INTERACTIVE PARAPHRASE TRAINING: THE DEVELOPMENT AND TESTING OF AN ISTART MODULE. Chutima Boonthum. Department of Computer Science, Hampton University. Hampton, VA. Comprehension of science texts is challenging, particularly when the reader lacks the skills or knowledge necessary to fill in conceptual gaps in the text content. The iSTART system was developed to help readers learn and practice reading strategies to improve their ability to comprehend challenging text. This study describes a new iSTART module recently developed and tested, called Interactive Paraphrasing (IP), in which students are interactively and adaptively taught how to paraphrase sentences. We compared the effects of iSTART to iSTART with IP (IP-iSTART) with high school students on their strategy use and ability to comprehend text. IP-iSTART increased skilled readers' self-explanation quality, improved their ability to answer online comprehension questions, and increased their use of paraphrases after training. Less skilled readers benefited most in self-explanation quality from the original version of iSTART. Results are discussed in terms of tailoring reading strategy training to the needs of the reader.

GENERATION Y AND COMPUTER LITERACY/EDUCATION. Angela Hayden. Department of Computer Science, Hampton University Hampton, VA. The generation of Americans born between 1977 and 1994 are affectionately known as Generation Y. They hold to similar values of their parents, but will challenge authority and the information given them in any setting. They possess a variety of skills including computer skills, making them the most computer literate of all generations prior to them. They can be stimulated through a variety of means, most of which are visual and audio. They also appreciate having fun more than just learning facts. Strategies for both study and pedagogy offered as suggested means to help students learn have not changed much in recent years and can still be used for those entering college over the next two or three years. One such strategy includes visual/auditory where students are asked to read aloud, record and play back definitions to terms, or visualize certain tasks. At HU, we offer students in our CSC 120, Intro to Computer Literacy course a method that requires them to do much more than just passively sit in class and take notes. This method, where students learn computer applications using hands-on activities, is not without its problems and challenges, but overall most students do extremely well and some have express not only satisfaction with the course, but acknowledge that learning has occurred.

Education

INCORPORATING LEARNING STYLES INTO A SCIENCE LECTURE COURSE. Lisa S. Webb, Christopher Newport University, Department of Biology, Chemistry and Environmental Science, 1 University Place, Newport News VA 23606. Learning is a complex and highly individualized process that can, and does, occur in a variety of modalities. Students can learn visually, through pictures, diagrams, charts, animations and reading; they can learn aurally, through listening to lectures, discussions, music and conversations; they can learn in a tactile manner, through manipulation of a three-dimensional model or tracing the shape of a graph with their fingers; and they can learn

in any combination of these, or other, ways. Because teaching and learning are complementary processes, effective instruction must occur via multiple pathways and incorporate multiple modalities, the choice of which should be driven by student learning preferences. In my lecture courses, I ask students to take a free, online assessment of their learning styles (www.vark-learn.com) and turn in the results for a quiz grade. This informs students of their own learning style(s) and preference(s) and gives them the opportunity to develop strategies to exploit these in preparing for class and studying for exams. It also informs me, the instructor, of the learning preferences of the students, which allows me to plan instructional strategies intended to actively and effectively engage my students in the process of learning.

APPLICATION OF THE INTERACTIONAL MODEL OF CULTURAL DIVERSITY TO IDENTIFY DIVERSITY CLIMATE FACTORS ASSOCIATED WITH ORGANIZATIONAL EFFECTIVENESS IN ACCREDITED U.S. PHYSICAL THERAPIST EDUCATION PROGRAMS. Elizabeth F. Giles, School of Physical Therapy, Old Dominion University, Norfolk, VA 23529. This work evaluated the effectiveness of the Interactional Model of Cultural Diversity as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs (N=151; RR=83.9%). A descriptive cross-sectional research design examined two model constructs. Cronbach's alpha coefficients were .82 for the IAPCC-R and .78 for the perception of diversity climate scale adapted from The Diversity Survey. Only 43% of all study programs reported excellent diversity climates. Pearson chi-square results (alpha=0.05) showed statistically significant construct relationships. A Kruskal-Wallis test and a post-hoc analysis determined statistically significant program group differences in minority graduates based on faculty diversity. Perception of *diversity climate* scale score was a significant predictor of number of minority graduates and percent minority graduates. Multiple logistic regression models were significant for predictors of number of graduates (p=.000; Nagelkerke's R^2=.336), number of minority graduates (p=.000; Nagelkerke's R^2=.534; .334), and percent minority graduates (p=.000; Nagelkerke's R^2=.562; .347). The Interactional Model of Cultural Diversity was effective in modeling these construct relationships in accredited U.S. physical therapist education programs.

RE-CREATING A SCIENCE MUSEUM FOR THE 21ST CENTURY. Richard Conti, Science Museum of Virginia, Richmond, VA. The Science Museum of Virginia is the Commonwealth of Virginia's flagship institution for informal science learning. Established in the early 1970s, the museum is undergoing a process to reinvent itself for the 21st century. For the past six months, the museum has undergone an extensive process to engage its constituents and reinvent itself to become a more contemporary, dynamic and relevant institution. Challenges to this process include reaching the entire state with limited resources, managing a network of satellite museums and competing with numerous entities for the discretionary time of our audiences.

CONJECTURAL INDUCTIVISM AND MATHEMATICAL PROOF. W. Michael Gentry, Department of Mathematics, Mary Baldwin College, Staunton, Va 24401.

Given sufficient time and incentives students can and will discover that none of the integers 11, 111, 1111, 1111, etc. is a perfect square. Using modulo 4 arithmetic, this conjecture is not ifficult to prove making it a theorem, indubitably true forever. Not all conjectures are created equal. Students are also able to provide copious inductive evidence that combining the processes of multiplying any odd positive integer by 3 and adding 1, and dividing any even positive integer by 2, always seems to dead end in the sequence 1, 2,4, 1,2, 4, 1,2,4, 1,2,4, etc. However, this conjecture, despite the best efforts of the mathematical community, has not been proven. Is there a pedagogical approach that lends itself to helping students in substantive ways to follow the yellow brick road to provable conjectures, and not venture off into the Land of the Giant of Despair where dragons and nearly unprovable conjectures lurk?

Environmental Science

THE EFFECTIVENESS OF WETLAND MITRIGATION BANKS IN THE LOWER RAPPAHANNOCK WASTERSHED THROUGH MAPPING AND CREATION OF A SINGLE DATABASE. Brittany A. Baker, Michael L. Bass, Earth and Environmental Sciences, University of Mary Washington, Fredericksburg, VA. Wetlands are a precious environmental resource that provide habitat, prevent pollutants and excess sediments from entering large water ways, and control storm surge. Wetlands may be destroyed in the process of commercial, residential and infrastructure development. Federal regulation requires that these wetland losses must be mitigation, through wetland mitigation banking. Wetlands mitigation banking creates a large area of wetland acreage where portions, measured in credits, are sold to those who have destroyed wetland areas. In the United States Army corps of Engineer's Norfolk district, there are several wetland mitigation banks. Information about each of these banks may be obtained on their RIBITS database. On this database, however, it is difficult to compare attributes of different wetland mitigation banks within the same service watershed. The purpose of this study is to explore the effectiveness of the wetland mitigation banks that service the Lower Rappahannock Watershed by creating a single database for easy comparison and visualizations that may drive future wetland mitigation bank development decisions.

IMPACTS ON TWO STREAMS CAUSED BY DEVELOPMENT IN THE CELEBRATE VIRGINIA NORTH PROJECT. Katherine Vrobel, Earth and Environmental Science Department, University of Mary Washington, Fredericksburg, VA. This study observed and assessed damage to streams located within the Celebrate Virginia North development in Stafford County, Virginia. Research was conducted at seven stations located on England run and the Unnamed Tributary streams. Assessments were made based on the study of the macrobenthic communities, water chemistry comparisons (such as nutrients, dissolved oxygen, conductivity, alkalinity, and water hardness) before and after rainfall, suspended load in the stream water, and gain size analysis in the water column and sediment. This study consisted of a number of methods: Water quality was assessed by determining the abundance and diversity of macrobenthic organisms, which included the Hilsenhoff Family Biotic Index (HBI) and the total percent of insect orders Ephemeroptera, Plecoptera, and Trichoptera