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Cynthia L. Phelps
cynthia.l.phelps@uth.tmc.edu

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**MEETING MULTIPLE LEARNING STYLES USING BLACKBOARD TO
DISTRIBUTE POWERPOINT AND WWW LESSONS IN A DENTAL
BIOCHEMISTRY COURSE, Levine E. Alan, PhD, UT Houston Dental Branch Basic
Sciences, Houston, TX 77030**

Purpose: To evaluate the value of supplementing traditional lectures in the Dental Biochemistry with WWW-based lessons. Students often have difficulty with the intermediary metabolism section of the Dental Biochemistry course. The fast pace and quantity of material covered are cited as major reasons for this problem. Therefore, WWW-based lessons were developed and posted along with PowerPoint slides from all lectures. Students were encouraged to utilize both sets of materials in their studies. The WWW-based lessons were based on a hypertext model. Lesson design combined text, graphics, and animations and included learner control, links to other learning resources, and practice exercises and exams with immediate feedback. Results from an on-line questionnaire completed by students in several different classes showed that they completed 50% of the lessons and spent an average of 4 hrs. on-line. A majority of the students either agreed or strongly agreed that practice exercises were helpful, that the ability to control the pace of the lessons was important, that the lesson structure and presentation was easy to follow, that the illustrations, animations, and hyperlinks were helpful, and that the lessons were effective as a review. Students particularly liked the practice exams which included explanations of the right and wrong answers. Several students commented that the availability of the study material in different formats was useful to them. Students also responded very positively to the posting of PowerPoint lecture slides and the use of Blackboard as a vehicle for accessing all of this on-line material. The very positive response to the WWW-based lessons indicates the usefulness of this approach as a study aid for dental students.

USING THE NEUROSIMULATOR SNNAP AS A TEACHING TOOL FOR NEUROSCIENCE, Evyatar Av-Ron, PhD, Randall D. Hayes, PhD, John H. Byrne, PhD, Douglas A. Baxter, PhD, UTH, Neurobiology and Anatomy, Houston TX 77030

The software application SNNAP (Simulator for Neural Networks and Action Potentials) was developed to assist in the understanding of the ways in which electrical signaling occurs in the nervous system and the ways in which groups of interconnected neurons process information. SNNAP's object-oriented (Java) design permits ease of maintenance on multiple machine platforms. SNNAP's graphical user interface (GUI) provides a user-friendly environment, allowing the user to point and click menu items as well as model components. Using the graphical user interface, non-programmers can develop and run simulations. The current version of SNNAP is provided with over 100 example simulations and a tutorial that takes the user through several examples. These examples illustrate fundamental principles of neuroscience (e.g., excitability, neural networks, modulation) as well as teach the user how to use the program. The tutorial was designed with a hands-on approach. Users are provided with a work area and the initial model files. This work area is used to run a simulation, alter existing model parameters, and incorporate new components to the model. Every new screen that a user encounters is shown in the tutorial as a screenshot that indicates the parameters that need to be entered. At any time, users can start from the beginning by copying the original files from an archive folder. The archive folder also contains the final resulting files the user should have after following the tutorial directions. In this way users can always copy an original version to the work area, or use the final version for further exploration. By following the tutorial, the user performs exercises that illuminate neuroscience principles, while learning the features and capabilities of SNNAP. In addition to its use as a teaching tool, SNNAP has also proved to be a powerful and user-friendly research tool.

IMPROVING FACULTY DEVELOPMENT A QUALITATIVE STUDY OF THE UTHSC-H ACADEMIC LEADERSHIP DEVELOPMENT PROGRAM PHASE I,
Judith Booker, M. Ed., UTHSC-H Planning Office

The challenge of faculty development is consistent among academic health centers and their component schools in North America. Beyond needs to groom and prepare junior faculty to be promoted in rank and to achieve tenure, academic health centers also need to groom and prepare selected faculty to assume leadership positions in their fields. The University of Texas Health Science Center at Houston has developed and sustained a leadership development program for its faculty for five years. The satisfaction of the participants has been high; anecdotal evidence and personal assessments imply that the program is both enjoyable and relevant to succession to a leadership role at this university. The aim of this study is to improve the Academic Leadership Skills Development Program (ALDP) by developing a standardized evaluation process to guide evolutionary design of the program. By conducting a qualitative study of the program as it is perceived by the participants in terms of their self-assessment of their increased leadership efficacy as a result of participating in this program, the study director and her colleagues who steer the ALDP will be able to establish a formal assessment program to be standardized and continued through the succeeding years of the program and to modify, adapt, and enrich an improved program experience for UTHSC-H faculty who participate.

EVALUATION OF WEB-BASED DIFFERENTIAL DIAGNOSIS SUPPORT MATERIAL IN ORAL PATHOLOGY, Jung-Wei Chen, DDS, MS, Pediatric Dentistry, Houston, TX 77030. Catherine M. Flaitz, DDS, MS, Diagnostic Sciences, Houston, TX 77030. David Taylor, EdD, Dental Public Health and Dental Hygiene, Houston, TX 77030, UT Dental Branch

Differential diagnosis of oral diseases is a challenging subject that involves the retrieval of large amounts of information and decision making based on probability. We designed a web-based interactive component to this advanced oral pathology course to assist the student. The goal of this project was to evaluate the web-base course material and its effect on learning outcome. Sixty 4th-year dental students were enrolled in the differential diagnosis course during the fall semester 2002. At the end of the semester, students were asked to fill out a survey (using a Likert- type scale) to evaluate the usefulness of the website for learning the course material. Student web access records were obtained from the Blackboard software control panel. Evaluation of student access demonstrated that the peak log-in date was preceding the examinations, and the peak log-in time was between 3:00-8:00 PM (51%). In comparison to the year without the web-based support material (2000) and the two years with web-based support material (2001, 2002), there was no significant increase in final grade average. The results of the survey confirmed that most students agreed (86.2%) that the web material was a valuable addition and helpful in understanding course content (87.9%). Most of the student also agreed that the web material was easy to navigate (89.7%) and to find information (70%). The color atlas (91.4%), clinical information (89.7%) and test questions (86.2%) were highly valued components. There was no significant correlation between the web access time and final grade (Pearson correlation, $p=0.064$, $r=-0.272$). The lack of correlation of student usage, amount of time spent and outcome, as defined by final grade average, was consistent with other studies, using web-based material. Although this study showed that students responded favorably to the addition of web-based material for this complex course, we were unable to demonstrate improved learning.

HYPERTUTORIALS BEAT CONVENTIONAL WEB-BASED INSTRUCTION IN RANDOMIZED CONTROLLED STUDENT EVALUATIONS OF

INSTRUCTION, Johnson W. Craig, Ph.D., Xing Yan, M.D., Yang Lan, B.S.,

University of Texas School of Health Information Sciences

Background. Hypertutorials optimize five features – presentation, learner control, practice, feedback, and elaborative learning resources. Previous research showed graduate students significantly and overwhelmingly preferred Web-based hypertutorials to conventional “Book-on-the- Web” statistics or research design lessons. The current report isolates sources of hypertutorials’ superiority. Methodology. Randomized comparisons were conducted in two successive iterations of a graduate level health informatics research design and evaluation course. At the beginning of each iteration, the system randomly assigned hypertutorial (H) and conventional (C) versions of the first of 18 successive Web browser-administered lessons to two independent groups of students. Monitored by the instructor, as each course advanced, the 21 participating students successively alternated versions, lesson by lesson. Both versions contained the same text and graphics, but differed in hypertutorial features: the presence or absence of elaborative learning resources, practice, feedback, and amount of learner control. Student evaluations of each lesson were automatically obtained on three (instructional, hypertutorial and outcome-oriented) subscales and stored by applet into a Microsoft SQL Server database and via E-mail. Repeated measures analysis used SPSS 11.01 MANOVA in a three factor design -- one between-subjects (Group (HCHCHC...HC vs. CHCHCH...CH) and two within-subjects (Lessons and Oddeven (hypertutorial vs. conventional) -- with the three subscales as dependent variables. Results and Discussion. Student gave high evaluations to both Web-based methodologies, with rating means in the range of from “Better than the typical lecture” to “Much better than the typical lecture”. But, students consistently rated the hypertutorial lessons as superior. The resulting significant Group by Oddeven interaction ($F_{1,19} = 14.17$, $p = 0.001$), resided in the hypertutorial subscale, Hypertutorials exceeded conventional lessons among students who started with the hypertutorial version ($F_{1,19} = 4.02$, $p = 0.070$). And, hypertutorials significantly exceeded conventional lessons among students who started with the conventional version ($F_{1,19} = 12.10$, $p = 0.008$).

A BRIEF MOTIVATIONAL INTERVIEW TO INCREASE COMPLETION OF ADVANCE DIRECTIVES, John W. Culberson, M.D., Mary M. Velasquez, Ph.D., Linda Z. Nieman, Ph.D., UT-Houston Medical School, FPCM, Houston, TX, 77030

Advance Directives (AD) can help patients control health care decisions in cases where they may be unable to speak for themselves. The Patient Self-Determination Act attempts to increase the use of these documents, and both patients and physicians feel that AD are important and should be discussed. Despite public awareness and an increase in general discussion of end-of-life issues, the actual use of formalized AD in the outpatient setting remains low. The process of obtaining, discussing and completing an AD may be viewed as a positive health care behavior to be adopted by a patient who has become aware of its importance and taken the necessary action to have the document become part of their medical record. The Transtheoretical Model of behavioral change(TTM) has been useful in describing what people do as they change a wide range of health risk and health protective behaviors. The model may help to explore and resolve ambivalence related to the completion of AD. Brief motivational interviewing is a patient-centered, directive method based on the stages of change component of the TTM that uses a feedback-based approach particularly useful to practicing physicians. Teaching residents to use a brief motivational interview in discussing AD with their patients may improve the quality of the patient-doctor relationship and lead to increased adoption of the AD as a positive health behavior. This session will demonstrate a method to assist faculty in teaching resident physicians to effectively discuss AD with their patients. A simple instrument that is useful in an outpatient clinic will be presented.

MEDICAL STUDENTS "PERFORMANCE IN THE IV YEAR EXIT EXAM: EFFECT OF REMEDIATION ON CLINICAL SKILLS" EFFECT OF REMEDIATION ON CLINICAL SKILLS., Fabrizia Faustinella, M.D., Ph.D, Philip R. Orlander, M.D., Laura A. Colletti, M.D., Harinder S. Juneja, M.D , Linda C. Perkowski, Ph.D., University of Texas - Houston Medical School, Houston TX 77030

UT faculty observation of students' performance in the exit exam (CPX) shows that a large number of students have inadequate clinical skills, particularly history-taking and physical examinations skills. The CPX is administered at the end of the IV year required Internal Medicine Clerkship. The exam consists of 8 patients encounters, during which the students are supposed to perform a focused history and physical exam based on the patient's presenting complaint. **PROJECT OBJECTIVES:** The current study is part of a larger project whose main objective is to improve basic patient-centered clinical education including A) history taking skills, B) physical diagnosis skills, C) clinical decision-making, D) doctor-patient relationship. **METHODS** In order to better identify the areas of deficiencies we have developed specific checklists of critical items on the history and physical for each of the eight cases. To pass the exam the students have to perform correctly 65 % of the critical items on history and physical exam. The students who fail go through a remediation process, prior to retaking the exam. The remediation process consists of the following steps: Step I: Students' performance review. Step II: Clinical reasoning exercise assignment. Step III: Formative feedback session. Step IV: Additional clinical reasoning exercise. **RESULTS:** From July through October 2002 10 students out of 64 failed CPX. This represents 15% of the total number of students who took the exam. Four out of the ten students who failed went through the remediation process and retook the exam after that. The post-remediation scores show significant improvement in both history and physical examination skills. The percentage of critical items that the students performed correctly on history went from as low as 24% to as high as 92%; the percentage of items on physical exam went from as low as 14% to as high as 96%. **CONCLUSIONS:** Our data shows that there is a significant improvement in the students performance on CPX after remediation. Even if many factors could contribute to this improvement, it's reasonable to conclude that: 1) Clinical reasoning exercises do help students to understand how to choose the most important components of the history and physical in order to best delineate the patient's problem and how to develop a differential diagnosis. 2) Self observation on tape helps the student to fully understand and to gain an awareness of where the deficiencies are, therefore to focus on their own areas of weakness;. 3) Formative feedback plays a central role in aiding students to improve performance as opposed to summative feedback used for grading purposes

A.L.I.N.E. (ACTIVE LEARNING IN NURSING EDUCATION): A MODEL FOR ONLINE TEACHING AND LEARNING, Vaunette P. Fay, PhD, GNP, Janet G. Johnson, M.A., UTHSCH - SON - Center on Aging, 7000 Fannin, Ste. 720, Houston, TX 77030

Traditional pedagogical models of teaching and learning in nursing education have proved to be inappropriate for online learning or distance education classrooms. A common response to the pressure to offer online courses has been to simply post current “traditional” classroom presentations, assignments, and exercises in an online classroom. However, this approach does not address the differences in learning environments nor differences relating to how students learn online. This presentation describes an alternative instructional model that emphasizes active learning. A.L.I.N.E. (Active Learning in Nursing Education) is a model for online course development that includes a framework for accomplishing learning outcomes in nursing education online classrooms. The framework for module development will include examples of educational activities and assignments that can be utilized in the active learning process. Case-based and project-based activities will be modeled. (Keywords: active learning, online learning, nursing education.)

THE STANDARDIZED PATIENT: INTEGRATING BEHAVIORAL SCIENCE WITH CLINICAL SCIENCE IN DENTAL EDUCATION, Deborah R. Franklin, DDS, MA, Dept. of Dental Public Health & Dental Hygiene, Leslie B. Roeder, DDS, UT Dental Branch, Dept. of Oral Diagnosis, Houston, TX 77030

Standardized patients (SP) have been used to simulate an initial interview with an uncooperative dental patient in a required course for second year dental students for the past two years. This course, entitled “The Behavioral Context of Dental Patient Management” is presented in the same semester during which the second year students first treat patients. Prior to their first patient appointment, students have taken a course entitled “Introduction to Clinic” that presents concepts and procedures to be followed in treating patients (including taking a medical history and patient record documentation). The behavioral course teaches behavioral concepts important in the management of dental patients (including communication skills and behavior management.) The SP exercise is an ideal way to apply and assess student skill at both the procedural and interpersonal aspects of the patient interview. During the SP interview, the students are presented with the same “Application for Treatment” and “Medical History” forms that are in the patient chart, filled out with data about the SP. They are then expected to ask the factual questions and exhibit the interpersonal skills necessary to obtain a thorough history. When the interview is concluded, the SP provides immediate feedback regarding both their history-taking and interpersonal skills to the students. Students are then asked to write a progress note describing their interaction with the SP. Faculty from both courses review the progress notes. Students subsequently fill out an evaluation of the SP exercise. In the first year, 78% of the students responding strongly agreed or agreed that the SP interview was a good way to integrate what they learned about behavior with what they learned about clinic. In the second year, 100% of the students strongly agreed or agreed that the SP interview was a valuable exercise in integrating behavioral with clinical education.

**MEDICAL STUDENT LEVEL OF COMFORT WITH ADVANCED
CARDIOVASCULAR LIFE SUPPORT(ACLS), John Fraser, MD, Paul English, MD,
Tandace McDill, RN, UTMB, Emergency Medicine, Galveston, TX 77555-1173**

INTRODUCTION: Increasingly, new medical graduates are expected to know how to provide emergent ACLS to patients, regardless of specialty. While prior research has focused on student performance in ACLS courses, little is known about how comfortable they are with their performance. **METHODS:** UTMB 4th year medical students take a required 4 week emergency medicine rotation, with an ACLS course on the first 2 days. Students were surveyed on the first and last days of the rotation. The instrument used a 4 point Likert scale of comfort level with various ACLS protocols and procedures.

RESULTS: The pre-course study population (N=39) was 29 years old, 51.2% female, 97.4% with prior CPR training, 5.1% with prior ACLS training, and 28.2% had prior medical experience. In every category of ACLS studied, students increased their comfort level to somewhat or very comfortable. 20% participated in an actual code during the rotation. **CONCLUSION:** Comprehensive ACLS course and emergency medicine rotation increase 4th year medical student level of comfort with ACLS.

DYSMENORRHEA AND ACCOMPANYING SYMPTOMS: HOW IT AFFECTS HISPANIC YOUNG FEMALES ATTENDING MIDDLE SCHOOL AND HIGH SCHOOL. Virginia Gallegos, MD, MS, Behavioral Sciences, SPH/UT, Houston, TX 77030. Belinda Reininger, Dr.P.H., Behavioral Sciences, SPH/UT-Brownsville, TX. Donaji Stelzig, Research Asst., CHPPR, SPH/UT-Houston, TX 77030

Recent research studies have revealed that a woman's period impacts her daily life in many forms. In those studies, researchers have reported that their participants said that dysmenorrhea reduced their participation in social and academic activities. The purpose of this research is to assess prevalence of dysmenorrhea (cramping menstruation) among a sample of Hispanic girls ages 12-18 years old who are enrolled in middle school or high school. Another purpose is to explore which accompanying symptoms to dysmenorrhea are more prevalent. Finally, we want to determine which social and academic activities, are reported to be reduced by dysmenorrhea. Methods. This study used a cross-sectional design. The following study received CPHS and BISD IRB approval previous to data collection. A total of 279 young females attending BISD (Brownsville Independent School District) middle and high schools were surveyed. BISD has a current enrollment of 40,297 students. The district has five high schools, nine middle schools 29 elementary schools and 3 alternative schools. According to BISD statistics, about 97% of the student population is Hispanic, 91% are economically disadvantaged and 46% have limited English proficiency. Instruments: The used questionnaire is a modified version of the one that ADD Health, this questionnaire has been validated previously. In addition the questionnaire includes questions from the study by Banikarim and associates. Also, questions from the Youth Risk Behavior Surveillance questionnaire ask about physical activity. Lastly, four more questions developed by study investigator were included. Results: Sixty six percent of girls reporting menstrual periods stated having had dysmenorrhea in their most recent menstrual period. They also reported that dysmenorrhea reduced the following activities: playing sports (39%) concentration in class (25%); going out with friends (22%); participating in class (20%); doing homework (12%) and taking tests (10%). Most common accompanying symptoms reported by participants were: tired (51%); headache (29%); backache (28%); dizziness (21%) nausea (11%) and vomiting (7%).

THE DEVELOPMENT OF A MEDICAL STUDENT GERIATRICS TRACK FOR BAYLOR COLLEGE OF MEDICINE (BCM), Julie K. Gammack, MD, Baylor College of Medicine; Department of Medicine, Houston TX 77030

Purpose: (1) To assess the three existing BCM elective medical school tracks (2) To conduct a needs assessment for a Geriatrics Track using current BCM medical students (3) To define the educational components of a new Geriatrics Track Background: BCM currently offers medical students three elective “track” experiences: ethics, international health, and research. Each track offers a series of supplemental educational experiences that span the four-year curriculum. Participation in track components is entirely voluntary. Educational components include didactics, journal clubs, clinical rotations, and research. Students completing all required track components receive formal commendation by the School. Methods: Each of the three track directors was interviewed. Information on track development, content, and faculty involvement was collected. Three student focus groups were conducted. The focus groups consisted of Ethics Track students and participants in BCM geriatric programs. After reviewing the data, Section of Geriatrics faculty developed the structure for a Geriatrics Track. Results: The tracks were developed in response to student interest in the content areas. Each track has a core faculty group who mentors students and coordinates the teaching. 16 students attended the three focus group sessions. The most important considerations in track participation were the track theme and a variety of topic areas. The most valuable clinical experiences were a longitudinal clinical care rotation and a “real-world” community experience. For a Geriatric Track specifically, the clinical learning experiences and skills workshops rated most valuable. Discussion: A core group of students interested in the content area is vital to launching and sustaining the track. A faculty work group is needed to administer the track. Students are drawn to the track by the theme and the ability to get a broader educational experience. They are enthusiastic about real-world experiences and skills training. Using faculty input and student feedback, a Geriatrics Track has been designed. The track is comprised of interactive large-group discussions, skill-building workshops, clinical rotations, house call program, and research project. The Geriatrics Track will be launched in fall 2003.

INTERACTIVE CANCER AWARENESS PRESENTATION FOR HIGH SCHOOL STUDENTS, Cassandra Harris, MS, CHES, M. D. Anderson Cancer Center, Public Education Office, Houston, TX 77030

Scientific evidence suggests that about one third of cancer deaths are related to diet and other lifestyle factors. The introduction of healthful diet and lifestyle practices at anytime from childhood to old age can promote health and probably reduce cancer risks. The Good Living Mall, an interactive cancer awareness computer program, funded by the Houston Health Department, was developed by M. D. Anderson Cancer Center to increase cancer knowledge and awareness among inner- city high school students. The Good Living Mall, accessed via the Internet includes a pre-test, five interactive presentations and a post-test. Presentation topics include: Cancer, nutrition, exercise, tobacco awareness and sun protection. From the website, students work independently to navigate through the program and receive instant feedback on their responses. A total of 957 students from three Houston area high schools participated in the program. Seventy-three percent of the students showed an increase in knowledge with an 11% overall increase. The Good Living Mall was well received by students and school staff. Students also shared what they liked about the program and how important the information was to them and their families. Some of the biggest choices teens make are those that affect their health. Now is the time to challenge teens to make cancer risk reduction choices. The Good Living Mall is an excellent teaching tool for cancer prevention among teens. The program can be easily replicated and is available to any group interested in helping teens establish behaviors to reduce their cancer risks.

GROUNDBREAKING REAL-TIME MEDICAL INFORMATION DISPLAY,
Linda A. Hayman, MD, Baylor College of Medicine, Radiology, Houston, TX 77030.
Diane Dulla, Co-Op Publishing, Inc, Cambridge, MA 02142. G. R. Brown, Ph.D., Clark
Atlanta University, Atlanta, GA 30314. John J. Pagani, Mark Vabulous, University of
Texas, Dallas, TX. Katherine H. Taber, Ph.D., Baylor College of Medicine, Radiology,
Houston, TX 77030

Purpose Complex medical information demands comprehensive access to integrated data from multiple subspecialty texts. This data must be gleaned from many sources and is limited by formatting and inefficient indices. Translations to the computer have added further restrictions to this material. To develop an independent, self-directed prototype which will allow novices or experienced users to easily and rapidly maneuver to a meaningful, real-time, comprehensive information destination. Materials & Methods A high quality/accurate radiographic, anatomical and clinical knowledge base of three neck charts will be used. Intelligence-based software which “activates” the charts will use cues which have been built into this database to create a customized display for each query. The program will: (a) instantly select the pertinent axial, coronal, or sagittal views; (b) automatically match the exact anatomical structures with the most common pathology and symptoms; and/or, (c) define pertinent lymph node staging information. Other important features include instant overviews of colored matrices/indexes, rapid highlighting/magnification of any region of interest, simple one-step manipulation with precise cross-referencing. Results A recently invented, cutting-edge, multi-layered, computer display system will create two precisely aligned, color-coded informational chart layers which can be navigated easily and simultaneously by pointing, touch-screen, voice activation, and/or remote/teleoperation. This novel multilayered display system can be used on a 7” handheld mobile unit or desktop displays of 18” and 30”. Conclusion Existing medical charts now can be accessed by cutting edge display and software technologies. This independent, self-directed system will allow novices or experienced users to easily maneuver to a meaningful information destination.

TEAM LEARNING IN MEDICAL EDUCATION , Dan Hunt, MD, John Coverdale, Boyd Richards, PhD, Virginia Schneider, BS, Chuck Seidel, PhD, Nancy Searle, EdD, Baylor

STATEMENT OF PROBLEM OR QUESTION: Many calls have been made in medical education to incorporate active teaching strategies into curricula. However, most teaching in large group settings (student/teacher ratio > 20:1) still relies on the didactic lecture method, a predominantly passive mode of teaching. Team Learning (TL), a method of large-group teaching that was developed for business education, incorporates a number of innovations that foster active learning, self-study and preparation, and team communication among students. **DESCRIPTION OF PROGRAM/INTERVENTION:** Educators at Baylor College of Medicine have been employing principles of TL in large group settings in the preclinical, clinical, and residency curricula. TL is a method that can be used for individual lectures or entire courses. In TL classrooms, students are divided into "autonomous groups" that solve problems without a formally appointed facilitator. After working in small groups, the groups compare and defend their respective answers in a faculty- led discussion involving the entire class. This technique allows for intra-group and inter-group problem-solving without increasing the number of faculty since all activities can take place in the lecture hall. In addition, when used as the basis for the design of complete courses, TL incorporates a grading structure that directly rewards individuals and groups for advance preparation, active participation, and excellence in small group problem-solving. Educators at Baylor have incorporated the team learning method in diverse content areas such as evidence-based medicine, doctor-patient communication, outpatient urology, clinical physiology, and pharmacology. This exhibit will showcase the team learning method as it applies to medical education. **KEY LESSONS LEARNED:** Team Learning is highly effective at fostering student engagement in the classroom and student preparation outside of the classroom; however, its successful application in medical education requires the teacher to carefully frame the method for students and encourage them to critically reflect on their own progress during team learning sessions.

ASSESSING INFORMATICS STUDENTS' SATISFACTION WITH A WEB-BASED COURSEWARE SYSTEM, Todd R. Johnson, PhD, Zhang Jiajie, PhD, Zhihua Tang, Constance M. Johnson, RN, MS, University of Texas Health Science Center, School of Health Information Sciences, Houston, Texas 77030

To assess School of Health Information Sciences (SHIS) student satisfaction with two subsequent versions of Prometheus, a web-based courseware system was used to enhance most classes in the School. Prometheus Versions 4 and 5 were assessed to gauge the effect of modifications made in Version 5 to improve the usability of the system. The Questionnaire for User Interaction Satisfaction (QUIS version 7.0) was administered at the end of fall semester 2001 (in which Prometheus version 4 was used) and again at the end of Spring 2002 (in which Prometheus version 5 was used). QUIS contains measures of user satisfaction of the overall system as well as 11 specific dimensions, including screen, terminology and system information, learning, system capabilities, manuals and online help, multimedia, and teleconferencing. In general, users had preferable judgments on Prometheus, and their satisfaction level remained relatively stable across the two versions. On a 9-point scale, the average rating score was 6.26 for Version 4, and 6.34 for Version 5. However, usability enhancements incorporated into Version 5 produced no significant differences in student satisfaction ratings.

DEVELOPMENT AND EVALUATION OF A THEORY-BASED PARENT EDUCATION INTERVENTION IN THE CLINIC: IMPROVING CHILD AND ADOLESCENT HEALTH, Barbara J. Low, DrPH, Nancy G. Murray, DrPH, UT School of Public Health, Center for Health Promotion and Prevention Research, Houston, Texas 77030

Health-risk behavior and mental illness contribute to more than 75% of morbidity and mortality experienced by youth in America. Positive parent-child relationships and communication are associated with lower prevalence of these outcomes yet no theory-based parent education interventions to prevent or improve them have been tested in the clinic setting. Over 60% of young people and their parent(s) can be accessed during their annual primary care visit. This study will determine the need for middle school-age youth health-risk behavior and mental illness prevention- oriented, theory-based, health education for parents in an urban clinical setting, and assess the implementation and the impact of the parent education on parent-child communication and behavior, and on youth self-reported health-risk behavior and mental health. Specific research aims are to: develop a brief screening tool for parents of middle school-age children attending a health clinic; conduct a youth health-risk behavior and mental illness prevention needs assessment for parents of middle school-age children attending the clinic; determine the priority needs for health education indicated by participating parents of middle school-age children; develop a clinic-based parent education intervention; and pilot-test the effectiveness of the clinic-based intervention on parent- child communication, closeness, and parental monitoring, as well as on health-risk behavior and mental health status among participating youth. Intervention Mapping (IM), a process for developing theory- and evidence-based interventions will be used to design parent education materials to reduce/prevent child health-risk behaviors and to promote mental health. This systematic process includes the development of matrices to guide the development of effective parent health education materials to meet a range of socio-cultural needs. Both qualitative and quantitative analysis methods will be used to evaluate the implementation and impact of the parent education intervention on the parent-child dyad in the clinic setting. Parent education materials will ultimately be modified for web-based application.

“HEADBUTT”: DESCRIPTION OF A COMPUTER-BASED SMOKING RISK ASSESSMENT PROGRAM FOR MIDDLE SCHOOL STUDENTS., Alfred McAlister, PhD, Angela Meshack, DrPH, Ross Shegog, PhD, Shaohua Hu, MD, DrPH, Kentya Ford, MS, UT-Houston-SPH, CHPPR, Houston, TX., 77030

More than 26,000 people die each year as a result of tobacco use in Texas, with the majority of smokers starting before the age of 18. Reports show that 31% of Texas middle school students are current users of any tobacco product. “HeadButt” is a tailored web-based program to change student’s outcome expectations associated with smoking uptake and to decrease smoking among Texas youth. The “HeadButt” program is designed to provide early risk assessment and tailored intervention to middle school students during a single classroom session. Social Cognitive Theory was used to develop program messages. Three components are risk assessment, tailored feedback from role models via video, and assessment and feedback on smoking intentions. Students are asked a series of questions that assess their tobacco use risk. Based on their responses, students are given feedback on four scores: mood control, social benefits, self-efficacy, and health knowledge. Students are then exposed to intervention using role models to provide them tailored anti-smoking feedback related to their expectations about tobacco. They are then reassessed and provided feedback on smoking intentions. The program consists of 137 screens with user-driven branching and approximately 90 video-clips of 25 to 60 seconds duration featuring one to four role models in each clip. Implementation of “HeadButt” is underway in 6th grade classes in 12 schools. Initial focus group data indicate that “HeadButt” is acceptable and feasible for use as a smoking prevention program for middle school students. A randomized community-based trial is underway to determine the effects of this intervention on student’s tobacco use. Funded by NCI grant R01 CA86295

ENHANCING MULTI-SITE TEACHING USING NEW EDUCATIONAL TECHNOLOGY TECHNIQUES, Joseph B. McCormick, PHD, MD, Angela K. Monroe, MEd, UT-Brownsville, Public Health, 80 Fort Brown, RACH SPH BLDG, Brownsville, Texas 78520

The very large size of Texas obliges us to use ITV and other Techniques to teach courses at more than one site. Most of us are aware student-student and student-teacher involvement is a very valuable part of the learning process, and this is difficult to maintain at a distance. Equally, the large proportion of our students who work full or part time, many of them living some distance from our campuses, need access to material outside class hours. Interactive television(ITV)is used increasingly, but poses several instructional challenges. In this presentation, we would like to demonstrate how we have used and adapted new developments in educational and communications technology to increase student interactions, post material for use outside class hours, and reduce the feeling on learner isolation.

CHANGING PLACES: ONLINE SIMULATED ROLE PLAY IN INTERDISCIPLINARY EDUCATION ABOUT PAIN, Jeanette A. McNeill, DrPH, Rn, School of Nursing, Target Populations, Houston, TX 77030. Diane Novy, PhD, Medical School, Department of Anesthesiology, Houston, Tx 77030. Vahn A. Lewis, Pharm D, MS, Dental School, Basic Sciences, Houston, TX 77030

An interdisciplinary course in pain management was implemented as a HSC wide web based offering. Recruitment was health science center wide but resulted in a student population of only two disciplines, medical and nursing students. Case study discussions, using an e-PBL, approach were an integral part of the course to simulate interdisciplinary team discussion. To offset the lack of representation of various disciplines, the e-PBL utilized simulated role play. When the case was posted, students were instructed to respond to the questions from the perspective of a specific discipline. The first student to respond had the full range of choices of potential disciplines, subsequent students could not duplicate the discipline of the first student in their posted response. Using this approach, a rich variety of disciplines were represented including chaplaincy, dental professional, social work and massage therapist. Students examined the literature related to pain management and took the perspective of the selected discipline, citing evidence to support the approaches they suggested for patient care. Student feedback was that they enlarged their perspective regarding the team and the valuable contributions made by its various members. Advantages to the online approach were that students were not self-conscious or reluctant to use role play in the safe arena of e-communication, and creativity emerged even in titling the entries such as, "Show me those pearly whites (dentist entering the discussion), and "Nurse Amy". Responses to each other's role play efforts were encouraging, and often the respondent expressed that new insight had been gained through the discussion. Perhaps most interesting was that none of the 4th year medical students ever chose to enter the discussion as a physician. Course faculty had to add the MD perspective to present a comprehensive approach. Plans for the next course offering include enhancing this e-role play through increased case study opportunities, and targeted recruitment so as to provide a truly interdisciplinary group. An Interdisciplinary Advisory Panel will be developed to include those not represented in our current faculty which could enhance and broaden the e-PBL discussion. Changing places, in the context of role play, can be a valuable adjunct to didactic and clinical instruction regarding interdisciplinary approaches to effective pain management.

CORRECTING PHYSIOLOGY MISCONCEPTIONS WITH INTERACTIVE ANIMATIONS, Yanko F. Michea, MD, Cynthia L. Phelps, PhD, University of Texas Health Science Center at Houston. SHIS

During recent years, the evaluation of learning in physiology has suggested the existence of several comprehension problems or misconception that are usually present before the undergraduate physiology course and that persist in a significant proportion even after the course is completed. Research shows that respiratory response to exercise is a difficult topic to learn and over 65% of students have misconceptions about this system. Diverse strategies have been used to correct the misconceptions, ranging from lectures, practicum exercises to direct mentoring techniques. These efforts have improved learning, but over 35% of the students will remain with conceptual problems independent of the training efforts. Emerging are new technologies in education, like interactive multimedia that offer new alternatives to the correction of conceptual problems. The objective of this project is to test the impact of three technology-based interventions to correct misconceptions in respiratory physiology. Our design method is based in distributed representations theory, and Multilayer Human Centered Design. In order to organize these contents, we are using systems theory, grouping knowledge in three levels: components, dynamics and control systems. This last level will be key in our evaluation, as we estimate that improving the representation of these complex rules will improve the quality of learning. Learning will be assessed pre/post intervention. The measures will include multiple choice and free text questions. Answers will be evaluated in correctness and completeness. Quality of argumentations will be also assessed. From the results of this evaluation we will be able to determine the impact of interactive animation representing control rules in learning dynamic systems. Future work will also be done to extend these principles to other medical domains, and to advance towards evidence based media use.

EMPOWERING LEARNING BY USING TECHNOLOGY. A WORK IN PROGRESS, Yanko F. Michea, MD, Cynthia L. Phelps, PhD, University of Texas Health Science Center at Houston. SHIS

Education faces the challenge of discovering effective ways to improve learning outcomes using technology. This process involves finding adequate frameworks, tools methods and strategies to successfully apply technology. Instructional designers are in charge of finding this adequate solution for diverse learning objectives and types of learners. The goal of our project is to apply technology to increase the efficiency of the instructional development process and learning impact of the materials produced. In order to achieve this goal, we have developed a general framework based in Learning Objects development strategy, as well as our Objectives Matrix object definition approach and the Multilayer User Centered Design methodology adapted to learning environment development. With this framework, the design process requires the definition of learning objectives, in order to continue deriving the required contents and eventually the definition of adequate strategies and media elements. The process continues with the integration of this information into a production document that will guide all the efforts of the production team. Traditionally this process has been conducted by the Instructional Designer with fragmented technological support. Our objective is to develop a piece of software capable of organizing and facilitating this task. This tool will work as a production data repository, project management and production assessment tool. We expect that this software will be especially useful for novice designers, media producers and content experts involved in instructional projects. In the future, this kind of tool should be capable of integrating with other components of technology based learning environments, such as pedagogy and presentation engines. This integration must also contribute to improve the use of media to maximize learning and reduce production time. Technology empowered learning requires the development of tools capable of strategically using media and tailored interventions for an increasingly diverse group of learners.

LEARNING MANAGEMENT SYSTEMS: FUNCTIONALITY TO IMPROVE LEARNING?, Yanko F. Michea, MD, Cynthia L. Phelps, PhD, UT-Houston, SHIS, Houston, TX, 77030

Learning Management Systems (LMS) are widely used to support web based education. At this time there are over 40 products in use in the market. WebCT claims to serve a total of over 2600 higher education institutions, while Blackboard claims a user base of 5.4 million around the world. The objective of this article is to investigate the functionality offered in this kind of software, correlating these characteristics with the new paradigms of technology empowered education. In order to gather information about the available LMS software, three information sources were consulted: Vendor web pages, consumer web pages and published literature. Categories were built in analogy to mass use applications: Communications, Personal Information Management, Project Management, Web Management/edition, File Sharing and Educational Support. These results were contrasted with a set of objectives based in the new paradigms of the Information Age. From the first 30 web search hits, 7 consumer websites were reviewed and two major vendor sites (WebCT and Blackboard) From a PubMed search, 10 journal articles comparing courseware were reviewed. There was a wide variation in the granularity of the descriptions in each resource, ranging from 23 to 137 features described. The number of products is also variable, ranging from 1 to 39 products to compare. Team work and cooperation can be supported by the communication tools, file sharing, and web environment available. Customization and diversity are also supported by variable degree of interface features and accessibility standard support. Support to promote holistic process-oriented learning, and mechanisms provided to assure content quality are absent. The role of technology in education should not be constrained to automate traditional education strategies or to improve education management. Technology empowered education is in the process of discovering and developing methods to improve meaningful learning. Such learner centered methods and strategies will allow tailored, collaborative constructive education. This evolution is a shared responsibility between researchers, educators and decision makers aware of this educational opportunity. It is evident through this study that not all aspects of learning are being address by the current software available.

ORAL MAINTENANCE AND PREVENTION: HEALTH EDUCATION, SERVICE AND RESEARCH , Amy B. Murphy, BS, RDH, Dental Public Health & Hygiene; Richard D. Bebermeyer, DDS, MBA, Dept. of Restorative Dentistry & Biomaterials; John A. Valenza, DDS, Dept. of Diagnostic Sciences; Nina B. Infante, MS, RDH, Dept. of Dental Public Health & Hygiene; Timothy P. Henshaw, CDA, U.T. Dental Branch; Dept. of Clinical Services; Houston, TX 77030, Ronald Johnson, DDS, U.T. HSC Houston; Office of Strategic Affairs; Houston, TX 77030.

Purpose: The Oral Maintenance and Prevention (OMP) clinic rotation provides opportunity for dental and dental hygiene students to practice together in a simulated private practice environment, while providing maintenance, preventive dentistry and quality assessments for patients. Significance: Students receive simulated private practice experience, including aspects of practice management. The patients receive post-treatment examinations and preventive/maintenance visits. The school gains valuable quality assessment information. Key Features: Each dental student is matched with two dental hygiene students. Each student treats one patient, who completed care in the dental or dental hygiene program in the last 6-18 months, per period. All patients receive medical history update, examination, oral hygiene instruction, necessary radiographs, and prophylaxis. Patients with treatment needs are assigned to the dental student who examines them in the OMP clinic. Evaluation and Results: Evaluation components—all used for quality improvements—include student evaluation of the rotation, patient satisfaction surveys, and quality assessment surveys. Data show students, patients, faculty and administrators are very satisfied with this new program. Conclusion: This new clinical experience provides an opportunity for dental and dental hygiene students to collaborate in a simulated private practice environment, while providing maintenance and preventive dentistry for “recall” patients. Assessment of quality of care allows for solving problems which may occur during past treatment, and provides a source of patients for students.

MULTIMEDIA SCIENCE EDUCATION IN PARTNERSHIP BETWEEN THE UT-HOUSTON HEALTH SCIENCE CENTER AND SPRING BRANCH INDEPENDENT SCHOOL DISTRICT., Nancy G. Murray, DrPH, Katherine E. Schuler, MPH, CHES, Steven H. Rich, UT School of Public Health, Center for Health Promotion and Prevention Research, Houston, TX 77030. Joseph P. Smith, Henry Y. Fung, UT-Houston School of Public Health, Educational Media Services, Houston, TX 77030. Mary Hobbs, MEd, Spring Branch Independent School District, 955 Campbell Road, Houston, TX 77024. Robert Williams, Northbrook Middle School, 3030 Rosefield, Houston, TX 77080. Wendi Harris, Northbrook Middle School, 3030 Rosefield, Houston, TX 77080. Martha Kolbe, John P. McGovern Museum of Health & Medical Science, 1515 Hermann Drive, Houston, TX 77004-7126. Gilbert A. Castro, PhD, UT-Houston Health Science Center, Office of Academic Affairs, Houston, TX 77030

Health Education and Discovering Science while Unlocking Potential (HEADS-UP) is a set of 6th grade science curriculum modules consisting of multimedia CD-ROMs, VHS tapes, lesson plans, classroom activities, and web resources. Modules were developed through a partnership involving the Spring Branch Independent School District (SBISD), the School of Public Health and Medical School of The University of Texas Health Science Center at Houston, the John P. McGovern Museum of Health & Medical Science in Houston, and the Houston Academy of Medicine - Texas Medical Center Library. Using the intervention mapping process, the modules were designed to meet the Texas Essential Knowledge and Skills (TEKS) for 6th grade science. The development process included: class observations, recruitment of experts, casting of student actors, script writing, filming, editing, addition of graphics and animations, and creation of classroom activities. The topics for HEADS UP include genetics, cardiovascular disease, diabetes, nutrition, and physical activity. Careers in science, math, and health are highlighted in the curriculum by the career stories of experts from The University of Texas Health Science Center at Houston. The curriculum is currently being piloted.

DESIGN AND FEASIBILITY OF A STANDARDIZED BEHAVIORAL ASSESSMENT MODEL FOR A COMPUTER-ASSISTED RESTRAINT AND SECLUSION TRAINING PROGRAM, Cynthia L. Phelps, PhD, UT-Houston, SHIS, Houston, TX, 77030. Maria L. Anderson, RN, Texas Woman's University, Houston, TX 77030. Doris Georgiou, PhD, Smilex, Inc. Houston, TX 77006. Lucindra Campbell, MSN, RN, Houston Baptist University, Houston, TX 77074. Colin B. McKay, PhD, Jennilee Longshore, BFA, Smilex, Inc. Houston, TX 77006

We developed a set of six standardized case studies of video patients or clients that were incorporated into the database component of a web-based restraint and seclusion competency-based training program for clinical staff. These case studies are based on prevalent mental and behavioral disorders, and include the client's pertinent history, current health status and a short video clip of the client's risk behavior in the clinical setting. "Best Practice" literature was used to develop preliminary risk behavior matrices for each of the six video simulations featuring clients at risk for restraint and seclusion. Using an instrument to assess the risk behavior matrices, 10 psychiatric nurse experts evaluated each case study for realism and accuracy of the video simulation, and for client risk factors including psychopathology and symptoms. There was consensus between experts for each client risk behavior matrix and with the Best Practice literature. Continuing research should be conducted to further refine, verify and extend a standardized model per case particularly in relation to identifying risk factors and interventions. The preliminary standardized client model constructed from the data demonstrated feasibility, and was successfully integrated into the computer-assisted restraint and seclusion assessment training program.

RESEARCH IN HEALTH SCIENCE EDUCATION & TECHNOLOGY: AN EMERGING FOCUS WITHIN THE HEALTH INFORMATICS CURRICULUM,

Cynthia L. Phelps, PhD, Craig W. Johnson, PhD, UT-Houston, SHIS, Houston, TX, 77030

This talk intends to introduce an emerging field of study at the School of Health Information Sciences at the University of Texas Health Science Center at Houston. We define the field of health informatics as the intersection between information science, cognitive science and health science. Health informatics has proven itself to be a field of research, development and application. Research in Health Science Education & Technology (RHSE&T) focuses upon the education-related tracks spanning this interdisciplinary intersection. We have developed this focus that addresses specifically the communication of data, information, knowledge and skills with the end goal of improving learning. The term “Health Science” implies an interdisciplinary nature, where education can be pursued in any of the health science domains but the ultimate goal is improved health either directly through an educational intervention or through the training of health care professionals. Interviews with key faculty and administrators across the health professional schools at UT-Houston have guided our development of a set of domain areas and that help to define the RHSE&T focus. These fields include education, cognitive science, instructional design, curricular design, the learning sciences, communications, health science, and public & consumer health. Given experience locally, and regionally, students that graduate with a degree of MS or PhD in Health Informatics with a focus in HSER&T can expect a wide range of current and emerging job opportunities for their skill sets. From upper level management positions that govern the use of technology in large health science institutions, such as Chief Information Officer, to design and development positions in industry, to implementation positions within the health care setting, to basic and applied research that moves the knowledge base of learning in the health sciences forward; HSER&T skills will provide a competitive edge, applicable to many careers.

ENHANCING TEACHING PERFORMANCE THROUGH CRITICAL FRIENDS GROUPS IN HIGHER EDUCATION, Lillian B. Poats, Ed.D., Department of Educational Administration & Foundations, Claudette M. Ligon, Ed.D., Department of Curriculum and Instruction, Texas Southern University, Houston, TX 77004. Carol H. Parker, Ed.D., Department of Counselor Education, Sam Houston State University, Huntsville, TX

The presentation is designed to provide information regarding the concept of Critical Friends and Critical Friends Groups (CFG) which have been utilized by three faculty colleagues. Presenters will model the technique and discuss the strategies that have enhanced their faculty work. The concept of Critical Friends groups emerges from the literature associated with the school reform movement. Because the CFG concept is primarily used in K-12, this collaboration represents a pioneer effort in higher education. The presenters have been engaged in the use of a 'critical friends' model for the past year, which has resulted in an enhancement of their faculty work. Participants will discuss strategies that have been used to implement this concept in higher education. The session will provide an opportunity for participants to become familiar with the techniques and strategies used in the model. Facilitators will share their experiences and success with the model. A critical analysis of the pros and cons of this collaborative effort will be explored. Through the use of the case study participants will engage in a small group activity which allows them to experience the use of the model. The dilemma presented will provide an opportunity for the audience to engage in the use of the critical friends mode. Working Collaboratively will become a central theme in the future of higher education. The diversity of the academy will present new challenges for faculty. The CFG model becomes an opportunity for faculty from diverse backgrounds to come together to form a support network. The presenters suggest that faculty work can be enhanced through the use of this model.

DEVELOPMENT AND IMPLEMENTATION OF A UT-HOUSTON DENTAL BRANCH FACULTY RESEARCH ENRICHMENT PROGRAM, John M. Powers, Ph.D., Research Office, O'Neill N. Paula, Ed.D., Educational Research and Professional Development, Bilan P. Janice, M.P.A., Office of Academic Studies, UTHHSC, Dental Branch, Houston, Texas 77030

The Dental Branch has a rich history mentoring faculty in research. While employed, faculty have earned M.S. degrees, participated in development leave or informal mentoring programs. As part of our on-going commitment to faculty development, a combined pilot research and faculty development project, Faculty Research Enrichment Program, has been initiated. In Phase I the pilot program, limited to 21 invited faculty from clinical departments, consists of ten two-hour workshops with topics ranging from Planning Educational Research, an Introduction to Research Protocol, to Writing an Abstract and Organizing a Manuscript. In Phase II, faculty can choose to participate in one of four tracks including a: 1) M.S. degree track, 2) long-term research mentoring track, 3) short-term research mentoring track, and 4) a master teacher track (with an educational research component). On the degree track, the faculty trainee (1.0 FTE) will be given time to complete an M.S. program on a part-time basis with a goal of obtaining a degree in three years. On the long-term research mentoring track, the faculty trainee will be mentored by a senior faculty member and administrators for five years. The goal is for the faculty trainee to become independent in research in five years. On the short-term research mentoring track, the faculty trainee will be mentored by a senior faculty member and administrators for one year. The goal is for the faculty trainee to become part of a research team. On the master teacher track, the faculty trainee will be mentored in educational research and may earn an M. Ed in Health Science Education from the University of Houston. Mentors are senior faculty and administrators who are trained in mentoring techniques to assist them with their responsibilities. Phase I evaluation includes attitudinal assessments, publications, and the number of faculty who select to go into Phase II.

A HEALTH SCIENCE CENTER AND A SCHOOL DISTRICT PARTNERING FOR A SUCCESSFUL HIGH SCHOOL MICROBIOLOGY DISTANCE LEARNING COURSE, Liliana Rodriguez, MPH, RM (AAM), The University of Texas Health Science Center at Houston, Office of Community & Educational Outreach, Houston, TX 77030. Katherine E. Schuler, MPH, CHES, UT School of Public Health, Center for Health Promotion and Prevention Research, Houston, TX 77030. Virginia Tucker, MS, Spring Woods High School, 2045 Gessner, Houston, TX 77080. JoAnn Strait, Memorial High School, 935 Echo Lane, Houston, TX 77024. Spring Branch Independent School District, Nancy G. Murray, DrPH, UT School of Public Health, Center for Health Promotion and Prevention Research, Houston, TX 77030. Gilbert A. Castro, PhD, UT-Houston Health Science Center, Office of Academic Affairs, Houston, TX 77030

In January 2000, The University of Texas Health Science Center at Houston (UT-Houston) initiated a 9-wk course in Microbiology by interactive video instruction for 11th and 12th grade students in the Spring Branch Independent School District. Course topics include history of microbiology, history of disease and its impact in society, an introduction to disease-causing organisms such as bacteria, viruses and parasites, a virtual tour of a diagnostic laboratory, and a presentation on career opportunities in microbiology. Instructors are faculty members from the Departments of Integrative Biology, Microbiology and Pathology at the Medical School and the Infectious Disease Center at the School of Public Health. Faculty members present their lessons or demonstrations from a video studio on the UT-Houston campus that is dedicated to K–12 teaching. Spring Branch classrooms are equipped with semi-portable video units. Video instruction includes live or slide presentations, and is complemented by laboratory exercises, selected readings, computer-based assignments, and classroom demonstrations. Students take a video field trip through the microbiology diagnostic laboratories of the Hermann Memorial Hospital. The laboratory director provides live narration from the UT-Houston campus and students can interview laboratory personnel. Through the UT System Video Network, Spring Branch students also receive real time video instruction from scientists at the Border Biomedical Research Center at UT El Paso, a unique entity on the Texas-Mexico border 800 miles west of Houston. Guidelines for the course are learning standards inherent in the Texas Essential Knowledge and Skills (TEKS) that were established in 1998 by the Texas Education Agency to guide science instruction in public schools. The project has been successful in several areas as determined through an independent evaluation by the Texas Institute for Measurement, Evaluation and Statistics at the University of Houston. Results suggest that interest in science and microbiology increased significantly, interactive video and computer technologies are effectively integrated into the classroom, and faculty members, including teachers, improve or add to their teaching skills. [A private sector partner, Time Warner Communication, aided electronic connectivity. Financial support for the project has been provided by: a K–12 Science Education Program Grant (5 R25 11466) and a Science Education Partnership Award (5 R25 RR15632) from the National Center for Research Resources, National Institutes of Health; a special appropriation for K–16 partnerships from the 75th Texas Legislature; the Texas Telecommunication Infrastructure Fund].

USE OF PSYCHODRAMA THERAPY STRATEGIES TO ENHANCE CLASSROOM LEARNING, Terry A. Rustin, MD, School of Nursing, Dept of Target Populations, Houston, TX 77030

The psychodrama therapy techniques of role immersion, role reversal, scene setting, the observing ego, and the spontaneity test, all developed by J.L. Moreno in the first half of the 20th century, provide strategies for enhancing the classroom learning experience. The author, formally trained and certified in psychodrama, has utilized these methods in classes on pharmacology, addiction medicine, psychiatric diagnosis, patient interviewing, and differential diagnosis. Creatively applied, they can help any instructor make the educational content more vibrant and engaging for the students, and therefore better recalled. Most importantly, psychodramatic techniques can create an virtual environment which may improve the recollection of crucial information and skills when most needed, consistent with the theories of state-dependent learning.

INNOVATIVE APPROACHES FOR RETENTION OF "AT RISK" NURSING STUDENTS, Faun G. Ryser, PhD,RN, Stephanie Marfurt, RNC,MA, School of Nursing, Target Populations, Houston, Texas 77030

As the State of Texas strives to address the critical shortage of nurses, the School of Nursing has developed an innovative and multifaceted approach to retaining and promoting academic success for its undergraduate baccalaureate nursing students. This proposed program has four distinct components to address the multiple academic problems that frequently plague the "at risk" nursing student. 1. A preadmission retention program called "FOCUS" was implemented during the summer semester before the nursing curriculum begins. 2. A new course "PASS" was developed and implemented for students who demonstrate academic weakness during entrance testing. 3. The "Work-Study-Scholarship" program was expanded to more hospitals in order to offer financial assistance and opportunities to increase clinical skills among more of the undergraduate students. 4. Tutorial assistance and mentoring are available to all students having academic problems. The goal of this program is to graduate more baccalaureate nurses for the State of Texas by promoting the success of the undergraduate nursing students as they progress from admission to graduation. Ongoing data collection and analysis is being used to plan further educational interventions to promote student success in the nursing program. This program is supported by a grant from the Texas Higher Education Coordinating Board under the Nursing Innovation Grant Program.

A COMMUNITY FACULTY DEVELOPMENT MODEL IN EDUCATIONAL TECHNOLOGY: HELPING COMMUNITY FACULTY PROMOTE STUDENT COMPETENCIES”, Jack r. Scott, EdD, MPH, University of Texas Medical Branch

Objective: Teletechnology offers effective methods to advance the educational skills of community faculty who teach medical students and assess their clinical and practice management competencies. Methodology: We have taught community faculty to use a technology of applied resources that enhance students’ self-directed learning. These include: online case-based learning; Internet searching strategies for evidence-based medicine and patient education; and the use of computer- based medical knowledge references and databases. This model provides opportunities for faculty developers to teach community faculty in the use of teletechnology tools to promote knowledge acquisition for sound clinical decision-making outcomes. We have developed and tested several conference-based teaching models that offer hands-on skills development using a wireless laptop computer classroom, including workshops in internet searching strategies, that employ such technologies as: web-based case writing; wireless laptop computer classroom instruction; evidence- based practice and teaching strategies; the use of Personal Digital Assistants (PDAs); and web- based curriculum for enhanced clinical practice. Results: Needs assessments show high interest in teletechnology training by a select cadre of community faculty. Our teletechnology faculty development model has attracted significant numbers of community faculty to hands-on workshops, and these have been highly rated by participant. The content promotes desirable as well as measurable attributes that include cognitive skills (knowledge, critical thinking and problem-solving strategies); interpersonal communication skills and technical/motor skills necessary for competent primary care physicians. Conclusion: Community faculty members express enthusiasm about new possibilities for learning in the use of teletechnology to enhance health profession practice and their abilities for community-based ambulatory teaching of medical profession students. Our models should help faculty developers teach community faculty to use teletechnology tools to improve students’ knowledge acquisition and clinical decision-making skills.

ASSESSING OPHTHALMOLOGY RESIDENT PERCEPTIONS OF CAREER-RELATED COMPETENCIES, Jack R. Scott, EdD, MPH, University of Texas Medical Branch, School of Medicine, Galveston TX 77555-0408

Objectives: The purpose of this study was to identify differences in Ophthalmology resident candidates and practicing Ophthalmologists' career perceptions. A secondary aim was to evaluate demographic factors among residents regarding career perceptions that contribute to the competencies of practicing physicians. It is imperative that performance criteria be established to measure competencies of what residents should learn and be able to do. These criteria evolve from authentic learning in the realm of professional practice. **Methods:** A survey instrument (Critical Factors in Career Perceptions based upon the American Medical Association instrument for medical specialties) was sent by e-mail to prospective residents (n= 140). Group differences were calculated using a one sample t-test analysis. **Results:** Compared to practicing Ophthalmologists. (n = 56), residency candidates (n = 42) were more likely ($p < 0.05$) to expect greater professional job satisfaction from a number of Career factors (e.g., time with patients, physician teamwork, etc.); Family-Personal factors (e.g., diversity of job skills, sole professional responsibility, etc.); and Financial factors (i.e., income and security) than those in practice. Gender differences between candidates revealed that women were more interested in spending time in direct patient care and in applying computer technology skills for practice-based learning and improvement. **Conclusions:** These results suggest that medical school and residency program leaders consider specific Ophthalmology competencies for their holistic and integrated attributes to the curriculum so that residents attain a more realistic view of professional quality. Several recommendations are provided so that specific performance criteria as well as professional attributes are integrated for enhanced resident recruitment and curriculum development.

SCHOLARS IN EDUCATION: FOSTERING EDUCATIONAL EXCELLENCE IN FACULTY DEVELOPMENT, Jack R. Scott, EdD, MPH, UTMB, SOM/OED, Galveston, TX. 77555-0408

Purpose: To assess career development benefits from a medical faculty course on medical education scholarship. **Methods:** Twenty-five medical faculty (research, clinical, medical education) at an academic health center (UTMB) who completed an 18 month medical education scholarship course (“Scholars in Education”) were surveyed using an e-mail questionnaire. Descriptive data were collected and analyzed. **Results:** Survey respondents (n= 16) revealed that: 7 were Assistant Professors; 4 were Associate Professors; 4 were Professors; and 1 was Other. Six indicated 5-10 years teaching experience while 6 stated over 10 years teaching experience. Ten revealed that they spend over 20% of there time teaching. The most beneficial course aspects were: test-item writing; educational evaluation; educational research; instructional technology; and collegiality. The least beneficial aspects were statistical analysis and presentation skills. Post-course professional benefits were highly rated for Portfolio usage (65%) and Conference Presentations (75%). **Discussion:** These findings indicate that medical faculty value improved teaching skills for personal and professional enrichment. These factors are important for academic promotion and support collegial teaching and learning. **Conclusion:** The survey measured participant satisfaction for faculty development in medical education and improved course content to meet faculty needs in future Scholars in Education course offerings.

EVALUATION OF BIOGRAPHIES WEBSITE, Prabhu R. Shankar, MD,MRCP(UK), Cynthia L. Phelps, PhD, SHIS, Houston, Texas, 77030. Irmgard E. Willcockson , PhD, Craig W. Johnson, PhD, UT-SHIS, Houston, Texas, 77030

This project evaluates the effectiveness of a Web-based learning environment featuring scientist biographies. Its goals are to: 1) Personalize the mental health scientists by showing that they lead a life not that different from the rest of us. 2) Expose various mental health related areas of study and research to students which may give them career avenues which they had not considered, and 3) Provide scientists as role models, encouraging student emulate by portraying the skills required to become a scientist, and helping students appreciate their own skills. The National Institute of Mental Health (NIMH) funds projects that encourage high school students to become interested in mental health related fields as part of its drive to increase the number of researchers in the field. LEARN is a project that aims to achieve this by providing summer internships, Web-based curriculum, teacher training and a website with interactive biographies of scientists who are working in various fields of mental health. Evaluation of this computer-based learning environment is addressed in a systematic and structured way using cognitive achievement measures assessing effectiveness of the learning environment, usability (ease of use), and affective measures (e.g., fun to use). Website evaluation employs pre and post questionnaires in a One-Group Pretest-Posttest Design with high school students as subjects. A sample size range of from 20 to 30 was chosen to achieve statistical power in the range of 0.80 at the 0.05 alpha level for an eight tenths of a standard deviation (large) pre vs. post effect size. Questionnaires, using multiple choice, Likert scale, and essay items, occur in the same sitting both before and after exposure to the Web-based learning environment to evaluate cognitive, affective and usability effects. LEARN is funded by NIMH Grant R25-MH61917

**ONLINE STUDENT EVALUATION OF CLINICAL FACULTY: A
COMPARISON OF TWO SOFTWARE PROGRAMS, David Taylor, Ed.D., Stephen
Jessee, DDS, James Spence, M.S., UTHSC-Houston Dental Branch 6516 MD Anderson
Blvd. Houston, TX 77030**

Student evaluation of clinical faculty presents a continuing problem due to the highly variable amount of contact time between students and faculty members. Unlike traditional lecture situations, in which all students are exposed to a lecturer for the same amount of time and evaluations reflect that uniformity, the clinical experience is highly individualized and each student is likely to see multiple faculty throughout the semester. Nevertheless, for lack of a suitable alternative, evaluations are typically managed the same way; evaluation forms are administered at the same time, typically at the end of the semester after the last exam, when students' attention, energy and attitude may be in a negative or distracted state. Furthermore, tracking and compiling results are complex and problematic due to the number of students and faculty. In this presentation, we will describe the problems and issues surrounding traditional clinical faculty evaluations, based on our past experience and that of similar schools, and our rationale and plan for overcoming these problems through use of an online system. The ideal system will take contact time into account, track student compliance, and sort and present results in a useful, easily comprehensible manner, while allowing students to complete the various evaluations at at different times and at their leisure. We will present comparisons of two highly-rated software programs that take different approaches: (1) CourseEval by Academic Management, which is designed specifically for student evaluation of faculty in medical/dental schools, and (2) eListen by Scantron, a general-purpose survey software program that can be administered in a variety of formats (web, email, OCR). Using a matrix table, the programs will be compared on a variety of points, including features, ease of installation and maintenance, adaptability to a specific implementation, ease of use, cost, and network security. Comparisons will be based on experience, company information and interviews with experienced users.

BUILDING COPING SKILLS IN DEMENTIA CAREGIVERS, Thomas A. Teasdale, Dr.P.H., Lynn A. Snow, Ph.D., Veterans Affairs Medical Center; Houston, TX 77030

Background: Caregiver burnout is a well-recognized risk factor for institutionalization of demented loved ones [Yaffe K, et al. Patient and caregiver characteristics and nursing home placement in patients with dementia. JAMA 2002 Apr 24;287(16):2090-7].

Building coping skills in community caregivers potentially reduces caregiver stress and potentially delays LTC placement. An educational intervention was developed to help caregivers increase their coping skills regarding their care of cognitively impaired elders. The product, produced by the VA's South Central Health Care Network MIRECC, was designed to improve coping skills in caregivers facing everyday behavioral disturbances. Methods: Older actors were filmed simulating caregivers and persons with dementia in three stressful situations. "Poor" caregiver responses to distressing behavior by demented family members are portrayed first, and then followed with video examples of adaptive responses and preventive approaches. The video clips are linked to educational text and deployed via CD-ROM. Field-testing comprised distributing 103 copies of the CD and evaluation survey to 17 sites throughout a 5-state region. Most respondents (90%) used the tool in support group settings. Respondents requested more video footage (median score=7 on 7-point Likert scale) and more scenarios (only 45% considered all scenarios believable) rather than more text (median score=4 on 7-point Likert scale). Ninety-one percent considered the tool useful to caregivers and 100% would use it again. The tool was also considered appropriate for LTC staff training (qualitative responses).

Conclusions: This inexpensive, easily disseminated educational tool is appropriate for caregiver support groups, for consumers with personal computers, and possibly as a training tool in clinical settings. The poster will illustrate development steps of the CD-based caregiver education tool, report the survey results of field-testing by caregiver support group leaders, and discuss plans for additional deployment. A laptop will be available at the poster for viewing the CD-ROM.

ORGANIZATIONAL ADVOCACY OF GERIATRIC PSYCHIATRY: DESIGN AND IMPLEMENTATION OF A GERIATRIC MENTAL HEALTH LIAISON TEAM, Thomas A. Teasdale, Dr.P.H., Veterans Affairs Medical Center

METHODS: In June of 2002, the South Central (VISN 16) Veterans Affairs Health Care Network's Mental Illness Research, Education, & Clinical Center (MIRECC) formed a liaison network to help bridge the gap between efficacy and effectiveness in patient care. The Geriatric Mental Health Liaison Team is comprised of clinicians from all 10 medical centers who self-professed an interest in older patients. They function as conduits between the MIRECC and front-line providers, moving research findings into clinical settings. Each liaison is responsible for disseminating practice tools, best practice models, treatment findings, resource materials, and educational/research opportunities to local, on-site colleagues. Liaisons also communicate clinical concerns and research needs from the field to MIRECC investigators. A part-time liaison-team coordinator identifies, secures and distributes materials to the liaisons, helps liaisons understand their role, facilitates and sustains liaison team cohesion, establishes communication linkages between liaisons and the MIRECC, and promotes institutional recognition for liaison activities. Primary modalities of liaison activity are development, deployment, and regular updating of a Geriatric Mental Health Tool Kit, teleconferencing, and e-mail.

EVALUATION: The potential benefit from this new resource is strengthened ties between organizational entities concerned with research & education and front-line mental health providers caring for older patients. Evaluation measures are (a) materials dissemination, (b) liaison satisfaction, (c) emergence of new clinician leaders, and (d) infusion of new participants as liaisons.

FINDINGS: To date, the Internet, telephone conferencing, postal services, and face-to-face encounters support Team activities. Most liaisons identified 4-6 local colleagues to receive MIRECC- provided materials. Some liaisons disseminate materials to nursing units rather than to specific providers. Clinical executives welcomed the program. This poster describes: (a) how liaisons were identified, (b) how Team formation occurred, (c) how topics and dissemination channels were identified, (d) development and distribution of the new Tool Kit, and (e) evaluation implementation.

DOES THE DATA BACK THE "BACK SCHOOL"?, David T. Vinh, BS, PTA,.
Cynthia L. Phelps, PhD, Craig W. Johnson, PhD, UTHHSC

Background. More than 1/3 of back injuries among nurses occur with patient transfers (Smedley, 1995). Nurses have attributed more than half of their injuries to inadequate training and staffing (Yassi, 1995). If nurse's self-efficacy (Bandura, 1997) and knowledge concerning safer transfer skills can be improved, injuries would be expected to decrease. Bandura has argued that self-efficacy is crucial to effective behavior change. It mediates the likelihood that a person will attempt a behavior. This study will rigorously document, in a hospital setting employing randomized, controlled comparisons, the degree to which "skills training", in comparison with "didactic training", significantly improves nurses' and nursing assistants' self-efficacy and knowledge concerning their patient transfer skills. Methodology. In a year-long study, an elaboration of the randomized "Quasi-Experimental Alternative to the One-Group Pretest-Posttest Design" (Johnson, 1986) that typically includes controls for all threats to internal and external validity will be employed. Each month from 10 to 30 nurses and nursing assistants will be randomly assigned within blocks to one of four independent groups (beginning of the day, pre "didactic", post "didactic"/pre "skills", post training) relative to back training interventions. Each trainee will be tested on the Back Safety and Transfer Training Questionnaire (BSTTQ) on only one of the four occasions. The BSTTQ assesses, on separate subscales, self-efficacy, cognitive learning, and affective attributes for each transfer skill. A three factor (Nurses vs. Nursing Assistants, Testing Occasion, Month of Training) between-subjects MANOVA will test for significant impacts of each factor and interactions on BSTTQ subscale means. Discussion. In a controlled randomized comparison, this study will rigorously document, the comparative effectiveness of "didactic" and "skills" training approaches concerning nurses' and nursing assistants' self-efficacy, knowledge and attitudes while handling patient transfers. Results will help identify training strategies that could potentially lead to the reduction of healthcare worker back injuries.

