



CBILSpace Currents

Computer Based Instruction Lab ♦ School of Medicine

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CBILSpace Currents

Dean's Office
School of Medicine
Faculty & Instructional
Development

*Computer Based Instruction
Laboratory (CBIL)*

*Medical College of Virginia Campus
Virginia Commonwealth University
1217 E. Marshall Street
P.O. Box 980496
Richmond, VA 23298-0496
804-828-8319
804-828-6144 (FAX)*

Editor: Brenda Seago

Assistant Editors:

Rachel Ballard

Carroll E. Goldsmith

Staff e-mail @gems.vcu.edu:

clhampton; dlstewart

Staff e-mail @cbil.cbil.vcu.edu:

seagob; stephenc; ballardr;

schlesingerj; warmackc; goldsmithc

Web site: <http://www.cbil.vcu.edu>

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VCU Medical Students Pioneer Computerized Testing

by Erin C. Lucero

When Scott Bornstein sat down to take his endocrinology exam, he was entering uncharted territory. That's because rather than his standard pencil and paper, he was faced with a computer screen. He was among 169 second-year medical students who participated in the School of Medicine's first comprehensive course examination administered by computer.

The groundwork for the computerized exam was laid by the Computer Based Instruction Lab. CBIL, based in the School of Medicine's Office of Faculty and Instructional Development, supports the school's students, faculty and staff.

"CBIL has its own multimedia development unit that we've used to produce curriculum based software," said Brenda Seago, manager of CBIL, who worked with Chris Stephens, CBIL's medical applications developer, the Curriculum Office and course faculty to develop the endocrinology computer exam. "The work we've done previously in this area was a good foundation for developing computerized exams." She says that the computerized exam is among the first developed or used by any medical school.

Bornstein was relatively calm when faced with the computerized exam last fall. He describes himself as fairly computer literate and has become one of CBIL's regular users, taking advantage of their computer programs, Kodachrome slides and other learning resources. He checks his e-mail every day and even works in the lab one night a week.

He says that taking an exam on the computer changed his test-taking strategy

in some ways, but that being familiar with the material allowed him to adapt to the change in format. "In this day and age, there are very few professions that allow one to be completely computer illiterate. In my opinion, all it takes is some time and a minimal amount of guidance to fully grasp the basics of a PC."

In developing the exam, Seago worked with Dean Parmelee, M.D., director of the second-year curriculum in the School of Medicine, and John Nestler, M.D., the endocrinology course director.

"The National Board of Medicine, which administers the licensure exams for all medical students in the United States, will convert all exams to computer-based formats in the next couple of years," explained Parmelee. After the second year of medical school, most students take the first exam of the three-part licensure process.

"By converting our own exams we hope to give our students an advantage — when they see the computerized licensure exam, it won't be the first time they've been faced with this format." So far, the National Board's field tests of the computer-based exams find no difference in scores between those computer literate and non-literate.

Parmelee said a computerized exam also solves the difficulty of incorporating quality color images. While reproducing images on paper and using slides can be difficult, the computer screen's clarity is a more efficient way for faculty to create comprehensive exams. The 91-question, multiple choice endocrinology exam

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included six color images on which some exam questions were based.

Nestler, who was admittedly skeptical about using the computerized format, has been won over by the results. "We were able to use images of microscopic sections of the endocrine system in combination with case-based questions. It was a good way to mix clinical material and pathology questions. In the future we hope to incorporate images of patients and graphs showing test results."

Because they expected some students would be anxious about the new format, CBIL staff provided a six-question practice exam for students who wanted to familiarize themselves with the computer.

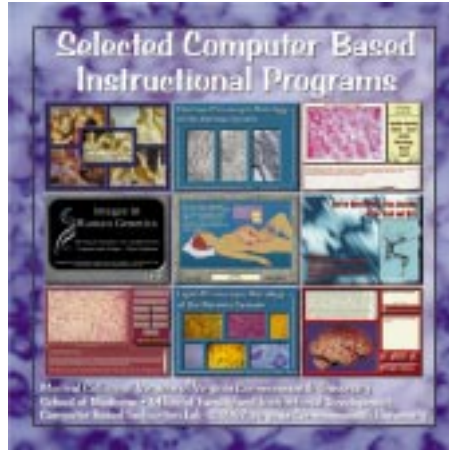
"By converting our own exams we hope to give our students an advantage..."

Even so, Parmelee acknowledges that the exam met with mixed reactions. "Some students found the format more challenging. They're used to being tested on paper, and it can be difficult getting used to something new."

Borinstein concurs, "Computer exams are a 'necessary evil.' I believe that in 20 years, all standardized exams will be in the computer format, because of the ease of collections, grading, and data input. It is about time that students start to adapt to the change in system and become comfortable with computer driven exams."

Parmelee hopes that in the next three years, all exams for first and second year students will be computerized. Hugo Seibel, Ph.D., and Jim Johnson, Ph.D., were content experts for a computerized exam used in December to test first year students on head and neck anatomy.♦

Article reprinted from the VCU Voice, Volume 26, Number 13, February 23, 1998 with the permission of University News Services and author Erin C. Lucero.



CBIL Distributes CD to Students

by Rachel Ballard

The CBIL staff and professors from the School of Medicine have collaborated to create a CD-ROM that will enable students to access assigned programs at home. The CD, titled *Selected Computer Based Instructional Programs*, is designed primarily for first and second year medical students, but is also available for M-III's and graduate Anatomy students. The CD features the following programs:

Reproductive Pathology Viewer and Quiz Series, by J. Stastny, D.O., D. Johnson, M.D., C. Stephens, J. Schlesinger, M.Ed., and A. Potter

Electron-Microscopic Histology of the Nervous System, by J. Povlishock, Ph.D., G. Leichnetz, Ph.D., R. Spencer, Ph.D., and C. Stephens

Pathology: Basic Principles, by E. Gerszten, M.D., C. Stephens, and J. Schlesinger, M.Ed.

Images in Human Genetics, by J. Brown, Ph.D. and C. Stephens, incorporating images from *Slice of Life VI*, University of Utah ©1992

Clinical Simulations of Fetal Heart Rate Patterns in Labor, by T. Peng, M.D., V. Shuford, M.Ed., C. Stephens, and J. Schlesinger, M.Ed.

Review Questions in Gross Anatomy of the Head and Neck, by H. Seibel, Ph.D.,

W. Seibel, Ph.D., C. Stephens, and J. Schlesinger, M.Ed.

Neuropathology, by W. Rosenblum, M.D., J. Schlesinger, M.Ed., and C. Stephens

Light-Microscopic Histology of the Nervous System, by G. Leichnetz, Ph.D., R. Spencer, Ph.D., J. Povlishock, Ph.D., and C. Stephens

Gross and Sectional Anatomy of the Central Nervous System, by R. Spencer, Ph.D., C. Stephens, A. Potter, and J. Schlesinger, M.Ed.

The CD is designed for use on both PC and Macintosh computers. Please note that the *Neuropathology* program requires the installation of Apple Quicktime. Information on how to install Quicktime is available at the CBIL service desk or Apple Quicktime may be downloaded from <http://quicktime.apple.com>.

Your comments and/or questions about the CD are encouraged. Send e-mail to Chris Stephens at stephenc@cbil1.cbil.vcu.edu.♦

Technology Facilitates International Communication

by Jeanne Schlesinger, M.Ed.

When you walk into the room, the first thing you notice is a woman who is actively engaged in conversation, but looking at a television monitor instead of another person. A large conference table dominates the room and the people sitting around it are all listening intently to the speaker. When she pauses, the response comes not from an individual in the room, but from someone on the television monitor. On the television screen is another group of people who are also gathered around a conference table.

The occasion was a videoconference held on January 21, 1998 which was coordinated by Yasar A. Ozcan, Ph.D., Director of International Development at VCU. This event took place in the V-TEL room in

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the VISSTA Building, School of Social Work, 104 N. Linden, on the academic campus. The two-way television conference was making it possible for faculty at VCU to communicate easily with their partners at Palacky University in the Czech Republic. This partnership was formed as a way for VCU to collaborate with Palacky on the development of a Health Administration Master's program. VCU faculty have been mentoring faculty and staff at Palacky in such areas as faculty development, administration, curriculum, and technology integration.

Over the last two years, faculty and staff from both institutions have made numerous trips between the two countries to share information. This collaboration was made possible by three grants from the American International Health Alliance (AIHA) which is funded by the U.S. Agency for International Development (USAID). The final grant period ended last October, but AIHA purchased advance air time to enable an ongoing dialogue between the two institutions. These two-way videoconferences must be scheduled well in advance, because access from the Czech Republic site is limited to the times when the mobile unit is available in the Czech Republic, as it serves Slovakia, Hungary, and will serve other central European countries in the near future, as well. The van has a portable satellite dish on the roof and videoconferencing equipment that connects to conference rooms at each site.

Because of previous face-to-face communication between staff and faculty from VCU and Palacky, videoconferencing was a natural extension of their dialogue. Jeanne Schlesinger was a new participant in this videoconference and she shared information about CBIL's experience with the integration of technology into the medical school curriculum. Participants from Palacky were interested in learning details of CBIL's operation. They wanted to know how CBIL collaborates with faculty to purchase computer-based learning packages that are in the market-

place or develops courseware in-house to enhance the curriculum when programs are not available elsewhere. Also, they were eager to learn about the structure and operation of the lab as a student resource, the small group technology training that is conducted for students, and the development and administration of electronic examinations, including anecdotes about student reactions to this new method of evaluation.

Brenda Seago, Medical Librarian and CBIL Manager, joined Jeanne at another videoconference that took place on February 23. Brenda and Jeanne provided more comprehensive information about the ways in which CBIL incorporates technology into medical education.

The two-way television conference was making it possible . . . to communicate easily with their partners at Palacky University in the Czech Republic.

They were able to answer specific questions that Palacky faculty, medical librarians, and students asked about the challenges of finding existing multimedia software, as well as the process to begin developing programs within their own institution.♦

Telemedicine Update: Two-Way Videoconferencing Now Available

by Kelly Jones Fisk

The telemedicine program of Virginia Commonwealth University, Medical College of Virginia Campus continues to expand its services. In November, four ISDN, Basic Rate Interface (BRI) lines were installed to allow for videoconferencing capability to additional sites in Virginia as well as across the country. The ISDN lines allow for up to 512 KBPS of data, video, and audio to be sent in a compressed digital signal. Successful connections have been made to the McGuire VA Hospital, Seattle University

in Seattle, University of Washington in Seattle, and to the University of Virginia Telemedicine Program and their Continuing Studies program. Southwestern Virginia Mental Health Institute, hub-site for Appal-Link, The Southwestern Virginia Telepsychiatry Project, has connected to our videoconferencing system, and is considering possible nursing applications, as well as a distance education pilot project with VCU's AIDS Mental Health Training Program.

In December 1997 a demonstration videoconference was held with American Medical Development in Boston, MA. This demo highlighted state-of-the-art telemedicine equipment and scopes. Equipment featured included an ophthalmoscope for remote viewing, an updated intraoral camera with a 90-degree lens for viewing lesions in the mouth, and pathology equipment that provides remote control of specimen viewing.

We are planning a three-day telemedicine demonstration April 29 - May 1, with Mary Washington Hospital in Fredericksburg. This demonstration will highlight telemedicine capabilities specific to Pediatrics, Dermatology, and Cardiology. Educational applications will also be demonstrated over two-way videoconferencing. This live demonstration is being coordinated through the Office of Continuing Medical Education. For more information, please contact Martha Clements at 804-828-5418.

We are also planning a videoconference in the spring, with the Leicester Royal Infirmary, in Leicester, England, who is beginning a telemedicine outreach project. This videoconference is for testing the two systems and also for collaborative planning on telemedicine operation and implementation.

The videoconferencing dial-out system is available for scheduling of administrative and planning meetings with departments at the VA Hospital.

For more information, please call Kelly Jones Fisk at 804-828-2821 or Carol Hampton at 804-828-6594.

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**Telemedicine Program -- School of Medicine
Virginia Commonwealth University
Medical College of Virginia Campus
Richmond, Virginia**

Telemedicine Use: September 1995 - March 1998

	Blackstone	Powhatan	Totals
Conferences			
Educational Sessions	51	5	56
Meetings	25	9	34
Training	9	18	27
Total Conferences			117
Consultations by Specialty			
Infectious Disease	0	*615+; **17	632
Cardiology	2	*132+; **30	162
Dermatology	*77+; **4	0	81
Wound Healing	0	2	2
Oral Surgery	0	64	64
Pediatrics	4	0	4
Sickle Cell	0	1	1
Cardiac Surgery	0	3	3
Orthopedic Surgery	3	0	3
Total Patient Consultations			954

*patients presented
**patients discussed

Office of Faculty and Instructional Development
Kelly Jones Fisk, 804-828-2821; 4/1/98 ♦

SEWs Move

by Chris Stephens

CBIL manages fourteen Pentium 166 computers with high-resolution monitors and laserjet printers installed as Student Educational Workstations (SEWs) in inpatient clinical areas of the Medical College of Virginia Hospitals, (MCVH) including each Internal Medicine team room.

The SEWs were established in partnership with MCVH to support student and resident use of computer technology to manage information, support patient care decisions, and to enhance the quality of the educa-

tional experience. There have been some changes in the locations of the SEWs in the past several months. Effective January 1, 1998 the Hospital Library (located on the 9th floor, Main Hospital) maintained by Tompkins-McCaw Library closed. The two computers maintained by CBIL were moved to room 327 of the West Hospital. Also, Team 5's SEW that was located on the 10th floor of Main Hospital has moved to room 8-406. ♦

**The Richmond Macromedia
Multimedia User Group**

by Chris Stephens

The Richmond Macromedia Multimedia User Group (RMMUG) was formed by Chris Stephens and Jeanne Schlesinger as a forum to share ideas, promote collaboration, and exchange knowledge among Richmond area multimedia development professionals.

The group is sponsored by Macromedia and Adobe, and receives regular product information and support from both companies.

The group holds monthly meetings and had its first meeting on Tuesday, January 13, 1998. Twenty-six members were present to see a demonstration of Dreamweaver, Macromedia's new Dynamic HTML editor. At the end of the meeting, there was a discussion of other multimedia topics related to web development.

Topics for future meetings include: Authorware tips and tricks, demonstration of Freehand 8, Quicktime 3.0 and QTVR, using MPEG in Authorware, and Director Lingo.



All faculty and staff interested in participating are welcome to attend. For more information on the Richmond Macromedia Multimedia User Group, please visit the RMMUG website at <http://www.cbil.vcu.edu/rmmug/> or contact Chris Stephens at 828-3917. ♦

Spring 1998 Lunch and Learn Series Scheduled for Medical and Graduate Students and Interested Faculty

by Rachel Ballard

Several computer education sessions for medical students are planned for the spring semester. The classes will be held in the CBIL Classroom on the Mezzanine Level of the Medical Sciences Building and are available to all medical and graduate students and interested faculty. Following are the dates and subjects of each class:

- March 26: GroupWise E-Mail
- April 7: Medical Resources on the Internet
- April 16: WordPerfect Tips and Tricks
- April 20: Highlighting Board Review Software
- April 30: Medline Options
- May 11: Introduction to Iliad

Each class will be held from **12:15pm - 12:45pm**.

Students may bring a bag lunch and drinks will be provided. For more information about these sessions, please contact Rachel Ballard at (804) 828-8319 or ballandr@cbil1.cbil.vcu.edu or register via the web-site at <http://www.cbil.vcu.edu/cbil/survey/learn.html>. Registration is on a first-come, first-served basis.

Name: _____

Address: _____

Phone: _____ email address _____

Please check the classes you would like to attend.

- | | | |
|---|----------|-----------------|
| <input type="checkbox"/> GroupWise E-Mail | March 26 | 12:15 - 12:45pm |
| <input type="checkbox"/> Medical Resources on the Internet | April 7 | 12:15 - 12:45pm |
| <input type="checkbox"/> WordPerfect Tips and Tricks | April 16 | 12:15 - 12:45pm |
| <input type="checkbox"/> Highlighting Board Review Software | April 20 | 12:15 - 12:45pm |
| <input type="checkbox"/> Medline Options | April 30 | 12:15 - 12:45pm |
| <input type="checkbox"/> Introduction to Iliad | May 11 | 12:15 - 12:45pm |

Staff Update . . .

Applications Developer Chris Stephens was named one of the top 100 Multimedia Producers in the country by *AV Video and Multimedia Producer* magazine in November, 1997. A written nomination by colleagues was submitted to *AV Video and Multimedia Producer* detailing Chris's career history, special awards, and accomplishments in his field. Chris received a plaque for this honor and a short biography in the magazine.

Brenda Seago, M.L.S., M.A., attended the Robert Wood Johnson Generalist Physician Initiative conference in Key Biscayne, Florida from January 6-10, 1998. She presented a poster titled *Providing a Preceptor Network: Ready for the Challenge*, with Foundations of Clinical Medicine Course Director, Paul Munson, Ed.D.

Brenda Seago, M.L.S., M.A., Jeanne Schlesinger, M.Ed., and Carol Hampton, M.M.S., presented on oral abstract entitled *A Twenty-First Century Imperative: Integrating Informatics into the Medical School Curriculum* at the Southern Group on Educational Affairs of the Association of American Medical Colleges' Annual Meeting in New Orleans, Louisiana on March 13, 1998.

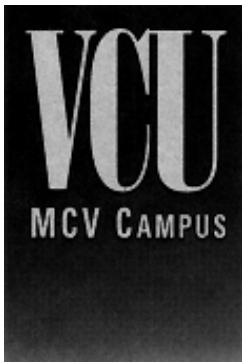
Carol Hampton, M.M.S., Assistant Dean for Faculty and Instructional Development, attended a conference at George Mason University in Fairfax, Virginia on "Paying for Telehealth" on January 12, 1998.

Jeanne Schlesinger, M.Ed., participated in the Richmond New Community School Career Day on February 18, 1998.

We would like to welcome Carroll Goldsmith, who began working part-time at CBIL in October, 1997 as an Administrative Assistant.

Congratulations to Cronin Warmack, former co-op student, now CBIL's new Computer Network Support Technician.

We would also like to welcome Michelle Combs, a senior Communications major at VCU and Jason Arthur, an M-I to our staff. They will be assisting with projects in our development area. ♦



Virginia Commonwealth University

Computer Based Instruction Laboratory
Virginia Commonwealth University
P.O. Box 980496
Richmond, VA 23298-0496