

Clinical Laboratory Educators' Conference 2011 Abstracts

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The following abstracts were presented orally during the 2011 American Society for Clinical Laboratory Science (ASCLS) Clinical Laboratory Educators' Conference February 17-21, 2011. Abstracts are reviewed by an Abstract Review Committee composed of appropriate representatives of the ASCLS Educational Scientific Assembly. They are the final authority in selecting or rejecting an abstract.

Advanced Cognitive and Psychomotor Objectives for a New MHS-CLS Curriculum

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Advanced cognitive and psychomotor instructional objectives were developed for an entry level Masters of Health Science in Clinical Laboratory Science (MHS-CLS) program launched in fall 2008. Students in the program must meet the criteria for obtaining a graduate degree by developing, working on and presenting an Institutional Review Board approved research project completed in a sequence of several MHS-specific courses. As future entry level professionals they participate in lectures, laboratories and internships with BS-CLS students to achieve goals outlined by foundational objectives. MHS-CLS students perform additional activities to develop advanced competencies consistent with graduate level education for an anticipated role and rapid promotion upon hire. These competencies contribute 20 percent to the final grade in each course and are delineated by advanced cognitive and psychomotor objectives. All students enrolled in the new program have successfully completed the activities designed to fulfill these objectives. Program Director and faculty will share the examples of these activities in Clinical Hematology, Chemistry and Molecular

Methods courses and their experience in instructional delivery of the advanced objectives during the first year of the new curriculum. The new MHS-CLS students graduated in May 2010 and have just started entering the workforce. Specific outcomes referring to the increased abilities of these practitioners are not yet available. There has been informal feedback from clinical sites implying their superior skills. A formal research project will be conducted to determine the associations between specific advanced curricular objectives and increased skills of MHS graduates when more students complete the program.

Approaches to Assisting ESL Students in CLT/MLT Programs

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Our NAACLS accredited associate degree CLT Program has seen a significant increase in English as a Second Language (ESL) students in the last 5 years. Our graduating class of 2010 was approximately 70% ESL students. All had completed the required ESL classes and required English writing classes prior to or during their program. While these students had excellent attendance and a good work ethic, many still struggled with oral communication with patients and clinical supervisors and to complete exams in the allotted timeframe. We wanted to know if other similar programs had increased enrollment of ESL students and if so, what they found to be advantageous strategies to assist these students in being successful. A survey was conducted of all NAACLS accredited associate degree CLT/MLT programs to determine if our program was unusual or typical. The survey results were from programs from all parts of the country with most programs being housed in Community Colleges. The

results clearly show increased enrollment of ESL students is a national trend and that Colleges are not providing enough services to assist these students. Many suggestions were given for program directors and faculty to implement to enhance the success of these students. These approaches and ideas will be presented. CLT and English faculty at our College are now working in tandem to develop strategies to increase the success of ESL students in the CLT Program.

Clinical Chemistry Student Laboratories: Getting Students to Think Beyond a Set of Steps

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Rapid advances in technology and automation have transformed the practice of clinical chemistry. With fully automated robotic systems, interconnected instrumentation, and on-board applications such as autoverification, the role of the clinical chemistry technologist has evolved to one focused on critical thinking and trouble-shooting. While such advances have transformed the clinical practice of chemistry, the education of students in clinical laboratory science programs has not progressed as quickly. Consequently, there appears to be a disconnect between student laboratories and the real world practice of chemistry. To attempt to bridge the gap, we have developed a clinical chemistry laboratory teaching method that provides students an opportunity to apply critical thinking and troubleshooting skills to weekly chemistry laboratories. Students are divided into groups, presented with a patient history, and perform chemistry analyses on samples related to their assigned patient on a weekly basis. At completion of the course, each group of students has a complete laboratory report for their patient containing both concordant and discordant data. Twice during the semester, students are required to develop and deliver oral presentations describing their case history, the data collected, a hypothesized and final diagnosis, and are expected to explain concordant and discordant data. This method of instruction promotes critical thinking and troubleshooting skills, engages students more fully into the laboratory experience, and builds a strong base of interpersonal skills.

Communicating and Understanding Laboratory Test Results: What Matters?

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Background: This is the first known investigation to identify specific patient characteristics and the relationship to their understanding of laboratory test results. Studies have shown that patients may not understand the information from their physician's reports or how it relates to their condition.

Purpose: The study was to examine patient characteristics influencing their level of understanding of laboratory test results reported to them by physicians or health care professionals. It was also conducted to determine demographics and to test the following hypothesis: 1) certain patient characteristics matter when assessing their perceived knowledge of laboratory tests. 2) patients who understand the relationship between their test results and their conditions are more likely to be satisfied with the health care system.

Methods: Questionnaires were distributed to 143 patients who had previous lab work done. The sampling method was purposive and convenient. Data analysis was performed using SPSS ranging from simple descriptive statistics and bivariate correlations to multiple regression.

Results: The authors' findings suggest that patients want information on and an understanding of their laboratory results. Demographic variables did not influence the findings.

Conclusion/Implications: Patients reported understanding the purpose of their tests and the relationships to their conditions would increase their satisfaction with the health care system. These findings have important implications for medicine and laboratory science. Medical costs are rising and 70% of clinical decisions are based on laboratory tests. Patient's knowledge is essential and could lead to more support and funding as the demand for laboratory services increase.

Continuing Education Seminar: a Service Learning Project for Medical Laboratory Science Students

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We saw an excellent opportunity for a service learning project in our isolated rural area, where few continuing education (CE) opportunities are available for our affiliates and recent graduates. To address this need, we developed a project that provides students practical experience in education, research, professional enculturation and teamwork. Each student researches and presents a topic at a community CE Day Seminar that is held at the University. Students attend our state society's Spring CE Seminar for ideas and then work together to advertise, secure a sponsor, prepare program flyer, provide lunch and secure P.A.C.E.[®] approval for their sessions under the guidance and oversight of the program faculty. MLS students are matched with graduate student mentors from the College of Education who help them with the preparation of an engaging lesson. Dress rehearsals are conducted where students provide feedback to each other regarding the effectiveness of their presentations. We have presented the CE Day Seminar for two years. It was well received as indicated by the number and variety of attendees and their evaluations of the presentations. Our program is promoted in the community, students receive job offers from participants and affiliate mentors become energized working with the students on this project. While the project takes time, student reflections indicate increased confidence and an overall sense of achievement. Valued experiences included a better understanding of the real work involved in the education process, a chance to develop their public speaking skills, and the enjoyment of networking with the laboratory community.

Evaluating the Effectiveness of an Online Medical Laboratory Technician Program

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The purpose of this research was to analyze the effectiveness of an online medical laboratory technician program in the academic preparation of laboratory professionals. A semi-quantitative comparative research design was used to evaluate several factors. Academic outcomes between online, campus, and national

medical laboratory technician (MLT) students was determined by comparing overall and categorical scores on certification exams as well as first time pass rates. Demographic data, including age and experience were evaluated. Learning styles were assessed to determine if there was a correlation to grade point average (GPA) and if learning styles could be used to predict successful completion of an online Associates of Applied Science. Participants consisted of online and campus students enrolled in a Medical Laboratory Technician program that graduated with their Associate of Applied Science degree between the years 2007-2009. Results of these years were also compared to graduates from 2004-2006 in the same program. The researcher found no significant difference in certification performance with regard to total and categorical scores, and first time pass rates between campus and online MLT students. Online students were slightly older and had more experience working in a laboratory in some capacity. Correlation studies showed significant positive correlation between learning styles, GPA, and successful completion of an Associate of Applied Science degree. When certification scores were compared to the prior cohort of online students, several subcategories demonstrated a significant improvement using Chi-squared analysis. The conclusion reached is that the online MLT students were as academically prepared as their campus counterparts.

How to Construct an Effective Student Course Packet as an Alternative to PowerPoint printouts

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Keeping students engaged during a lecture is a goal of every teacher. In most classrooms today, the chalkboard and white board have been replaced by PowerPoint slides and a laser pointer. Many instructors provide their students with PowerPoint "dumps" which are printouts of each PowerPoint slide for the entire semester. The objective of this presentation is to demonstrate an extremely effective alternative to the PowerPoint printouts, and one that engages students more directly during the PowerPoint lectures. The students use course packets that contain half to two thirds of the content covered on the PowerPoint slides. The packets are in the format of a Word document that

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follows the content of each slide with bullet points that are to be filled in by the student during lecture. The structure and format of each page is designed to specifically 1) allow the efficient coverage by the instructor of large amounts of content and 2) to engage

the students by having them take notes on the missing content in the packet. This type of approach, in combination with PowerPoint presentations, very effectively addresses the three basic types of learning styles; auditory, visual, and kinesthetic. .



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