of recent have proven to be especially challenging due to financial constraints, crucial personnel shortages, increasing and ever changing technical equipment, exams and or treatments required of its workers. Medical work environments by their sheer nature require individuals who can think critically.

Secondary purposes of experiential learning within the occupational communities enhance one's knowledge of good citizenship, cooperation, and working with others towards common goals.

The transformation of a novice to a practicing professional requires data collection, interpreting and synthesizing findings and performing procedures skillfully. The interpretation and synthesizing of data requires critical thinking. But, what is critical thinking? Is it attainable for the student? Can it be observed? Can it be measured? As educators how can we document and evaluate critical thinking by a student? How can work based instructors, who typically do not have background knowledge of teaching, recognize, observe and measure critical thinking?

While problem solving scenarios experienced within the classroom can assist the student in developing critical thinking skills; critical thinking can be best assessed within the real world of work. It is within these environments that students begin to question specific skills or techniques, modes of operation, and organizational structure. It is within these environments that students are provided opportunities for direct training, combined with practice and reinforcement building confidence and skill abilities. It is within these environments that students provide evidence of cognitive, psychomotor and affective domain abilities. It is within these environments that students' deftness, dexterity, proficiency and ability to critically think can be attained, observed and measured. The challenges presented to educators of allied health programs are: how can we assess fairly and equitably students in multiple geographically widespread work environments that serve extremely diverse populations? How can we as educators stay abreast of an individual student's progressive skills development?

Solutions were sought out via distance learning technologies. A key component identified for improving integration of didactic curriculum with clinical work based curricula was communication. With clinical education centers expanding across multiple states frequent on site visits were not feasible due to monetary and time constraints. Phone consultations were difficult to synchronize and relying only on hand written Faxed reports

was not sufficient. In an effort to keep all faculty and each student continuously informed of their progress, faculty desired frequent, anytime, anywhere communication abilities. On-line opportunities provided the solution. Utilizing Blackboard course management software faculty was able to bridge the existing communication gap. Confidential individual groups were created consisting of one student, their clinical instructor, a clinical coordinator and the program director. The groups were labeled according to the clinical education center. If a particular site had more than one student, group identification included a sequential alphabetical letter or number. Monthly discussion forums were created for on-going updates regarding student progress in all three domains. Students posted monthly goals and were continuously informed of their progress and skill attainments. Each group was provided email, group discussion, virtual classroom and file exchange capabilities. Therefore documentation became frequent, consistent, and defensible.

A second key component identified was the integration of actual clinical or work-based experiences with classroom teachings. Virtual case presentations or VCPs were designed. Each student was responsible for creating a number of VCPs throughout the program. Students prepared a PowerPoint presentation introducing the case with patient history and other pertinent data, representative sonographic (ultrasound) images and challenges for their fellow students as to what the case represents. Maintaining patient confidentiality was required. Submitted with the case presentation was a research paper that includes references, discussion of potential differential diagnosis, and a quiz consisting of ten multiple-choice questions. Students are instructed that answers to all questions must be found within their discussion paper. A 5 Meg limit for each case was necessary for server reasons.

Utilizing the Blackboard management system the instructor creates VCP folders for each student. Within the folder are all case PowerPoint presentations, discussion papers and quizzes. The on-line instructor first posts the PowerPoint case presentation within the student's folder. A discussion forum regarding the student's case is then created. After 50% or more of the class participants view and respond to the discussion, the research paper and quiz are made available to all participants. The instructor does

not grade quizzes, however, students are prompted that quiz questions may appear on future tests or exams.

During the discussion phase, clinical instructors, clinical coordinators and the program director are encouraged to pose questions, comments, and challenges within the discussion forum.

Advantages to this type of active learning include unusual and rare pathological conditions being shared beyond geographical limitations among both practicing professionals and students. VCPs therefore assist in keeping clinical personnel involved, current and up-to-date regarding the profession. Opportunities to provide continuing medical education credits for work-based instructors are another potential benefit.

Creating a group made up of clinical instructors, coordinators, and program faculty provides for further sharing. Such group communication empowers the work-based instructors to have input into didactic curriculum thus bridging the gap between classroom and the real world of work. It further encourages ownership and commitment to the program by work-based personnel.

Providing access to instructional workshops can enhance on-line instruction and participation from work-based faculty. While clinical instructors are theory based experts, superior role models, sharers of knowledge, and ethical they are not typically knowledgeable regarding teaching strategies. The “CLUES” workshop (Clinical Learning Utilizing Educational Strategies) is a good example. “CLUES” offers the work site personnel the opportunity to view at their leisure information regarding diverse learning styles and teaching strategies they can incorporate into their daily practice while instructing the student. The “CLUES” workshop also provides clinical instructors insight into accessing cognitive, psychomotor and affective domains resulting in more uniform and consistent evaluation of all students’ performance.

On-line format has proven to be convenient for posting hands-on skills assessment instruments and instructions employed for accessing student progress and skill development. It too can be used to seek didactic input from distant program advisory committee members and general announcements.

In summary, the author concludes that on-line integration between what is taught in the classroom and the real world of work significantly improves program outcomes, dramatically enhances program curricula, and bridges previously existing gaps between the classroom and the real world of work.

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