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QEP Elevator Speech
Our Quality Enhancement Plan (QEP), HCC INSPIRE, is required by SACS for accreditation and is focused on improving student learning, engagement and success, beginning with the sciences. The HCC INSPIRE program goals are: 1) Ensure science course readiness, 2) Institutionalize contextualized, active & collaborative learning in gateway science
courses, and 3) Offer district-wide science enrichment opportunities. Along the way, all HCC INSPIRE tools and experiences are made available to all disciplines in hopes of leveraging long-term QEP impact on the entire HCC system.
HCC INSPIRE Teams up with Houston Pathways to Pilot Study Skills Workshops for HCC Science Students

On August 19, just before the Fall 2014 semester, ninety-eight HCC science students showed up to participate in an intensive, day-long Science Study Skills Workshop at one of three locations (Southeast College, Northwest College, or Central College). Sponsored by the Houston Pathways grant and taught by HCC science professors, students were grateful to receive hands-on practice in game-changing science course survival techniques such as flashcard making, concept mapping and Cornell note taking, using actual science lecture and textbook materials. Students also appreciated learning about the relative efficacy of various study techniques, and the pros and cons of using electronic means of recording a lecture. Many eyes were opened! In the words of two students: “I really loved the workshop and the passionate people who direct it. Please do it again because I know a large number of students who do not have the knowledge that this workshop offers”, and “I'm now on track to get an A in my A&P class. Actually also helped with my other non-science classes as well. Thanks!”

Besides eliciting positive student reviews, the workshop also achieved its specific learning objectives: overall normalized learning gains (a measure of how close we come to closing the learning gap) averaged 71% as measured on a pre- and post-workshop quiz taken by eighty-six of the workshop participants. Even better, a follow-up feedback survey administered late Fall 2014 revealed important, lasting improvements in self-reported study behaviors:
HCC INSPIRE Module Incorporation of State Core Objectives Positively Impacting Student Learning

As of Fall 2014, an estimated 10,420 students in 523 sections of gateway science courses (BIOL 1406, CHEM 1411 or PHYS 1401) have participated in the QEP case study module experience. Developed by HCC science faculty in Summer 2012 as a way to explore contextualized, active & collaborative learning strategies together, each comprehensive module covers an entire textbook chapter and starts with an attention-grabbing crime. Student teams must learn the science in order to solve the crime. Soft skills such as teamwork, critical thinking, communication, and quantitative & empirical skills are also paramount. Incidentally, the Texas Higher Education Coordinating Board considers these skills to be core objectives for all core courses taught in Texas colleges.

Where possible, departmental final exams have been co-opted to measure medium-term student learning. Despite some initial fears on the part of faculty that active & collaborative learning might be detrimental to covering gateway course basics, overall, students in QEP sections slightly outscored non-QEP sections on multiple choice exam questions. Most impressive were the results of a short answer essay question on the module topic of cellular respiration on the BIOL 1406 final exam. In Fall 2013 and Spring 2014 a total of 2468 student essay answers were scored by a validated scoring rubric. On this question, QEP students significantly outscored non-QEP students. Given the newly mandated Texas state core objectives, it was not surprising to find that the oral group presentation turned out to be a key component. Among QEP students, those who were asked to present their findings in an oral presentation significantly outscored those who did not:
We Need YOU! HCC INSPIRE Science Faculty to Crowdsourse the Creation of a Searchable Open Educational Resource (OER) Database

Imagine this: you are teaching (or taking) CHEM 1411, and you’d like to find a high-quality Open Educational resource (OER) that will explain ionic bonding accurately, engagingly, in simple terms, and in 5 minutes or less. Oh, and it would be great if you could view it on your Android phone and if it would also include some practice quiz questions! Weeding through all the junk on the internet for such a resource would take hours on your own. Alternatively, you might find yourself going through other people’s outdated links lists, looking for buried treasure. There has got to be a better way!

Enter the larger HCC INSPIRE community and Angela Secrest, Director of Library Services. To make life easier for both faculty and students, HCC faculty will be able to submit vetted OERs into a Survey Monkey website. From there, the professor-approved OER information will be entered into a database to be posted on LibGuides in the HCC online library. Database entries will be searchable by OER title, Applicable HCC course, keywords, applicable textbook chapter topic, student level (beginner, intermediate, advanced), type of resource (animation, video, game, tutorial, etc.), viewing platform, and time commitment. Separate star rating systems by faculty and student users will further guide the selection of OER search results.

Many hands make light work, and we will need all hands on deck to build a robust OER database for each of our courses. HCC INSPIRE staff has already compiled a list of 109 potentially useful OERs that are ready for review by volunteer biology, physics, and chemistry faculty (you!). Interested faculty please contact Lyssa Wilson at melissa.wilson3@hccs.edu for three reviewable OERs at a time. Alternatively, faculty may go directly to the Survey Monkey website to submit their own favorites for inclusion in the database: https://www.surveymonkey.com/s/OnlineEducResource (Beware you will have to close the browser in between reviews for multiple entries). Either way, let’s get to work!
Inspiring News from STEM Club Student Award Winners around Our District

STEM Clubs around the district had a very active Fall 2014 semester. The Science Club at Central College hosted a very successful 4th Annual STEM Research Symposium. The highlight of this year’s conference was the keynote address from Dr. Maia Larios-Sanz from the University of Saint Thomas on a very topical subject: Ebola and Emerging Diseases. This excellent and engaging presentation stimulated much discussion and questions from the students present. In addition to Dr. Larios’s presentation, the day-long event included Student Oral and Poster presentations, Student “hands on” Chemistry demonstrations, Student Learning Enhancement presentations from Pearson Publishers and Science Challenge Competitions for prizes. The conference was very well-attended by students, faculty and administration and feedback from the students on this event was extremely positive. At Northwest College, The National Honor Society Beta Beta Beta held an informative Health Fair on Oct. 30th, 2014. Currently in its 13th year at HCC, the Honor Society also inducted 18 new members at its Annual Induction Ceremony; Northwest Dean of Academic Development, Dr. Jerome Drain was on hand to give a well-received keynote address.

Individual STEM Club students also had a banner semester. STEM Club faculty sponsors could not be any prouder! Three HCC students (David Le, Navish Bosquez and Erisa Hysi) completed prestigious NSF REU summer internships at Rice University (http://ibb.rice.edu/Content.aspx?id=563), while HCC students Kourtney West and Barbara Nassif completed Minority Science and Engineering Improvement Program (MSEIP) internships, also at Rice University. Several of these students also presented posters at the annual Rice University poster completion. HCC students Darin Peacock and Anthony Obi were recognized at the annual Health and Medical Science Luncheon with a $1000 scholarship from the West Houston Chamber of Commerce. Finally, HCC student Nabeel Javed (now an Aggie at Texas A&M University College Station), was the winner of the poster presentation competition at the 86th National Technology Association conference in Cleveland Ohio on September 24-26. His poster was entitled "Got GMO?" and investigated the presence of Genetically Modified Organisms in everyday grocery store foods. The original research was done in collaboration with fellow STEM club students Chimobi Emukah, Anthony Obi and Darin Peacock.
On September 19, 2014, thirty-three Biology, Chemistry and Physics faculty and Center for Teaching and Learning Excellence (CTLE) personnel braved a massive downpour to participate in a Camp INSPIRE Teaching Exchange. Modeled after popular speed dating events, presenters stayed put at small round tables while audience members chose which presentation to visit each round. It was a true exchange of ideas as presenters switched roles with audience members after a couple of rounds. Presentations ran the gamut, including general teaching strategies such as producing YouTube videos for online lecturing and using POGIL (Process Oriented Guided Inquiry Learning) in the classroom, and discipline-specific resources such as a case study on cancer and a hands-on stoichiometry modeling activity. Faculty feedback was overwhelmingly positive: “Great! It was fun and useful to see what other instructors do!”, “Awesome in theory and practice”, and “One of the best [Camp INSPIRE events] ever”.