



Strategies for Transformative Change

OFFICE OF COMMUNITY COLLEGE RESEARCH AND LEADERSHIP

Transformative Change Initiative Overview

The Transformative Change Initiative (TCI) is dedicated to assisting community colleges to scale-up innovations that improve student outcomes and program, organization, and system performance.

Transformative Change Definition

TCI defines transformative change as follows: Raising the individual, organizational, and system performance of community colleges to unprecedented levels without sacrificing their historic commitment to access and equity.

BUILDING STUDENT ENGAGEMENT THROUGH TECHNOLOGY

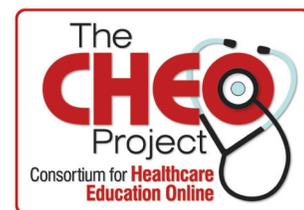
The Consortium for Healthcare Education Online

The Consortium for Healthcare Education Online (CHEO) is an interstate consortium consisting of eight colleges across Colorado, Wyoming, South Dakota, Montana, and Alaska that received Department of Labor Round 2 TAACCCT funds. Pueblo Community College in Pueblo, CO, leads the consortium with Flathead Valley Community College, MT, Great Falls College MSU, MT, Kodiak College UAA, AK, Laramie County Community College, WY, Lake Area Technical Institute, SD, Otero Junior College, CO, and Red Rocks Community College, CO. The grant strategies include creating or redesigning quality online and hybrid courseware for healthcare programming and developing leading edge technology to deliver remote, web-based science labs offering students greater learning options and employment opportunities.

Hybrid and Online Allied Healthcare Education

CHEO's focus of collaboration and technology development is designed to better connect students with their own learning. CHEO is introducing technology in introductory level science courses and allied health in programs of study including Nursing, Emergency Medical Services, Medical Laboratory Technician, Health Information Technology, and Medical Office Coding. North American Network of Science Labs Online (NANSLO) developed 27 lab activities accessible directly by students in real time, providing authentic approaches to online learning. Instructors are using interactive lightboards, simulation hospitals, labs, and mobile ambulances to help students achieve a deeper understanding of complicated tasks. CHEO project colleges understand the importance of hands-on, real world learning and are developing programming to build stronger, credible skills required of today's healthcare worker.

project's organizational design provides cohesive management and oversight, communication methodology, common agendas, and shared matrices for successful partnership implementation. Guided by a talented administrative team, project collaboration has increased expertise and talent sharing across five noncontiguous states. A strong example is the recent launch of the Southern Colorado Healthcare Sector Partnership, bringing together administrators from the area's hospitals and other major healthcare facilities in the Southern Colorado region. Providing technology that was previously unattainable by remote colleges, web-based NANSLO labs add important collective impact allowing access where there was none prior to this initiative. Case studies will illustrate even further commitment from partner colleges and provide a foundation for sustainable connections across CHEO partner colleges.



Major Themes:

Removing Geographical Barriers

- The colleges in the CHEO consortium understand the challenges facing students living in remote areas, and the online and hybrid options meet students where they are. Students participate in mobile labs delivered via fully equipped ambulances. Through interactive, front line technology and evidence-based pedagogy, CHEO online and hybrid programming provides students better choices in pacing, interaction with instructors, and connections with other students in the same field of study all across the region.
- University of Alaska, Kodiak College is located 250 miles by air from Anchorage. Fully developed online courses serve not only the students of Kodiak, but are as far-reaching as the continental United States and abroad. Instructors in the Health Sciences Department, have developed creative ways to help students learn - gamification to offer interactive lessons and diagnostic practices using inquiry-based learning. This includes accessing open source materials and other resources to provide an immersive and clinically relevant experience.

Building Collective Impact

- The Collective Impact model builds successful partnerships by engaging decision makers in order to solve a specific social problem. Led by an administrative "backbone", Collective Impact uses a shared agenda, aligned efforts, and common measures of success to produce tangible results. Firmly built upon the Collective Impact model¹ the CHEO TAACCCT

¹ Kania, J., & Kramer, M. (2011). Collective impact. Stanford Social Innovation Review, Winter, 36-41. Retrieved from http://www.ssireview.org/articles/entry/collective_impact

Authentic Learning: Simulations provided by blood banking labs, hospital, and emergency room settings are proving to be strong builders of student success. Donated by employer partners and equipped using CHEO funding, actual ambulances travel to students' locations removing geographical barriers and creating real world learning opportunities. When students can access authentic settings with patient crisis scenarios, they learn how to think on their feet, problem solve more effectively, and use resources more efficiently. CHEO leadership cited research that suggests that by mirroring behaviors, the brain builds connectors, thereby increasing learning. The interaction develops the neurological ability to allow for quicker recall and a deeper understanding of complicated tasks.¹ CHEO funding has allowed colleges to expand and capitalize on these important pedagogical delivery systems.

NANSLO offers students the opportunity for networking and problem solving in real time. Through one of three lab sites developed from CHEO funding, 27 newly created **NANSLO** lab activities have been accessed nearly 3,000 times by students. Overcoming cost barriers for colleges, NANSLO labs provide wide-scale access to fore-running technology that students may not have otherwise. With the occasional assistance of a lab technician, students use Open Educational Resource (OER) procedures to perform laboratory activities using high-quality microscopes, spectrometers, etc., to collaboratively collect data and images for Mitosis/Meiosis, Diseased Cell Comparison, Acid/Base Titrations and many other experiments.

Technology known as a **Lightboard** is refining ways of effectively engaging students virtually. This deceptively simple tool provides a huge 'wow factor' and quick buy-in for students, is relatively inexpensive for colleges to build and maintain, and immediately raises an awareness about the importance of understanding how teaching can lead to sustained learning. Using CHEO funding, Dr. Long of FVCC built the Lightboard system at a fraction of the cost of similar prototypes and is developing the OER protocols for construction, set up, usage, and lesson planning. Colleges can now afford to consider this technology and increase their student reach and impact.

“As educators face the challenges inherent in online learning, the Lightboard opens up a whole new interface that simulates face-to-face teaching while providing the ability to integrate supplemental technology to create high-quality, dynamic instructional videos.”

Emily Jense, Project Lead,
Flathead Valley Community
College, Kalispell, MT

1 NOVA scienceNOW: Mirror Neurons. (2007, April). <http://www.pbs.org/wgbh/nova/education/body/mirror-neurons.html>



CHEO participants build work-ready skills through authentic, real world learning opportunities.

Instructors and Students Connected to Learning: Whether material is delivered online or in traditional settings, instructors must find ways to connect students to their own learning in order to overcome barriers to achievement. Gone are the days of instructor centered lectures and passive delivery of instruction. Best practices clearly indicate that students build capacity when they actively engage

“We knew [procedures] before we went into the actual hospital. We weren't digging out procedure books and figuring out what we had to do. We just knew from sim. lab.”

Student, Lake Area Technical Institute

in inquiry based education and can convert terminology, data, and theory into pragmatic knowledge. CHEO instructors are incorporating options such as virtual cadaver dissection or 3D organ jigsaw puzzle delivered online to expand students' thinking and encourage them to explore the bigger questions. Applications like NobelPrize.org offer patient scenarios and require students to make virtual life and death decisions. Online learning communities and blended classroom opportunities encourage students to identify and apply resources, supporting not only their own learning but the learning of others along the way.

Providing a multi-modality approach, along with learning activities that provide continuous feedback and self-assessment, problem-solving, and higher order thinking opportunities, allow students to gain the confidence and skills required to reach the next level.

CHEO by the Numbers: To date, over 5,000 unique participants have participated in CHEO programming, completing nearly 22,000 credit hours. With more than 900 students earning credentials and several thousand more credentials anticipated, the healthcare work force is already being impacted. At mid-project, approximately 1,000 participants earned wage increases.