

MEDIA RELEASE

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SIAST tests 3D health-care technology

Students, patients and health-care workers stand to benefit

April 7, 2014 – SIAST students and faculty are collaborating on a research project that will determine how 3D muscle-movement-tracking technology can be refined and customized to enhance the teaching of clinical skills. The portable technology will expand SIAST’s use of high-tech health-care training that enhances learning environments, increases patient safety, and ultimately may reduce musculoskeletal injuries among health-care workers.

Working with ISIS Health Informatics, a Canadian health information management company, SIAST nursing students and faculty will test hardware and software that track and analyze body movements. The students will perform two clinical tasks, such as intravenous line insertion or an injection, that require coordination, dexterity, speed, fine motor movement or other psychomotor skills.

“The students’ and faculty’s continual feedback during these tests will help us fine-tune the design and calibration of the technology,” says Dr. Vahid Anvari, ISIS’s director of research and development. The company plans to patent the technology and incorporate it in a highly sensitive training device, such as a sensor-embedded glove.

ISIS expects that end users of the muscle-movement-tracking device will include educational institutions, community-based clinics and health-care delivery organizations.

“This portable technology will enable SIAST to offer higher-fidelity learning opportunities in a much more cost-effective manner, independent of a centralized lab,” says Dr. Lyle Grant, coordinator of SIAST’s Institute for Nursing Scholarship. “Its application ultimately enhances safety and comfort to patients by allowing students to practise ‘invasive skills’ on a lifelike device and receive very realistic feedback.”

“SIAST is a leader in the use of simulation learning in Canada,” says Dr. Netha Dyck, dean of Nursing at SIAST. “We continually strive to enhance our virtual education capacity.” SIAST’s Office of Applied Research and Innovation (OARI) worked with the

research team to secure a \$25,000 grant through the College and Community Innovation program of the Natural Sciences and Engineering Research Council of Canada (NSERC), enabling ISIS to access applied research expertise at SIAST for six months.

Because the training device will have the potential to monitor body mechanics in real-time settings, ISIS predicts that health-care authorities and workers' compensation boards in Canada will show an interest in the technology. Health-care workers have some of the highest rates of musculoskeletal injuries of all Canadian workers. These injuries relate to repetitive on-the-job tasks and inadvertent body positioning while bending and lifting.

ISIS Health Informatics is a Saskatchewan-based Canadian health management company with expertise in the health system, including project audits, information technology reviews, technology project management, health information privacy, data analytics and health training technology. It is an international leader of certification testing of Electronic Medical Record (EMR) systems.

SIAST is Saskatchewan's primary public institution for post-secondary technical education and skills training. A member of Polytechnics Canada, SIAST offers apprenticeship training and certificate, diploma and degree programs. The institution serves 26,000 distinct students through campuses in Moose Jaw, Prince Albert, Regina and Saskatoon, and through extensive distance education opportunities.

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