

a substrate. A method to obtain active enzyme was formed, and can be used for further inhibition studies. K_i values for selective inhibitors determined by the *in silico* study can be obtained.

Computer Science

USING SECOND LIFE FOR COMPUTER SCIENCE EDUCATION. Robert A. Willis Jr. Department of Computer Science, Hampton University. Over the past few years, I have noticed that our students are reluctant to approach learning computer science in the traditional ways. Computer science requires beginning students to learn the concepts of computer science and the art of programming. While disparate, both of these facets require a good deal of study using texts and practice. Second Life is used to implement a number of innovative interactive tutorials tailored for this generation of students. Furthermore, the environment is conducive for instruction in a number of other areas in computer science (and other disciplines). Second Life is a three dimensional virtual world. It is a social environment that allows people to “live” much as they do in real life. People (represented as avatars) can purchase land, build houses, work, play, and participate in many other activities. It is an ideal environment to reach all levels of students.

INTERACTIVE PARAPHRASE TRAINING: THE DEVELOPMENT AND TESTING OF AN ISTART MODULE. Chutima Boonthum. Department of Computer Science, Hampton University Hampton University. 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 University. 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 expressed not only satisfaction with the course, but acknowledge that learning has occurred.

Education

THE ART LOVER'S PROBLEM. W. Michael Gentry, Department of Mathematics, Mary Baldwin College, Staunton, VA. An application of algebra, without the use of calculus, to solve *The Art Lover's Problem*: How far from a Pablo Picasso portrait should an art lover stand in order to obtain the best possible view? Encourages first-year college students to think actively; helps them understand how a scientist sees or interprets the physical world. Patient problem-solving and algebraic skill are both necessary. Basic skills in algebra precede a deeper more theoretical understanding. Student responses indicate that although conceptual understanding should come first, it remains shallow in nature, unless and until some facility in algebra is developed.

STORMWATER MANAGEMENT AT THE SCIENCE MUSEUM. Lindsay M. Walker¹ & Eugene G. Maurakis², ¹Randolph-Macon College, Ashland, VA and ²Science Museum of Virginia, Richmond, VA. Stormwater runoff has been a growing problem for watersheds throughout the United States. As stormwater flows across paved surfaces, such as roads, parking lots, and roofs, it picks up trash, fertilizers, pesticides, PCB's, and other pollutants which end up in larger bodies of water such as the Chesapeake Bay. To improve the quality of water for local waterways such as the James River and the Chesapeake Bay, the Science Museum is collaborating with a variety of groups to implement stormwater management technologies; porous pavement, rainwater harvesting systems, green roof, BayScapes gardens, bioretention areas, and tree box filters. The Museum is creating exhibits and demonstrations which correlate to the Virginia Standards of Learning so the students can learn about stormwater management technologies. Funded by the National Fish & Wildlife Foundation.

CONNECTING GRADUATE RESEARCH TO UNDERGRADUATE AND SECONDARY SCIENCE EDUCATION. Lisa S. Webb¹, Roberto A. Flores², Geoffrey C. Klein¹, Michael D. Meyer¹ & Gary J. Whiting¹, ¹Department of Biology, Chemistry and Environmental Science and ²Physics, Computer Science and Engineering, Christopher Newport University, Newport News, VA. CNU's NSF funded GK-12 project, Linking Urban Water Quality with Science Education in the Chesapeake Watershed, involves placing graduate Environmental Science and Computer Science