Building a Culture of Open Pedagogy from the Platform Up

Abstract

New York City College of Technology (City Tech) is one of 24 colleges comprising the City University of New York (CUNY), the United States' largest urban public higher education institution legislatively mandated as the "vehicle for the upward mobility of the disadvantaged in the City of New York."[1] Fulfilling this mission is vital to the success of City Tech students and requires the provision of easy, consistent access to course materials across digital platforms. Panelists will trace how City Tech has been at the vanguard of transforming teaching and learning through the foundation of two significant open pedagogy initiatives on its campus. In 2011, City Tech launched the OpenLab, an open-source platform where students, faculty, and staff meet to learn and share ideas, providing opportunities for the entire college and the public to connect and collaborate. This can be difficult to achieve at an urban commuter campus. In 2014, City Tech established an OER professional development program to reconceptualize course materials and lower textbook costs for students. These two initiatives are especially noteworthy given their rooting in local needs: both have been conceived and implemented *for* and *by* the City Tech community.

Panelists include the Coordinator of the OER professional development program, the Co-Director of the OpenLab, and two faculty fellows in our OER professional development program. We represent distinct disciplines (Library, English, Biology, and Social Sciences) and offer unique interdisciplinary perspectives and approaches to open education. Critical to our institution's shift to open pedagogy is our commitment to fostering learning communities across the college, including faculty communities of practice not bound by rank, department, or disciplinary silos. Panelists will share how their work, individually and collectively, has strengthened City Tech's commitment to open pedagogy and has laid the groundwork for significant cultural change across the college.

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[1] From the City University of New York Mission statement City University of New York [CUNY]. (2016). Mission & history [Web blog]. Retrieved from http://www2.cuny.edu/about/history/

Introduction

Our panel, composed of faculty in leadership roles that advance OER and open pedagogy at New York City College of Technology (City Tech), of the City University of New York (CUNY), will demonstrate how open educational practices are transforming the culture at our college, contributing to major institutional change. City Tech has been at the vanguard of transforming teaching and learning through the launch of two significant open pedagogy initiatives in recent years. In 2011, with the release of our home-grown open-source digital platform, City Tech's OpenLab[2] (openlab.citytech.cuny.edu), we gained a space co-constructed by students, faculty, and staff for collaborating across the college and with the public at large. The OpenLab community, currently over 23,000 members, has been instrumental to launching the college's OER initiative, designed to save students from purchasing expensive textbooks, and to reimagining curriculum and pedagogy. Sharing and access are at the heart of the movement toward OER and OEP (open educational practices), which is why our OER initiative benefits so much from the OpenLab's ability to connect learners and instructors beyond a single classroom. With a platform and course content constructed for and by the City Tech community, we are able to foster a community rich in inquiry and dialogue and sustain it without the burden of a one-size-fits-all, third party vendor platform.

Panelists include the Coordinator of the college's OER professional development program, Library Professor Cailean Cooney; the Co-Director of the City Tech's OpenLab, English Professor Jill Belli; and two faculty fellows in City Tech's OER professional development program, Biology Professor Jeremy Seto and Social Sciences Professor Amanda Almond. Each panelist offers a unique approach to open educational praxis based on their disciplinary background and professional development efforts at the college.

Critical to our institution's cultural shift toward open pedagogy is our commitment to fostering learning communities across the college, including faculty communities of practice unbound by rank, department, or disciplinary silos. From conception through implementation, our work in this domain has been community-driven. By modeling how to work and share knowledge in the open, we actively cultivate a space in which, as the feminist activist and scholar bell hooks describes, we become …"comfortable in the circumstance of risk" (Cox & hooks).

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[2] Past and present OpenLab team members are credited on the site: https://openlab.citytech.cuny.edu/about/credits/

Institutional Context

Located in downtown Brooklyn, City Tech is an urban commuter campus with students from diverse cultural backgrounds. The majority of both faculty and students are people of color, women, and international citizens; additionally, many are first-generation college attendees and graduates. Students originate from more than 110 countries (35% of students), and speak more than 60 languages. The largest ethnic group is Hispanic (32%), followed by Black/African-American/Afro-Caribbean (30%) and Asian American (20%). Other groups include White (non-Hispanic (12%), and other (6%). Overall, 80% of City Tech's incoming freshmen receive need-based aid.[3] 62% are first-generation college students, and for 72% of City Tech students, English is not the primary language spoken at home. As of Fall 2017, City Tech enrolls more than 17,279 undergraduate students, 404 full-time faculty, and 1,100 part time faculty.

City Tech has been engaged in technology-based education since its founding in 1946. The college is a Hispanic-Serving Institution (HSI) / Minority Serving Institution (MSI) and enrolls the highest number of Science, Technology, Engineering, and Mathematics (STEM) students across CUNY--7,800 as of Fall 2016.[4] Increased recognition of the role of college culture and climate in retention of African- and Hispanic-American students, as well as women in the Science, Technology, Engineering, and Mathematics (STEM) degree programs (National Academies Press, 2011; Cole & Espinoza, 2007) are important considerations for our local context. Research relating to STEM curriculum overhauls provides insight into faculty behavior around curriculum development which demonstrates that communities of practice can be effective in stimulating change (Laksov, Mann, & Dahlgren, 2008; Remmik, Karm, Haamer, & Lepp, 2011; Dalrymple, Auerbach, & Schussler, 2017).

Revitalized leadership at City Tech has produced a dynamic, comprehensive model of undergraduate education, in which faculty-driven grant initiatives are encouraged and contribute to the flourishing of students, staff, and faculty. Our college has experienced a cultural shift while enrollment has steadily increased over the past 12 years by 50%. City Tech's mission was recently revised to reflect our vision:

New York City College of Technology is a baccalaureate and associate degree-granting institution committed to providing broad access to high quality technological and professional education for a diverse urban population. City Tech's distinctive emphasis on applied skills and place-based learning built upon a vibrant general education foundation equips students with both problem-solving skills and an understanding of the social contexts of technology that make its graduates competitive.

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[3] Data from the 2017-18 City Tech college factsheet: http://www.citytech.cuny.edu/about-us/docs/facts.pdf
[4] Data from the CUNY databook on STEM enrollment trends:
http://www.cuny.edu/about/administration/offices/ira/ir/data-book/current/stem-enrollment-degrees/STEM_enr_college.pdf

> *A multi-disciplinary approach and creative collaboration are hallmarks of the academic programs. As a community City Tech nurtures an atmosphere of inclusion, respect, and open-mindedness in which all members can flourish.* (New York City College of Technology, 2017).

Fulfilling this mission is vital to the success of City Tech students and requires easy and consistent access to course materials across all digital platforms, especially as smartphones gain ubiquity over laptops and desktops. Many students juggle a number of responsibilities beyond their academics, including work and family, and 61% report a household income of less than $30,000 a year.[5] STEM textbooks are also among the most expensive textbooks on the market (San Bernardino Valley College OER Blog, 2017). These factors reinforce how indispensable the college's Open Education Resources (OER) initiative is to ensuring the vitality and success of our community.

Open Education Initiatives

Open Educational Resources (OER) Initiative

In Fall 2014, the City Tech Library began an OER initiative with the fledgling goal of reducing the burden of textbook costs on students. It quickly became apparent that at the heart of this initiative was an opportunity to reimagine teaching by bringing together faculty across disciplines who wanted to improve their course materials. Our signature feature of the initiative is a faculty professional development "OER Fellowship" program in which faculty volunteer to replace a traditional textbook with curated course material that is cost-free and publicly accessible via the college's open-source digital platform, the OpenLab.[6] Upon completion of the OER Fellowship, faculty receive a stipend for participating in seminars, curating their OER, and then teaching with this course material over the next academic term.[7]

An innovative and mission-critical feature of the OER Fellowship program is a mandate that all OER created be housed on City Tech's OpenLab so that it is available to students before and after they complete a course. This level of sustained access supports the old adage that the majority of learning takes place outside the classroom, and reinforces, in both theory and practice, the notion of evergreen learning beyond formal sites of education.

The series of professional development seminars that structure the Fellowship are designed and taught by panelist Cailean Cooney and her library faculty colleagues. During the seminars, participants learn about open educational resources, principles of open pedagogy, intellectual property and Creative Commons licenses, and strategies to adopt and generate cohesive, culturally relevant, and engaging course materials. Faculty who participate in the OER

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[5] Data from 2016 Student Experience Survey
https://public.tableau.com/profile/oira.cuny#!/vizhome/2016StudentExperienceSurvey/MainMenu
[6] Initiatives at UMass Amherst and Temple University provided a model for the faculty deliverable.
[7] Our initiative has become the model for Lehman College's (a CUNY college) growing OER initiative.

Fellowship are often new to concepts and terminology involving open education, Creative Commons licenses, and intellectual property considerations. While they are motivated to adopt new course materials--many have already sought to supplement the traditional textbook with other material to fill gaps in content coverage, fix inaccuracies or outdated information, and invigorate dull materials--the inundation of new concepts, coupled with the overall deliverable of a course material revamp, can be initially overwhelming. This is compounded by the exposure that comes with teaching in the open, which is at odds with traditional practices: in many cases with faculty, discussions about teaching are relegated to insular to groups or completely hidden (Roxå & Mårtenson, 2009).

During the OER Fellowship, faculty experiment with new technologies and teaching techniques. Their work process represents a significant pedagogical shift, particularly because the new primary course material they develop are multimodal and housed in a digital environment that facilitates relatively seamless access across digital devices, unlike textbooks.

The professional development curriculum takes a scaffolded learning approach, starting with the basics of OER. The instructor (Cailean) created an OER "course material" for the content covered in the seminars.[8] This served as a model for participants, providing fellows with an example of how their sites could be organized, increasing their exposure to the OpenLab platform, and perhaps most importantly, giving faculty a chance to interact with the site from the perspective of a student. It is organized similarly to how a course site might look: the syllabus includes learning objectives and homework assignments, there is a page linking to helpful resources and readings, and a forum (blog) to share updates and document work as the seminars progress.

The seminar curriculum is driven by reflective learning practices, both descriptive and critical, and active/problem-based learning strategies. Group discussion is another vital component of the seminar series and has facilitated peer mentorship among cohorts. Faculty have been enthusiastic about the opportunity to discuss their pedagogical approaches beyond the context of their own departments or disciplines. Bringing together a diverse group to engage in critical exchanges about the theory and practice of OER and open pedagogy is invaluable, especially in an environment like ours where faculty balance many competing responsibilities (teaching, research, and service) that challenge sustained department collegiality and engagement.[9]

Our OER Fellowship program has scaled up quickly, growing from 3 faculty participants in 2015 to a cohort of 18 in 2017. Thus far we've involved 34 faculty members across 19 of the college's 29 departments and impacted nearly 3,000 students, saving them an estimated

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[8] OER Fellowship site: https://openlab.citytech.cuny.edu/oerfellowship/

[9] These areas of concern were identified through the COACHE Faculty Job Satisfaction Survey, Provost's Reprot, New York City College of Technology 2015 http://air.citytech.cuny.edu/wp-content/uploads/2016/09/COACHE_2015.pdf

$240,000 in textbook costs. Funding to run the program was originally allocated by the Library and the Office of Academic Affairs. In Spring 2017, we learned of a $4 million investment from New York State to support a CUNY-wide scale up of OER initiatives.[10] Because of our early institutional leadership in OER faculty support initiatives, City Tech received the second highest award of any campus in the system: $260,000. We anticipate reaching an additional 5,000 students with OER by the end of this academic year as a result of this investment.

With this influx of additional grant funding from New York State to scale up OER at City Tech, we made a conscious decision to invite past OER Fellows back for additional professional development. We considered this especially crucial to supporting our faculty learning community. Faculty work one-on-one with an OER faculty liaison by way of a train-the-trainer model and consult with instructional design specialists to support continued growth of their OER in a combination of areas: 1) enriching integration of active learning techniques; 2) continuing integration of usability and accessibility best practices; 3) developing and refining assessment strategies to support disciplinary literacy growth. We are piloting the program this fall with the goals of strengthening OER leadership among faculty through mentorship and expanding our community of practice with the aid of additional partnerships across the college from writing, reading, and quantitative reasoning specialists.

The OpenLab: City Tech's Open-Source Platform

City Tech's OpenLab (openlab.citytech.cuny.edu) is an open-source digital platform where students, faculty, and staff meet to learn, work, and share their ideas. Built by and for City Tech using open-source software (WordPress and BuddyPress), the OpenLab is designed to provide opportunities for students, faculty, and staff at our commuter campus to connect and collaborate across the college. Unlike closed online teaching systems, the OpenLab allows classes across the curriculum to communicate with one another and the world beyond City Tech. Like a lab, it provides a space where faculty and students can work together, experiment, and innovate.[11]

Anyone at the college--students, faculty, staff, and alumni--can join the OpenLab and create content, and the majority of our vast membership is students who use it for their coursework, ePortfolios, and co-curricular activities. However, the OpenLab is also available to those beyond the college to visit and interact with. With the OpenLab, City Tech has become a leader in open digital pedagogy and the use of open source technology in higher education, a natural fit for a college of technology.

The OpenLab was created as part of City Tech's Title V grant (for Hispanic-Serving Institutions), "A Living Laboratory: Revitalizing General Education at a College of Technology,"

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[10] Coverage about the New York State OER investment:
https://www.insidehighered.com/news/2017/04/14/cuny-suny-plan-major-expansion-oer-efforts
[11] Read more: https://jitp.commons.gc.cuny.edu/building-a-place-for-community/

which was active from 2010-2016 and transformed student education and faculty development at the college. The grant's focus was on general education, interdisciplinarity, effective and intentional pedagogy, high-impact practices (especially a focus on place-based learning), assessment, and experimentation, innovation, and collaboration.

The OpenLab supports teaching and learning, enables connection and collaboration, and strengthens the intellectual and social life of the college community. The project is driven by a community-focused ethos, flexible infrastructure, and commitment to openness, and is proud to partner with many initiatives across campus in addition to OERs (e.g., First Year Learning Communities, General Education, Student Life) to better serve our college community. Since its launch in Fall 2011, the OpenLab has helped to foster openness and experimentation, supporting a growing community, now 23,000+ members strong.

In this short time, the OpenLab has become an integral part of the academic, professional, and social life of the college. Its design for openness and community helps City Tech successfully meet its strategic goals for student learning, and provides additional benefits to students, faculty, and the college. The OpenLab allows faculty members-- full-time and adjunct-- as well as students and staff to connect and collaborate with colleagues across classrooms, departments, offices, clubs, and the college. Best practices can be shared easily within and across disciplines, fostering interdisciplinary approaches. While the OpenLab is built for openness, it provides a range of privacy options and is flexible enough to accommodate different needs. By networking people and sites together, the OpenLab fosters community and creativity, and puts easy-to-use tools in members' hands, facilitating active learning, experimentation, and innovation.

The OpenLab team prides itself on privileging intentionality (what do faculty want to do with the technology) rather than focusing solely on the tools themselves. One vibrant community that the OpenLab has fostered is our "Open Pedagogy" group, which brings together faculty and staff from around City Tech, CUNY, and the NYC-metro area to discuss teaching and learning in the open.[12] As DeRosa and Jhangiani state, "'Open Pedagogy,' as we engage with it, is a site of praxis, a place where theories about learning, teaching, technology, and social justice enter into a conversation with each other and inform the development of educational practices and structures" (DeRosa & Jhangiani, 2017). Contributing to this "site of praxis," City Tech's Open Pedagogy group offers a series of conversations--both face-to-face and virtual--about a variety of topics, bridging theoretical, practical, and ethical issues facing faculty teaching out in the open. Programming includes text annotation in digital environments, multimedia pedagogy across disciplines, copyright and attribution, digital writing, accessibility, and OERs. The OpenLab's Open Pedagogy group is another site to strengthen communities of practice and speak more openly about teaching practices.[13] The OpenLab team complements this Open

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[12] Open Pedagogy site: https://openlab.citytech.cuny.edu/openpedagogyopenlab/
[13] Read more: http://www.digitalpedagogylab.com/hybridped/open-digital-pedagogy-critical-pedagogy/

Pedagogy series with a number of hands-on workshops, that help the City Tech community to enact open pedagogy on the Openlab.

We are proud of the platform's widespread adoption, and encouraged by efforts across the college to institutionalize the platform. OERs have been integral to this institutionalization, spreading the reach of the OpenLab to even more faculty and students. The OpenLab has grown due to a strong community of support and outreach, and an associated focus on open digital pedagogy.

Faculty Case Studies in Open Educational Practices

Course Coordination Case Study: Biology I Lab

The Biology Department has been involved in redesigning its introductory curriculum to incorporate OERs since 2015. General Biology I (Bio1) at City Tech plays a major role in the general education and liberal arts curriculum for incoming students. As a foundational sciences course, students enroll in Bio1 because they wish to enter an allied health field or the biomedical informatics major, and/or because it fulfills their science requirement for many other courses of study. In a given semester, Bio1 typically runs through 20 sections of didactic lectures and an accompanying 40 sections of lab. These sections are primarily taught by part-time faculty, necessitating centralized oversight by a full-time faculty curriculum coordinator to ensure curricular consistency across sections taught and to meet the demands of preparing students for hands-on laboratory exercises.

A call to action by the National Science Foundation (NSF) entitled "Vision and Change" outlines the evolving needs in STEM education and includes a set of core competencies that should be taught throughout the curriculum (Woodin, Carter, & Fletcher, 2010). These core competencies--quantitative reasoning, use of simulation, collaboration and communication--map with general education learning outcomes and serve as guidelines towards effective pedagogy. While didactic lecturing serves a purpose, the greatest gains in learning take place when consolidating knowledge with practice in labs. Furthermore, due to the scheduling of classes, labs and lectures may run slightly asynchronous to one another leaving students bereft of understanding when entering the laboratory.

City Tech's OER initiative provides a means to actualize and consolidate core competencies in a manner that standard textbooks, including book-associated course materials, do not permit. Through institutionalization of the OpenLab as a digital pedagogy platform, Biology faculty can leverage resources across the internet, including interactive learning objects like simulations, to address these competencies. Institutionalization of an OER for biology laboratories serves a need that cannot be filled by existing traditional or open textbooks. Previous iterations of laboratory manuals were expensive and wrought with ambiguous language in the methodology that confused students and lab technicians due to inconsistencies

in lab equipment. In these cases, instructors either did not have students partake in specific activities, or they rewrote the activity. The Biology OER frees faculty to leverage local expertise by tailoring the curriculum to our student population, and to make crucial modifications based on local limitations of lab equipment and infrastructure. It also offers a solution to the slow turnaround time for publication of revised materials, standardizes content across sections, and offers a rapid means to disseminate modified procedures in response to variable lab conditions.

Core course competencies and other general education learning objectives have been integrated throughout the OER as a folksonomy to draw instructors' attention to actionable learning items in the activities. The folksonomy also serves as a method of transparency and reinforcement between the instructor and students by tying the learning goals that are foregrounded in the course syllabus to the actual process skills students will develop through the lab sequence. During the initial launch of the OER, a select group of faculty piloted and provided useful input that provided the basis for improvements, including the folksonomy. The Bio1 OER has proven a useful tool for centralization to stimulate feedback from instructors across the sections from this central course material. With a full-scale launch, additional examples of sample data and pre-lab exercises have been developed to offer a model of reaching across the internet to perform course-work with a focused digital pedagogy among nearly two dozen instructors.

Interdisciplinary Course Case Study: Health Psychology

City Tech's interdisciplinary Health Psychology course, taught by Social Sciences Professor Amanda Almond, explores theories of health psychology within the context of critical race theory. Students are introduced to the material by an overview of existing psychological and epidemiological findings about the relationship between race and disease. Throughout the course, the class investigates how behavior, emotion, and cognition can influence disease processes and examine how stress and our perceived control over destiny can impact coronary, immune, infectious diseases, and associated symptoms. A focus on research methods, philosophy of science, biological anthropology, African American history, sociology, health communication, and applied health/medical fields merge to enrich students' understanding of the biopsychosocial approach to health and illness.

Interdisciplinary courses such as this one have been shown to improve student learning (Elrod & Roth, 2012) and it is especially important at City Tech, where our support of student success in interdisciplinary environments is critical to a STEM-focused college of technology. All baccalaureate students are required to complete one interdisciplinary course as part of their General Education requirements. These courses are either team-taught with faculty from multiple disciplines or assemble guest lecturers across disciplines for 30% of the course.

There are two specific ways that OERs and open pedagogy have enriched the interdisciplinary Health Psychology course Amanda teaches. As an OER Fellow, Amanda took

this opportunity to create custom online course material representing diverse disciplines. The result was a curated selection of unique readings that students can easily access via the OpenLab course website. The ability to hand-craft a series of reading assignments drawn from numerous disciplines and deliver it to students in a comprehensive and affordable way is especially novel to social science educators, who work within degree programs that are inherently interdisciplinary. There was virtually no existing textbook with adequate subject coverage for the interdisciplinary Health Psychology course, and assigning multiple texts for students to purchase would have been an unnecessary drain to their financial resources. More to the point, the objective of interdisciplinary courses is not to master concepts from several disciplines but rather to become an expert about a particular problem that is too complex to be solved by a single discipline. The collection of texts that are assigned via the OER have also facilitated student exposure to a variety of resources beyond a traditional textbook, including peer-reviewed literature available via the college's digital library resources.

Students access the OER for much more than assigned readings, however. They also use it for assignment instructions and share reflections on experiential learning assignments, thereby engaging critical digital literacies. The OER Fellowship and course redesign provided Amanda the opportunity to enrich her course through open pedagogy techniques, namely, facilitation of open critical dialogue. Discussion takes place both online and in person and requires communication competencies that must be carefully cultivated and moderated. During the course, the class openly discusses the conceptualization of race in the United States and students draw from personal experiences that have impacted health via institutional, personally-mediated, and internalized racism. To initiate and guide this aspect of coursework, students' first assignment is to contribute to the course policies and guidelines, by suggesting respectful interactions to develop a collective set of "ground rules." This assignment, which students contribute to by posting a public comment on the "Policies" page of the OER course site, then becomes the basis of comprehensive in-class discussion on best practices for treading through difficult topics. Suggested policies include, "Speak from your own experience instead of generalizing (use "I" instead of "they," "we," and "you")," and "The goal is not to agree — it is to gain a deeper understanding" (Gorski, 2017). Amanda and her students discuss, both in person and with online posting, the importance of tone and delivery, body language, and even cell-phone use in class. She's experienced that this assignment leads the class to feel a sense of collective preparedness for tackling complex and sensitive topics such as racism, family health, and personal habits.

In addition, transitioning to OERs and implementing open educational practices has been a liberatory process that has strengthened Amanda's social justice pedagogy. The Health Psychology OER is a vehicle to working among disciplines with fluidity and for tackling social problems like racial health disparities in the classroom. Students achieve interdisciplinary learning objectives by synthesizing and transferring knowledge across disciplines, and apply integrative thinking to solve problems as they engage in culturally relevant discourse. In more rigid or traditional teaching contexts, myriad disciplinary perspectives are often presented to students tangentially, almost like footnotes, rather than with an intersectional approach,

resulting in a lesser impact on student learning. As educators, it can be demanding to integrate multiple points of view with appropriate detail and context. Imposing time and content coverage limitations can be an attractive short-cut to move the curriculum forward efficiently, but this OER project has demonstrated how important it is to resist that pressure. Putting multiple perspectives in dialogue with one another is imperative to an enriching higher-order learning. With OERs curated from multiple disciplines, and open educational practices that challenge students to openly embrace risk, students discern how multiple perspectives are required to tackle complexity. The interdisciplinary Health Psychology OER synthesizes the course content with balance and scale in a way that would be impossible to achieve by other means.

Conclusions

As faculty in leadership roles that advance OERs and open pedagogy at City Tech, we iterate and improve our teaching through intentional and transparent course coordination, enrich student learning through selection of engaging, culturally relevant, and multimodal curricular materials, and reflect and strengthen our community through open collaboration and connection with our college's homegrown digital platform, the OpenLab. Our merging of robust OERs with thoughtful open pedagogy has contributed to a cultural shift across the college community that values intentional pedagogy, accessible and meaningful course content, and high-impact practices.

In recognizing that top-down approaches to change generally do not yield positive results in academia (Henderson, Beach, & Finkelstein, 2011) we continue to develop learning communities among faculty and students to more effectively seed cultural change across the college. Professional development opportunities offered through the OER Fellowship program, along with the flexible design, innovative programming, and dedicated support from the OpenLab, impact faculty meaningfully by touching on a number of areas central to the well-being of the college and of faculty's professional lives: teaching, resources in support of faculty work, interdisciplinary work and collaboration, mentoring, leadership, and appreciation and recognition.[14] The culturally diverse institution we serve is at the heart of our open pedagogy praxis and OERs offer sites of connection among learners and instructors that transcend the limits of a course or campus. We are excited to share our journey with you in this panel, and to discuss further possibilities for cultivating open pedagogy and open educational practices.

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[14] Values outlined in the 2015 New York City College of Technology COACHE report
http://air.citytech.cuny.edu/wp-content/uploads/2016/09/COACHE_2015.pdf

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