Partnering to Promote Equity and Digital Learning

Digital Promise®

everylearner everywhere

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About the Coordinating Organizations

Digital Promise

Digital Promise is a global nonprofit working to expand opportunity for every learner. We work with educators, researchers, technology leaders, and communities to design, investigate, and scale innovations that support learners, especially those who've been historically and systematically excluded. For more information, visit the Digital Promise website and follow @DigitalPromise for updates.

Every Learner Everywhere

Every Learner Everywhere is a network of partner organizations with expertise in evaluating, implementing, scaling, and measuring the efficacy of education technologies, curriculum and course design strategies, teaching practices, and support services that personalize instruction for students in blended and online learning environments. Our mission is to help institutions use new technology to innovate teaching and learning, with the ultimate goal of improving learning outcomes for Black, Latinx, and Indigenous students, poverty-affected students, and first-generation students. Our collaborative work aims to advance equity in higher education centered on the transformation of postsecondary teaching and learning. We build capacity in colleges and universities to improve student outcomes with digital learning through direct technical assistance, timely resources and toolkits, and ongoing analysis of institutional practices and market trends. For more information about Every Learner Everywhere and its collaborative approach to equitize higher education through digital learning, visit everylearnereverywhere.org.

Executive Summary

This report describes a 15-month collaboration between three Every Learner Everywhere partner organizations (Achieving the Dream, the American Association of Public and Land-grant Universities [APLU], and Digital Promise) and five colleges, all engaged in a research-practice partnership (RPP) around enhancing equity and digital learning in gateway courses. The report describes the key features of research-practice partnerships, the design choices made for this Equity and Digital Learning RPP, the process of establishing the RPP, RPP activities both within and across institutions, and data on student perceptions and academic performance in the target courses before and after the RPP activities.

The partnership was motivated by the desire to fill gaps in our understanding of how to integrate culturally responsive practice and digital learning tools to promote equitable outcomes. The partners wanted to work together to go beyond high-level abstract descriptions of desirable features of instruction (e.g., "inclusive" and "technology-supported") to elucidate and try out specific practices that designers and instructors could implement. The team at each higher education institution selected one or more of their high-enrollment gateway courses as the focus for their Equity and Digital Learning work, examining student data for the course, brainstorming course improvement ideas, and laying the groundwork for implementing a revised version of the course in spring 2022.

To ground the RPP work in student needs, Digital Promise developed and supported the administration and analysis of a student survey focused on equity and digital learning. The *Equity in Digital Learning Survey* (EDLS) solicited students' course experiences and perspectives related to course quality, digital learning practices and challenges, and equity and inclusion practices. Data sources for this report include student responses to the EDLS, administered in spring 2021 and spring 2022; recordings of online team check-ins and cross-team learning sessions; participant interviews conducted by an external formative evaluator; and student grades, prior achievement, and demographic information obtained from institutional research offices.

During the 15-month Equity and Digital Learning partnership, Every Learner Everywhere network members Digital Promise, Achieving the Dream, and APLU provided resources (summer stipends for faculty and a $25,000 payment for each institution) and focused time to advance ideas that had already been percolating within the participating departments of higher education institutions. Higher education partners appreciated having latitude in articulating goals for their course teams. At the same time, the course-specific data, analysis, and collaborative learning events provided by the RPP surfaced new opportunities for improving course quality and student outcomes and experiences. Launching RPP team activities with the collection of student data and disaggregating it by specific student groups highlighted equity issues without assigning blame. Every Learner Everywhere partner organization staff were able to build trust by acknowledging their own status as learners and casting their role as "journeying alongside" their education partners rather than imparting answers.

College team leaders reported that the RPP fostered enjoyable and productive working relationships both with external partners and among internal collaborators. Although the level of monetary support for

participating education institutions and faculty stipends was modest, project leads reported that it was important in getting buy-in from faculty. In addition, explicit agreements incorporating RPP expectations (including data collections and data sharing) helped project leaders keep their teams on track, even with the many other challenges faculty were dealing with as the COVID-19 pandemic continued into fall 2021 and beyond. Timely RPP workshops featuring concrete mechanisms for integrating equity practices (e.g., Equitizing the Syllabus and Soliciting Early Student Feedback) influenced instructor practice in the fall term as well as their plans for spring 2022. The participants acknowledged the overall process as a valuable opportunity for capacity building, both for data-informed design and for deeper consideration of the challenges and opportunities around equity in their specific settings. Perhaps most importantly, all of the college project team leaders were optimistic about sustaining and scaling resources or practices and processes developed through the collaboration.

I. Introduction

The Every Learner Everywhere network was established in 2018 to help institutions of higher education improve course success rates for racially minoritized and poverty-impacted students by enhancing teaching and learning with the support of digital learning tools. In its first two years, the network collaborated with groups of academic leaders and instructors at a dozen colleges to help them incorporate adaptive courseware into one or more of their gateway courses.

The events of 2020,[1] coupled with persistent differences in course success rates (defined as the proportion of students earning a C or better) for students from different racial and economic groups, underscored the importance of making higher education both effective and equitable. These dual factors also created a new sense of urgency and a new perspective on the network's mission. Specifically, Every Learner Everywhere network partners realized that, by itself, the introduction of digital learning systems in gateway courses would be unlikely to meet the challenge and that, in addition, they would need to reconceptualize their collaborations with higher education institutions to deepen engagement with specific equity issues.

This report describes a 15-month collaboration between three Every Learner Everywhere partner organizations (Achieving the Dream, the American Association of Public and Land-grant Universities, and Digital Promise) and five colleges that together engaged in a research-practice partnership (RPP) around enhancing equity and digital learning in gateway courses. The report's content focuses on how the project partners leveraged key features of the RPP model to support the redesign of select gateway courses. It describes the process of establishing the Equity and Digital Learning RPP, partnership activities, and data showing outcomes in terms of instructor practices and student course perceptions and achievement.

This report draws on student responses to the Equity in Digital Learning Survey administered in spring 2021 and spring 2022; transcripts of online cross-team learning sessions; participant interviews conducted by an external formative evaluator; and student grades, prior achievement, and demographic information obtained from institutional research offices. A glossary of education terms follows the reference section at the end of this report.

1. Killings of Black Americans sparked a social justice movement and the COVID-19 pandemic produced economic hardships that were disproportionately borne by marginalized communities. College students from low-income communities of color faced added challenges associated with trauma, less robust access to technology, and work and family care responsibilities (Means & Neisler, 2021). These events exacerbated existing educational inequities (Friedman et al., 2021; Raftery & Hout, 1993).

The Research-Practice Partnership as a New Model of Engagement

The W.T. Grant Foundation defines research-practice partnerships as "long-term, mutually beneficial collaborations that promote the production and use of rigorous research about problems of practice."

A recent report on the evolving nature of research-practice partnerships by some of the leaders in this kind of research (Farrell et al., 2021) notes additional aspects of RPPs: They

- work toward educational improvement and/or equitable transformation;
- are organized to bring together diverse kinds of expertise; and
- employ strategies to avoid the power dynamics of typical research projects such that all participants have a say.

These characteristics make an RPP well suited to support the Every Learner Everywhere network goal of helping postsecondary education institutions improve the quality and outcomes of gateway course experiences for students from marginalized communities. Deep changes in teaching practices and in educational systems take time, and the learning and capacity building that is required may vary for different members of a partnership engaged in supporting that change. While most college instructors are open to leveraging research in their efforts to improve course design and instruction, education research is not their primary job, and they may lack the resources and support needed for substantial data analysis and interpretation. Education researchers, on the other hand, are trained in a set of methods and modes of communication that do not by themselves bring about change in educational practice. Researchers often lack first-hand knowledge of the educational contexts where practitioners work and are susceptible to pursuing research questions that resonate more with other researchers than with practitioners. Even when pursuing questions of interest to practitioners and educational institutions, researchers may treat the latter as data sources rather than experts and collaborators. The research-practice partnership model was designed to surmount these limitations.

In contrast to more traditional research approaches, RPPs are built on a foundation of trust-based relationships wherein key stakeholders form an equitable partnership to collaboratively design, develop, and implement research-based solutions that can be sustained and scaled to address particular problems of practice that are of mutual interest. The RPP model is based on the premise that researchers and practitioners have much to learn from each other and that their mutual learning will require multiple collaborative cycles of examining objective evidence, identifying potential ways of addressing problems of practice, trying new approaches, and collecting and analyzing data on the new approaches.

The number of researchers and education systems and institutions engaging in research-practice partnerships has grown exponentially over the last decade. Several federal funding agencies explicitly solicit applications for RPPs, and several national organizations for researchers and practitioners engaged in RPPs have been established.[2]

2. See the National Network of Research-Practice Partnerships at https://nnerpp.rice.edu/kc_basics/ and the Research + Practice Collaboratory at http://researchandpractice.org/

Designing the Equity and Digital Learning RPP

The Equity and Digital Learning RPP was established to integrate culturally responsive practices and digital learning tools in ways that promote equitable student outcomes. The announcement of the opportunity to learn about and potentially join the RPP was explained as follows (see the RPP Opportunity Announcement in Appendix B):

> *Our mission is to help institutions use new technology to innovate teaching and learning, with the ultimate goal of improving student outcomes for Black, Latinx, and Indigenous students, poverty-affected students, and first-generation students. Our experiences to date have revealed gaps in our understanding of how to integrate culturally responsive practice and digital learning tools to promote equitable outcomes. We—and the field at large—need to figure out how to move from high-level abstract descriptions of desirable features of instruction (e.g., "inclusive" and "technology-supported") to specific practices that designers and instructors can implement. We need experience doing this in multiple contexts in order to advance the field of knowledge and develop and release "tools" for widespread use.*

This work was defined and initiated by a team of three Every Learner Everywhere organizations: Achieving the Dream (ATD), the American Association of Public and Land-grant Universities (APLU), and Digital Promise. ATD ran an online series of "faculty learning circles" on equity-minded pedagogy. APLU assisted in recruiting public four-year colleges for the RPP. Digital Promise led the conceptualization of the RPP and the recruiting and selection of higher education partner institutions; conducted data collection, analysis, and data-based reflection sessions; and provided ongoing primary support to the higher education partners.

Building on the more general RPP model described earlier, the design of the Equity and Digital Learning RPP was guided by two main inputs: practices that proved successful in Every Learner Everywhere's prior work with lighthouse institutions, and a model of Inclusive Innovation developed by Digital Promise (see Angevine et al., 2019; White, 2022). Every Learner Everywhere lighthouse institutions were a set of two- and four-year colleges interested in integrating adaptive courseware into one or more high-enrollment introductory courses. ATD, APLU, and Digital Promise worked together to support lighthouse course redesign teams over a period of 24 months. Modest stipends and the requirement to assemble course redesign teams of faculty, instructional designers, and administrative leaders resulted in collaborations around the improvement of teaching and learning in gateway courses and the reduction of differences in course success rates for BLIPOC (Black, Latinx, Indigenous, and People of Color) and non-BLIPOC students. Looking at student data with course redesign teams proved to be an important component of the lighthouse work. At the start of the engagement with Every Learner Everywhere, participating faculty typically were aware of the proportion of students succeeding in their course overall but did not know the success rates for specific racial/ethnic subgroups (Digital Promise, 2022). A concern with outcomes for "all students" preempted attending to barriers and challenges that affected specific student groups differentially, leading designers of the Equity and Digital Learning RPP to be more explicit about the need to examine and address differences in course outcomes.

The Inclusive Innovation model served to guide the deliberate integration of a number of tenets of inclusivity into the RPP. For example, college teams chose the specific focus and strategies for their

RPP work, building on their existing efforts and resources as well as insights gained from their lived experiences. Participants outside the higher education institutions (i.e., Digital Promise and ATD) sought to design a sufficiently intense participation cadence and access to relevant knowledge resources to catalyze the project teams' work without making decisions as to innovation designs. The institutions of higher education (IHEs) thus were the owners of the course innovations while the other RPP partners were cast as facilitators and amplifiers.

Recruiting Partner Colleges

Once the RPP was conceptualized, the next step was to recruit higher education institutions as partners for this work. The three Every Learner Everywhere organizations involved in this effort agreed to target recruitment of four institutional partners (the number they felt they had the capacity to support in the 2021-22 academic year), including at least two minority-serving institutions with extensive experience successfully serving students of color. The team developed the RPP Opportunity Announcement (see Appendix A), a three-page information sheet that laid out the participation requirements, timeline, and benefits (including honoraria) of being part of the RPP. WCET (the backbone organization for Every Learner Everywhere), ATD, and APLU shared this information sheet with institutions in their respective networks, including a group of historically black colleges and universities (HBCUs) working with the Frontier Set, another effort to increase college success rates.

The RPP Opportunity Announcement set forth the following requirements for institutions participating in the Equity and Digital Learning RPP:

- Assemble a course improvement project team of multiple faculty members teaching the selected course(s), department leadership, and instructional design staff (where available) who want to collaborate with researchers to improve student course outcomes.
- Designate an executive sponsor and project lead (who may be part of the course project team).
- Administer the Equity in Digital Learning Survey[3] to lower-division students in one or more department(s) or to all students in a high-enrollment introductory college class.
- Jointly conduct deep dives with researchers into survey data from students in the selected course(s) as well as course outcome data disaggregated by student Pell status, gender, and race/ethnicity, as preparation for course improvement efforts.
- Plan and implement changes in the course(s) to address student needs with digital learning and culturally responsive instruction.
- Recruit instructors and students from the selected course(s) to participate in online interviews to understand their perspectives and course experiences.
- Engage in ongoing phone calls and virtual site visits to discuss progress on the action plan.

3. A student survey focused on course quality, digital learning practices and challenges, and equity and inclusion practices developed by Digital Promise for this initiative.

Benefits for education partners included access to disaggregated data on the opinions and course outcomes of students in their courses, professional learning in a community of like-minded educators and researchers, summer stipends for two faculty, and a $25,000 honorarium for the institution.

Based on the initial applications on the RPP Request for Interest Form (Appendix B.2), the Every Learner Everywhere network partners identified eight institutions that appeared to have capacity in serving diverse students and leveraging digital learning tools combined with one or more proposed focus courses that would benefit many of their students. These eight institutions were designated as finalists and invited to participate in a one-on-one videoconference with Digital Promise, in which they could provide more detail about the particular courses and equity challenges they wanted to work on and their capacity for conducting the improvement work.

After all the videoconferences, Every Learner Everywhere team members scored each finalist, and the institutions with the highest average rating within their institution category (two-year or four-year) were selected for the RPP. In light of the number and quality of applications, the Every Learner Everywhere team decided to work with five institutions, rather than four as originally planned.

The Higher Education Institution Partners

This process led to the involvement of a diverse set of public higher education institutions, as shown in Table 1 below. The five IHEs invited to be partners in the Equity and Digital Learning RPP each serve large proportions of students of color and assembled a team of faculty and administrative leaders committed to the RPP goals. As seen in Table 1, both 2-year and 4-year colleges were represented among the partners, and undergraduate enrollments ranged from just over 5,000 to more than 25,000 students. One of the five was an HBCU; three were HSIs (Hispanic Serving Institutions, serving more than 25 percent Hispanic students); and one was an AANAPISI (with more than 10 percent of its students identifying as Asian American, Native American, or Pacific Islander).

Table 1: Institutions participating in the research-practice partnership

Institution	Type	Minority-Serving Status	Undergraduate Enrollment
Borough of Manhattan Community College	2-year public	HSI	25,063
Harper College	2-year public	HSI	13,477
Jackson State University	4-year public	HBCU	5,225
New Mexico State University	4-year public	HSI	11,713
University of Maryland, Baltimore County	4-year public	AANAPISI	11,060

AANAPISI = Asian American, Native American, Pacific Islander Serving Institution
HBCU = Historically Black College or University
HSI = Hispanic-Serving Institution

Each RPP institution chose the course or courses it would focus on for the Equity and Digital Learning work, as shown in Table 2. The Every Learner Everywhere organizations believed it was important for

the institutions to control the focus of their own work but were also pleased to see some overlap in the subject domains of the courses the colleges would work to improve. Chemistry, English, and speech/communications were each the focus of two institutions, a condition the team hoped would foster cross-institution dialogue and learning.

Table 2: Courses selected for RPP improvement efforts

Institution	Course Title	# Unique Instructors	Annual Student Enrollment
Borough of Manhattan Community College	Speech 100	50	5,000+
	Speech 102	10	1,200+
Harper College	English 101	2	3,000+
	English 102	2	2,200+
Jackson State University	English Composition	2	697
	General Chemistry 1	7	426
	Integrated College Algebra	2	417
New Mexico State University	Introduction to Communication 1115G	2	1,200
	Introduction to Communication 1115G – Online	10	1,900
University of Maryland, Baltimore County	Chemistry 101	1	1,000+
	Chemistry 102	1	700+
	Physics 111	1	400+
	Physics 112	1	200+
	Physics 121	1	600+
	Physics 122	1	500+

Setting up the research-practice partnership included putting formal agreements in place to ensure that all partners had a common understanding of the essential elements of the RPP work and that administrators and offices of institutional research were aware of and in agreement with the requirements and benefits of participation. These agreements set forth the same institutional responsibilities that had been enumerated in the RPP Opportunity Announcement document (Appendix B.1).

Formal agreements such as these take time to negotiate and require project leads to work through their internal management structures, but they serve important functions: they can prevent future misunderstandings or legal issues, serve as a blueprint and reference for team leaders to understand their responsibilities within the RPP, and support the process of building mutual trust between the education institutions and their non-IHE partners. To realize this latter goal, it is very important for the non-IHE partners to be responsive and to make the process as easy as possible for the higher education institutions (see discussion in Krumm et al., 2018). As much as possible, the activities of the RPP were conducted with these attributes in mind.

II. Equity and Digital Learning RPP Activities

Over the course of the 15-month project, the RPP collaborators engaged in a series of activities designed to support the processes of inquiry, design, implementation, and learning, with the ultimate goal of redesigned courses that would improve outcomes and equity for large numbers of students at each participating IHE. At all stages, the activities were carried out in ways that sought to eliminate traditional hierarchies between participating educators and researchers and foster meaningful learning for all participants.

The following RPP activities are described below:

- Student data collection and reflection
- IHE team planning
- Monthly check-ins and ongoing support
- Collaborative learning events
- Implementation

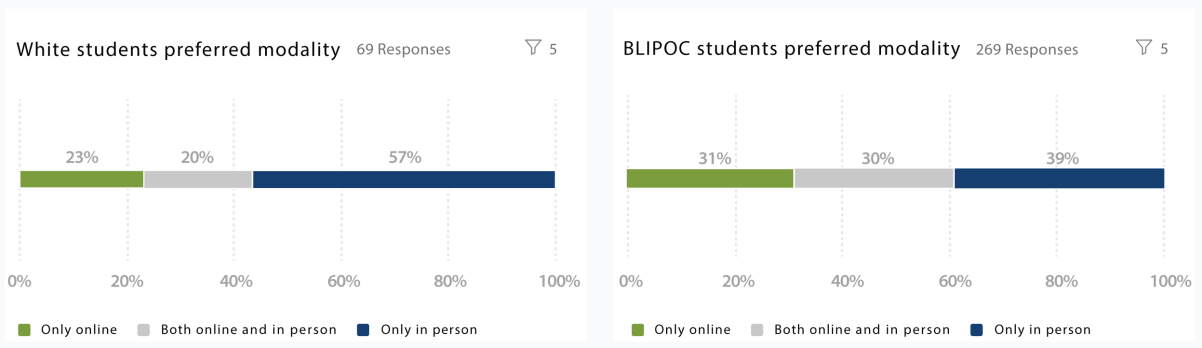
Student Data Collection and Reflection

As the work got underway at each participating IHE, an important goal was to deepen participants' understanding of the interplay between equity issues and digital learning in supporting or hindering their students' success. A key part of this effort was collection of data from students in the courses the five institutions wanted to work to improve. To this end, Digital Promise developed a student survey focused on equity and digital learning and supported its administration and analysis with each of the partner colleges. *The Equity in Digital Learning Survey* (EDLS) solicited students' course experiences and perspectives related to course quality, digital learning practices and challenges, and equity and inclusion practices. (The survey is available on the Every Learner Everywhere website.) To support data disaggregation, the survey asks students to self-report their age, race/ethnicity, gender, urbanicity, and family income category. Instructors of the courses that were targeted for the RPP improvement effort provided their students with a link to access the survey. Many offered a small amount of extra credit for students who completed the survey.

Digital Promise researchers tabulated survey responses for each institution and course and created an interactive dashboard that college teams could use to explore their survey results and relationships among the different factors covered in the survey. Based on the information in the data dashboards, Digital Promise researchers hosted a "data dive" session with each partner college in summer 2021 in which they walked the project team through highlights of their data and encouraged them to test their

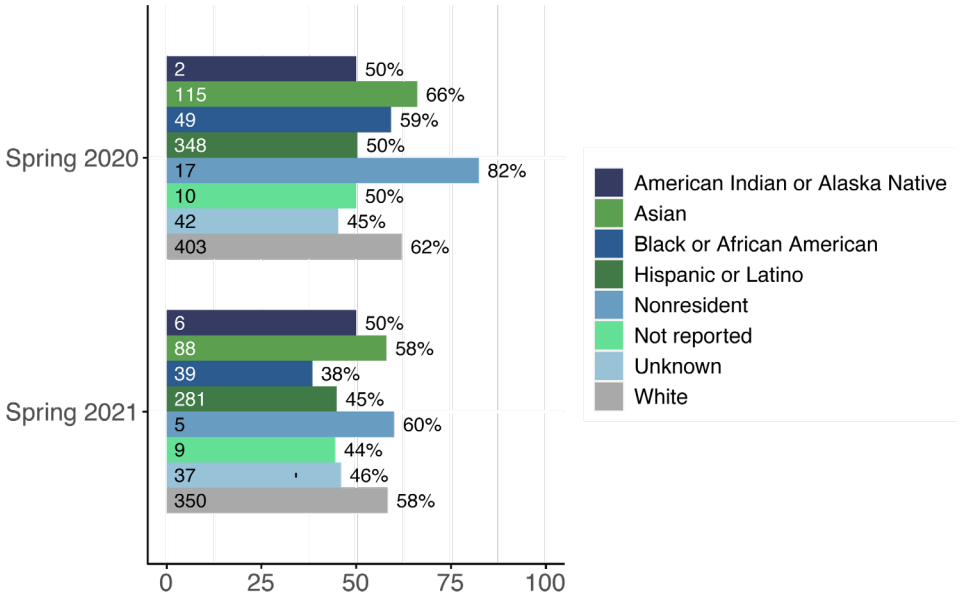
assumptions regarding the correlation between particular survey responses and student characteristics, using disaggregated views of their course survey data that were provided by Digital Promise in advance of the data dive session. Figure 1 shows an example of a disaggregated data view for a query about preferred modality (online or in-person) for different racial groups. Digital Promise had also administered the EDLS to a nationally representative sample of undergraduates in May 2021, and the national survey data were made available to project teams to provide a point of comparison for their own survey results.

Figure 1: Students' preferred course modality, by race/ethnicity



In addition, Digital Promise requested de-identified student-level course grade data from spring 2021, 2020, and 2019 classes for the courses selected for improvement from the institutional partners' research offices. Digital Promise analysts disaggregated the grade data for different racial/gender groups and by Pell status as well as other variables the project teams wanted to examine (e.g., course modality, first-generation status, course duration). The disaggregated course success rate data were shared back with project teams during the data dive sessions. Figure 2 provides an example of the kind of data shared back with the college course redesign teams.

Figure 2: Percentage of students earning a C or better in the course, by term and race/ethnicity



The data dive sessions generated a number of findings that shed light on ways in which courses and course outcomes could be improved; in some cases, they also served to validate equity-related initiatives that were already underway. For example, in some courses, students of color and Pell-eligible students were passing at lower average rates than their peers, which led to discussions of additional targeted supports that could be provided. In instances in which no achievement gaps existed, faculty could often point to specific campus initiatives that may have made a difference for students from groups historically underserved in higher education. Faculty also found it helpful to reflect on students' interpretations of classroom practices based on survey reports, which sometimes differed from faculty members' views of their own teaching. At the same time, the RPP teams were heartened by the fact that their courses were often rated higher than the national comparison sample in many aspects of course quality.

Equity Practice: Equitable Access to Data

The diversity of institutional and organizational roles represented among the RPP members translates to a level of transparency and insight that members may not experience in their normal work engagement. Since the RPP brings members to an event set aside for information sharing, a bright light is cast on the silos and infrastructural barriers that characterize many institutions and organizations. For example, barriers related to the accessibility of student data to faculty became evident when researchers on the RPP team obtained student data from institutional research offices that faculty did not know existed. As one participant described,

> *I think the collaboration went well in terms of data collection and the charts and graphs and all the analytical tools that we have been provided with. I will say that it's unprecedented for us to have that kind of numbers to showcase not only what we're doing but also how effective these new interventions can be.*

Many of the faculty had never before seen their own course success data disaggregated by student population, so insights from the data dives were actionable in new and meaningful ways.

Even at institutions where faculty had access to student data and were encouraged by institutional leaders to use it, educators reported being frustrated in the past by the difficulty of making sense of data presented in a format that was not user-friendly. The RPP data dive sessions removed data interpretation as well as data access barriers for participating faculty. Rather than providing a standardized report of survey results for each institution, the user-friendly data exploration dashboards created by Digital Promise allowed each member of the project team to engage in an inquiry learning experience that helped to frame and answer their own questions related to their specific student population, following their curiosities and testing their assumptions.

IHE Team Planning

After these initial data-based reflections, the project teams formalized their understanding of the equity and digital learning challenges in their courses and their ideas for improving the course using a theory of change template provided by Digital Promise researchers (see Appendix B.3). The theory of change template was designed to help project teams articulate and share their understanding of the current educational context, resources they could draw on to support change, and their specific improvement strategy. The compilation of each element of the theory of change constituted the project team's rationale for their approach and served as a dynamic touchpoint to focus the work that followed. In follow-up monthly meetings with each higher education institution, Digital Promise researchers asked project teams to think about early indicators or progress they would expect to see if their theory of change was valid.

Equity Practice: Spotlighting Goals and Designs for Equity

Sections of the RPP's Theory of Change Template (available in Appendix B) encouraged project teams to articulate their understanding of the contributing factors that give rise to disparity in student course success rates and to describe their plan for addressing those factors, respectively. The partial responses excerpted here, from the theory of change developed by Jackson State University (JSU) English faculty, served two important functions: Responses to the questions rooted the team's design thinking clearly in JSU's specific challenges and opportunities around equity and also positioned ownership of the design process firmly in the hands of the JSU team—and not the researchers.

Template: What factors contribute to the problem, and what evidence do you have that each of them is an influence?

"The Common Data Set (2019-2020) document displays students' scores on the Evidence-Based Reading and Writing portion of the SAT, the ACT score range, and charts the 25th percentile (the score that 25 percent of the freshman population scored at or below) and the 75th percentile score (the score that 25 percent scored at or above). Most incoming freshmen scored between the 25th and 75th percentile on all assessments."

Template: What is your strategy for addressing the problem? What role will digital learning play in this strategy? What role will equity-oriented teaching practices play in this strategy? How will this work incorporate student input?

"This is what we plan to accomplish in the class environment:

Suggest common assessments and common rubrics for freshman courses. Use written assessments to show how critical thinking skills coupled with essay writing can assist students with identifying and rebutting dangerous biases and push students to become independent thinkers. [Focus Area #1]

Build remediation in the course to bridge the gap between students' base knowledge entering the University and the expected outcomes for freshman English courses. [Focus Area #2]

Democratize cyberlearning by developing e-toolkits for students' reference to ensure all students have equal access to quality materials supported by pedagogy. [Focus Area #3]"

RPP team members at JSU reflected on the utility of the theory of action template in guiding their thinking. A chemistry professor commented that initially she thought the template was required paperwork, but when she started working with her chemistry colleague to fill it out, they found it stimulated brainstorming and helped clarify their thinking. A faculty member working on the English Composition course noted this:

"The Theory of Change document provided insight into our larger goal and the steps to get there. It was helpful in having something to go back to. The guiding questions [were] specifi ally helpful; without that guidance we would have had to work harder to think through what we wanted to accomplish."

Monthly Check-ins and Ongoing Support

To support project teams as they engaged in their course improvement work, each institution was partnered with a Digital Promise researcher who served as their primary point of contact or liaison. Each month, the project teams met with their Digital Promise liaisons, as well as other individuals from Every Learner Everywhere partner institutions, as available, to share their progress, identify areas of need, discuss emerging insights and redirections, and explore ways to further leverage the resources and expertise within the RPP. In addition to supporting the project work, the monthly check-ins also created opportunities for the project team members and their Digital Promise liaison to connect personally, reinforcing a sense of trust and community.

Collaborative Learning Events

Concurrently, the RPP held learning events where all five college teams met together and shared questions and insights on topics of interest. These events were held approximately monthly starting in June 2021 and were each co-designed and co-led by someone from an Every Learner Everywhere network organization (Digital Promise, APLU, or ATD) and two or more RPP course redesign team members who had indicated a willingness to share their expertise on the topic in the initial partner survey.

Meeting topics were drawn from an informal survey of the college team leads and core faculty participants which solicited topics related to equity and digital learning that they most wanted to learn more about and those for which they felt they had some experience or expertise to share with collaborators at other institutions. Another input to event planning was the set of issues and insights that emerged during the

monthly check-in meetings between each education partner and Digital Promise. The resulting topics for the collaborative learning events included uses of digital learning tools that promote equity, gather candid student feedback, and develop approaches for addressing classroom equity challenges.

In addition to these cross-RPP learning events, higher education partners were invited to a faculty learning circle around issues of digital justice in learning organized by Achieving the Dream. Participation in this faculty learning circle was not a requirement in the contracts with the five higher education institutions; nevertheless, representatives of all five institutions attended one or more of the five online digital justice faculty learning circle meetings held during AY 2021-22. Topics included promoting equitable engagement and participation, assessing and grading for equity, and a particularly influential early session that offered concrete tools and invited collaborative feedback on the topic of "equitizing" the course syllabus.

Equity Practice: All Participants as Learners and Teachers

Acknowledgement of multiple kinds and sources of expertise within the RPP was manifested in invitations to practitioner members to share their practices and insights with other RPP members from all of the member organizations. When particular needs or concerns around equity and digital learning arose during the course of project engagement, organizers reached out to individuals who had indicated willingness to share on an initial survey or others who had demonstrated interest and innovative approaches during monthly check-in calls. A faculty member on one of the project teams reflected on the opportunities the RPP provided for mutual consultation and learning:

> *"The fact that it wasn't just our institution, but several other institutions, and that we got to be in meetings with these other institutions, I thought that was really cool.… We also have like the big meetings where it's all of us, and we all get to … share challenges and successes and things like that, so I think that's defnitely something that I would just hope that they continue doing because I've gained a lot from it."*

III. Plans for College-Level Implementation

During the summer of 2021, project teams from each institution met to finalize their initial plans for their course improvement work, readying themselves for implementation activities. The planned timeline for the Equity and Digital Learning RPP called for design activities to continue through fall 2021, with initial implementation of the revised courses and practices to begin in the spring 2022 semester.

In actuality, a number of faculty and institutions chose to start trying out changes to their courses and instructional practices in fall 2021. JSU faculty, for example, began experimenting with technology-supported formative assessments and collaborative learning activities in their fall chemistry, college algebra, and English classes. They also began trying out ways to get student feedback on the things they were trying, with weekly student feedback forms in the case of college algebra. At the University of Maryland, Baltimore County (UMBC), a chemistry faculty member spent long hours creating practice items that students could use as formative assessments of their understanding of concepts in her course and talked to her students about the value of practice in improving their learning and scores on the course exams that would determine their grades.

By design, while the colleges all participated in the same set of planning activities, the actual course-level interventions they implemented varied widely according to the choices each college made to pursue their own specific goals. Some colleges began with a specific vision of what they wanted to focus on and used takeaways from the various RPP activities to sharpen their designs; others used the results of the Equity in Digital Learning Survey at their institution to inspire their specific focus. The resulting set of projects described below used a variety of levers such as syllabus redesign, faculty development, formative assessment, regular collection of student feedback, and new digital tools to target equity, engagement, and improved student learning in the high-enrollment courses they had selected for redesign.

At **Borough of Manhattan Community College (BMCC)**, the department chair (and team leader) recruited more than 20 instructors to engage with the original core project team of four around equitizing their syllabi and developing and implementing the department's new culturally responsive open educational resource (OER) course materials. The faculty-authored OER digital textbook was developed for use in their gateway course, Speech 100. The motivation for this effort was not only to make the course materials financially accessible to all their students but also to support implementation of trauma-informed pedagogy focused on equity, inclusion, and racial justice. In addition to redesigning their course materials and assignments, the BMCC team redesigned their course syllabi based on the principles and practices that they learned from the Equitizing Your Syllabus workshop provided by ATD. To standardize the equitized syllabi across all sections, the project leader created an equitized syllabus template which was made accessible to all faculty using Microsoft Teams.

Harper College's project team interwove their learning from RPP activities with their internal faculty development work. They took a programmatic approach to addressing equity issues in their gateway courses, English 101 and 102, by developing and piloting the Equity Teaching Academy professional development curriculum within their Academy for Teaching Excellence. While the Academy was already in place, the Harper team leveraged the RPP project and the Digital Justice Faculty Learning Circle to strengthen the new course series by expanding awareness of approaches for equity-centered instruction, providing additional resources and support for participating instructors on using data to inform change and assess impact, and learning from and sharing with other institutions. A particular focus of this effort was the third course in the Equity Teaching Academy curriculum series, Redesign for Equity, which provided instructors with information and strategies for effectively implementing digital learning tools and evidence-based teaching practices. Following two other equity-focused courses, Examine for Equity and Reflect on Equity, the Redesign for Equity course helped the RPP faculty to personalize their implementation of equity-centered strategies based on their professional and personal identities.

Bolstered by promising data from the initial pilot group, Harper reports that the Equity Teaching Academy will continue to run its series of graduate equivalency courses and workshops to guide faculty in using actionable data to adapt and implement culturally relevant, evidence-based teaching strategies across the curriculum. For spring 2023, the Academy and strategic goal teams aligned with this purpose will share these promising results to encourage English faculty to participate in Equity Teaching Academy courses or related workshops that offer redesign opportunities, with continued support and stipends offered for redesign work that will vary depending on the scope of the redesign. English faculty who participated in the RPP English 101 and English 102 redesign work will also be invited to join Harper's Embedded Peer Coach program, which will support student coaches in using pedagogies from the Equity & Digital Learning model to support student success and reduce equity gaps in English.

Jackson State University launched course redesign teams in three areas: college algebra, first-year English, and chemistry. The college algebra and chemistry teams worked on incorporating digital learning tools (such as Cengage MindTap, Flipgrid, and Nearpod) and evidence-based teaching practices with the aim of improving student engagement, which they saw as a contributing factor in the equity issues they sought to address. Instructional practices of focus included formative, performance-based assessment; small-group work; and frequent elicitation of student feedback on changes in the course. In this way, the team strove to tailor their instructional practices and course design to better align with students' stated needs and enhance the instructor-student relationship to improve the learning experience.

The **New Mexico State University (NMSU)** project team used podcasting technology and GoReact to facilitate the redesign of assignments in their gateway course, Communications 1115G. The digital tools were intended to help make the assignments more personally relevant to students by allowing them to demonstrate their understanding of the course content in a way that was accessible and connected to current social media trends. The assignments reflected a larger curriculum shift that focused on the ubiquitous impact of intersectionality on communication. Similar to JSU, the NMSU project team sought to address equity issues by regularly soliciting student feedback in order to make their instruction responsive to the personal and learning needs of their students.

UMBC worked on both chemistry and physics courses. One of the chemistry faculty focused her redesign efforts on implementing Realizeit, a learning platform, into CHEM 102. This effort was intended to provide students with frequent low-stakes formative assessment opportunities fully aligned to the course's learning objectives. For the physics gateway course, the UMBC team prioritized providing students with timely feedback on low-stakes assessments.

Spotlight: Redesigning First-Year English at Jackson State University

The instructor went on to describe the adjustments that the team needed to make as they began the redesign process.

> *"We partnered with an instructor from JSU Online, who helped build our master course shell. Across all sections there will be a common assessment, the same rhetorical strategies (e.g., cause effect, literary analysis, compare/contrast), and common rubrics. There used to be two common rhetorical strategies across all sections; this is the first semester with four. Also, the rubrics are linked to assignments students can see before they start the assignment. We want to make sure that by midterms, two strategies have been submitted. The instructors can meet at this point to help students who need it. All sections will also include low stakes assignments like drafts. Our goal pass rate at midterm is 75 percent of students at C or better, although we are considering moving it to 80 percent.*
>
> *The writing portion redesign was influenced by three students who wrote in a survey that they felt like coming from rural/small schools they were not prepared for [the] rigor and level of writing. We hear a lot from struggling students, overwhelmed by a lack [of] preparation and so much that is new for them."*

After participating in the RPP activities during the summer of 2021, the same instructor identified another redesign opportunity. The instructor reflected, "We also plan to share the materials and tools gathered from this Equity and Digital Learning research project with Freshman Committee team members to discuss how this knowledge base can be interwoven into our SLOs [student learning outcomes] and curriculum for spring 2022."

During a September RPP Faculty Share & Learn event, the JSU English instructor presented a slide with a quotation from one of her students:

> *"I feel that my high school curriculum did not suffi**ci**ently prepare me for the content of this class, because I went to school in a poor rural area. . . but my peers sound like they are well-versed in the material even though we are meant to be at the same level of understanding and familiarity (or lack thereof) of the content we're learning in this course . . . my peers in the course went to private school, so I feel like I am still catching up to their level of education even though we are students at the same institution."*

The English faculty member concluded this:

> *"Economic distress leading to lower preparation for 1st year Writing. . . raises the question of how to bridge students for success equitably."*

The instructor went on to describe the adjustments that the team needed to make as they began the redesign process.

> *"Modifying the approach is the biggest challenge for faculty and not making assumptions about entry level, not saying students "should" be prepared, how to build in remediation without ostracizing and stigmatizing, standardized assessments, rubrics provide objectivity and equity/transparency. [Consequently, they developed] PIT, [personalized instruction time], a version of PIT stop, rather than mandatory conferences. Sometimes faculty runs them, other times the Writing Center does. Whoever runs the PIT stop has syllabi to align with the course instruction needs. This partnership breaks the silo [between faculty and support services] to support student success. We also developed faculty toolkits so that students have access to resources during the PIT stop and bring advisors in to let them know what's going on in the classroom [Focus Area #3]. Faculty were hesitant to be on video but were encouraged to communicate personal connection and students' success. We then created a GoogleDrive and shared Canvas shell to add resources. [As time went on] students started adding 2-min videos, which also reduced work load for any one faculty. The co-req model works in theory, but contributes to stigmatization. The PIT stop allows for organic, not forced, remediation and some anonymity because students can attend in groups."*

IV. RPP Influences on Equity-Minded Classroom Practices

A primary goal of the Equity and Digital Learning RPP was to promote the incorporation of equity-minded teaching practices into the focus courses, making them more accessible and engaging for their students. Deep changes in teaching practice typically require extended time and iterative refinement in order to take root. Because the 15-month timeline of this RPP only allowed for one or (at most) two semesters of implementation at each college, we would expect the implementations during that time to reflect a relatively early stage in instructors' learning journeys. Nevertheless, data show some evidence of the RPP's influence on instructor practice.

This section describes classroom practice outcomes through two lenses: course syllabi before and after the RPP experience and the student experience as reflected on student surveys.

Incorporating Equity in Course Syllabi

As one of the first artifacts that a student encounters in a course, the course syllabus offers opportunities for welcoming students and setting a positive context for their learning, as well as providing a record for researchers of course organization and approach. The syllabus was also the target of the well-attended online "Equitizing Your Syllabus" workshop, provided to participating faculty as part of the Digital Justice Faculty Learning Circle series offered by ATD. The workshop articulated multiple ways in which syllabus content could support students' sense of belonging in the class and promote equity-minded pedagogy. Workshop participants received a set of equity-minded practices based on NYU's Culturally Responsive Curriculum Scorecard (Bryan-Gooden et al., 2019) and suggestions for how to apply these principles in a course syllabus. All project teams reported using this framework to guide the redesign of their syllabi.

To evaluate the integration of these principles, Digital Promise requested course syllabi from spring 2021 (prior to the commencement of Equity and Digital Learning RPP activities for faculty) and from spring 2022 for each course targeted for redesign through the RPP. Using a rubric developed jointly by Digital Promise and ATD (see Appendix B.4), researchers coded each syllabus to rate the degree of integration of seven dimensions of equity-minded practice that had been introduced in the Equitizing Your Syllabus workshop.

- Welcoming—Indicating that every student belongs in the class
- Representing Diversity—Inclusion of non-white and non-Western content, authors, or perspectives
- Demystifying—Communicating clearly about course expectations
- Destigmatizing Support Services—Describing how to access support services in a way that suggests they are useful for everybody
- Creating Partnership—Portraying the instructor and student as partnering for student learning

- Validating Students—Communicating the belief that all students are capable learners
- Deconstructing the Norm—Inclusion of materials critically examining systemic impacts of discrimination, racism, and marginalization

Each dimension received a code on a scale from 0 (Dimension Missing) to 4 (Advanced). Figure 3 shows the syllabus score comparisons for pre- and post-RPP syllabi (from spring 2021 and 2022, respectively, unless otherwise noted) for eight courses that provided syllabi from iterations of the course in two different semesters.

Figure 3: Ratings for equity-minded dimensions in course syllabi

		Equity-Minded Syllabus Dimension							
Institution/ Course Title	Semester	Welcome	Represent Diversity	Demystify	Destigmatize Support Services	Create Partnership	Validate Students	Deconstruct the Norm	Total
BMCC									
Speech 100	Spr 21	2	1	4	4	0	1	1	11
	Spr 22	4	4	4	4	2	1	1	20*
Harper									
English 101	Fall 21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Spr 22	1	0	4	4	1.5	1.5	0.5	12.5
English 102 (n = 2)	Fall 21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Spr 22	3	1	4	3.5	2.5	2	1.5	17.5
JSU									
Chemistry 141-a	Spr 21	1	0	4	2	1	0	0	8
	Spr 22	2	0	4	2	1	0	0	9
Math 103-a	Fall 20	1	0	4	2	1	0	0	8
	Spr 22	3	1	4	3	2	0	0	13*
English 104-a	Spr 21	1	0	4	1	1	0	0	7
	Spr 22	1	1	4	2	1	0	1	10
NMSU									
Introduction to Communi-cation 1115G-a	Spr 21	1	0	4	4	0	1	0	10
	Spr 22	3	1	4	4	1	1	1	15*
UMBC									
Chem 101-a	Spr 21	2	0	4	1	2	0	0	10
	Spr 22	3	1	4	2	2	1	0	15*
TOTAL									
Pre-RPP **Meana**		1.83	0.17	4.00	2.33	0.83	0.17	0.00	8.67
Post-RPP **Meana**		2.29**	1.33*	4.00	2.83*	1.50	0.50	0.50*	13.53**

0-Missing | 1-Emerging | 2-Progressing | 3-Developing | 4-Advanced

Note: Does not include Harper College data because spring 2021 syllabi were missing.
*** Statistically significant positive effect; p < 0.05 in a matched-pairs one-tail t-test**
**** Statistically significant positive effect; p < 0.01 in a matched-pairs one-tail t-test**
***** Statistically significant positive effect; p < 0.001 in a matched-pairs one-tail t-test**

The syllabus analysis revealed that some dimensions of equity were implemented more often than others. For example, markers of Demystifying course expectations, such as clear headings, course reading and assignment schedules, and relevant course and institutional policies, were uniformly present in the syllabi used before the RPP as well as after. These attributes are generally accepted as important to successful instruction, so it is not surprising that they would not need to be added in an effort to address equity. On the other end of the spectrum, the dimension of Deconstructing the Norm, which involves inclusion of "readings and course materials that critically examine the historical experiences of people and communities that face discrimination, racism, and marginalization," was absent entirely from the spring 2021 syllabi and only weakly present in a few syllabi used in spring 2022. Redesigning a course syllabus to embody this equity dimension would require a significant overhaul of course materials and focus and would also risk encountering pushback in the current context of the culture wars. The two courses that did use spring 2022 syllabi with some markers of Deconstructing the Norm (Speech 100 at BMCC and English 104 at JSU) had indeed undergone a major curriculum overhaul, as described above.

Validating Students was another equity-minded dimension that was not prominent in the syllabi either before or after the RPP experience. For this practice to be evident, the syllabi should use language that validates the knowledge students bring into the learning environment and include different types of assignments and forms of assessment that give students multiple ways to demonstrate their learning and strengths. Only one of the course syllabi from spring 2021 had any markers for this dimension; five syllabi did so in spring 2022.

The equity-minded syllabus dimension that showed the most growth from spring 2021 to spring 2022 was Welcoming, suggesting that this practice was the most accessible focus area for the course redesigns. In most cases, instructors added a welcome message at the beginning of the syllabus. The excerpt below from the introductory chemistry course at UMBC provides an example of an equity-minded course welcome.

Welcome to CHEM 101

This class is based on the belief that everyone has the capability to learn chemistry. How we act as individuals and as a class will help us achieve that success. How do we define success? Is success defined only by the grade you earn? No! Your success is so much more than learning chemistry. Success happens when we are the first individual in our family to attend college. Success happens when we create new identities for ourselves, even if it is in contrast to others' beliefs that we do not belong. Success happens when we advocate for our friends, neighbors, and ourselves. In this class we will treat each other with respect. Your instructors are here to tell you that you belong, that you will learn chemistry, and that we believe that you will be successful.

Another dimension on which there was significant change from spring 2021 to spring 2022 was Representing Diversity. Only one of the spring 2021 course syllabi had any representation of diversity while six of the spring 2022 syllabi did so. However, the most common demonstration of Representing

Diversity was the inclusion of an institutional anti-discrimination policy rather than a representation of students of different backgrounds in the course content. A prominent exception to this general trend was BMCC, where the RPP team put a strong emphasis on changing instructors' syllabi and the spring 2022 syllabus received the highest possible score.

Although present in many of the spring 2021 syllabi, Destigmatizing Support Services was another dimension where courses made significant advances. The Communications 1115G instructors at NMSU, for example, redesigned the course to incorporate guest speakers from campus support and student services to further destigmatize taking advantage of the available resources and to ensure that each student had personal contact with campus personnel providing the service.

The Creating Partnerships equity-minded dimension is another that appears to require bigger change on the part of instructors. An instructor-student partnership for learning represents a substantial shift from the traditional higher education mindset, which positions the instructor's knowledge as uniquely valuable. This dimension was taken up with the most variability. Markers for this dimension in the course syllabi included offers of support in the event that students faced personal challenges, explicit invitations for students to provide feedback on how the course could be improved to better support their learning, and delineation of role expectations for the instructor as well as students. The English Composition 102 syllabus from Harper College (below) provides an example.

Composition 102

This course is organized so that you and your peers have a lot of freedom to think critically and independently about community and identity, build academic resilience, and build your writing skills through a process of writing. My role in that process includes the following:

Help establish a supportive learning environment for that inquiry,

Create activities that foster critical inquiry and reflection processes,

Offer support and tutorials for your research writing,

Give expert feedback on your ideas and your writing,

Assess your finished product according to learning outcomes established by the college, department, and my own expectations.

Overall, results of the analysis of syllabi paints a picture of early-stage adoption of equity-focused practices that is consistent with a common path of instructional change. Instructors found some initial steps toward equity-focused classroom environments easy to enact quickly, such as a welcoming written introduction or adding links to an existing anti-discrimination policy. Other dimensions that would have represented more substantial changes to class content or practices, such as including diverse perspectives or shifting the dynamics of the teacher-student relationship, are likely to require a longer path. But in this initial effort, some

positive movement on the equity-minded rubric was seen in every one of the six classes analyzed, with the strongest movement seen in a course (Speech 100 at BMCC) that had been the subject of extensive redesign with an explicit focus on equitizing the syllabus as part of this initiative.

Changes in Practice Perceived by Students

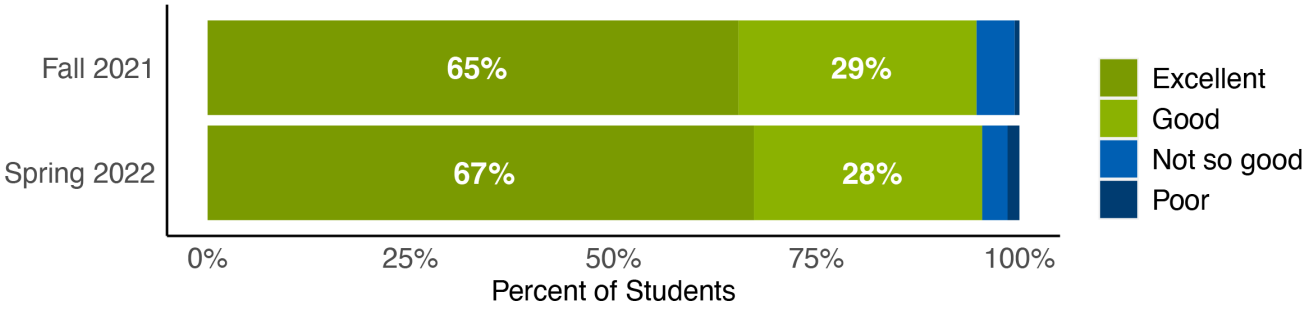
The Equity in Digital Learning Student Survey administered in spring 2021 before the RPP activities commenced and again in spring 2022 elicited students' perceptions of the practices their instructors were using related to both equity and use of digital learning. Aggregated across all five institutions, the survey responses showed no change between the two administrations. This lack of change could be attributed to the relative brevity of the RPP experience and the difficulty of making fundamental changes in one's teaching style. But it is also true that the specific aspects of their course that each instructor chose to work on varied markedly by course and therefore may not aggregate to a significant result for any one practice.

The analysis below examines student survey responses for each course that had a sufficient number of responses both before and after their instructors' RPP experience. In some cases, there was evidence of positive changes in student responses that align to the nature of the work the instructor chose to undertake.

BMCC

The project team at BMCC focused their efforts on a faculty-authored OER textbook and on equitizing course syllabi for their introductory speech courses. This was a tremendous undertaking for a required course taught by more than 50 different instructors. Relatively few students took the RPP's student survey in spring 2021, so we were unable to capture the full picture of changing perceptions of the course. However, an extra student survey administered to classes of 25 instructors involved in RPP-supported activities requested by BMCC for fall 2021 demonstrated that most students felt their instructors were excellent at making them feel like a valued member of the class, and this perception did not change significantly between the fall and spring semesters.

Figure 4: How would you rate your course on… making you feel like a valuable member of the class? (BMCC)

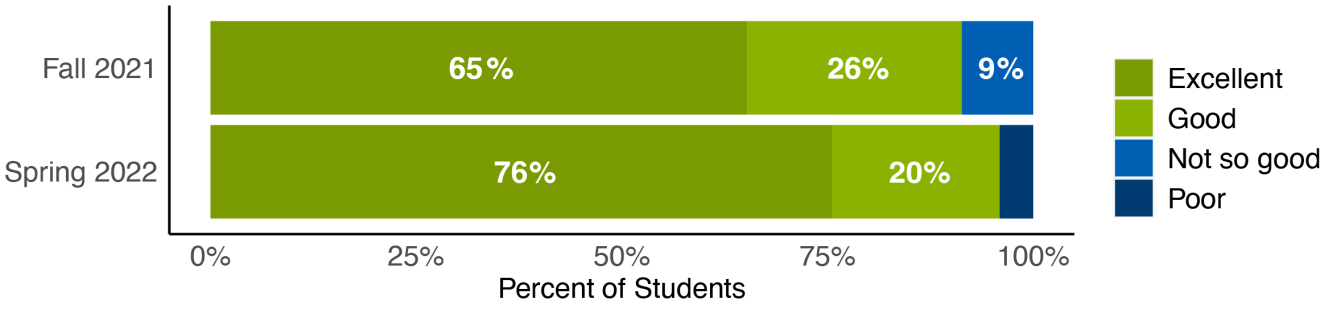


Fall 2021 n = 341, Spring 2022 n = 480

Harper College

Harper College implemented a Redesigning for Equity course as part of their Academy for Teaching Excellence. Like BMCC, Harper had a low survey response rate in spring 2021 and chose to administer the Equity in Digital Learning Survey in fall 2021. The Harper team leveraged the interactive survey data dashboard provided by Digital Promise to compare fall 2021 survey responses of students with instructors who had taken the Equity Teaching Academy curriculum the prior summer to responses of students with instructors who had not. Some sizable differences were identified. Asked whether the course included assignments that allowed them to apply course concepts to things they care about personally or professionally, 94 percent of students whose instructors were in the Equity Teaching Academy responded affirmatively compared to 74 percent of students in other instructors' sections. Similarly, 87 percent of fall 2021 students in the classes of Equity Teaching Academy instructors reported being satisfied with their course compared to 75 percent of students in other sections. With continued involvement in RPP activities including the Equitizing Your Syllabus activity, participating Harper instructors made further progress between fall 2021 and spring 2022. As shown in Figure 5, Harper saw an increase in the proportion of students judging that course materials did an excellent job of representing diverse individuals, although given small sample sizes, this change was not statistically significant.

Figure 5: How would you rate your course in terms of… use of materials or content representing diverse individuals? (Harper College)

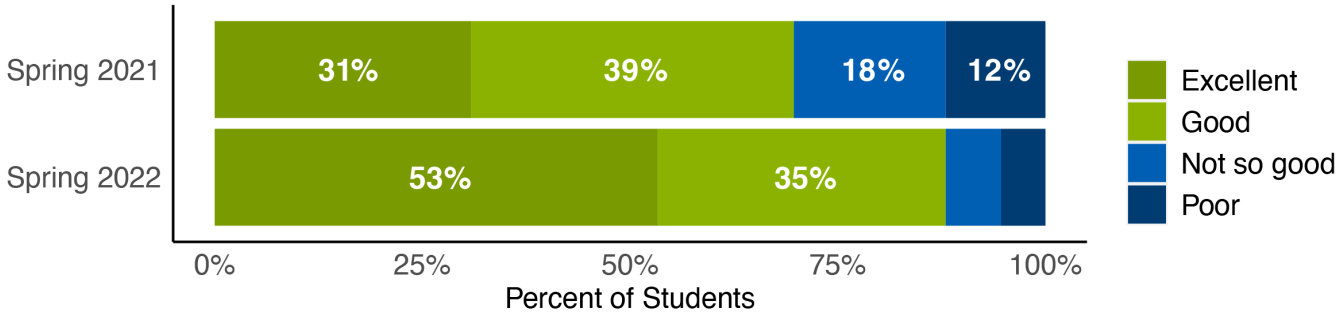


Fall 2021 n = 49, Spring 2022 n = 69

JSU

JSU course teams focused on an equity-minded course syllabus and several specific instructional practices: technology-supported formative, performance-based assessment; small-group work; and frequent elicitation of student feedback about the course. Several survey items showed dramatic differences between the perceptions of students who took a course in spring 2021 and those who took it in spring 2022. In the chemistry course, for example, the proportion of students reporting that the instructor did an excellent job of welcoming recommendations for improving the course rose from 31 percent to 53 percent, $p < .001$.

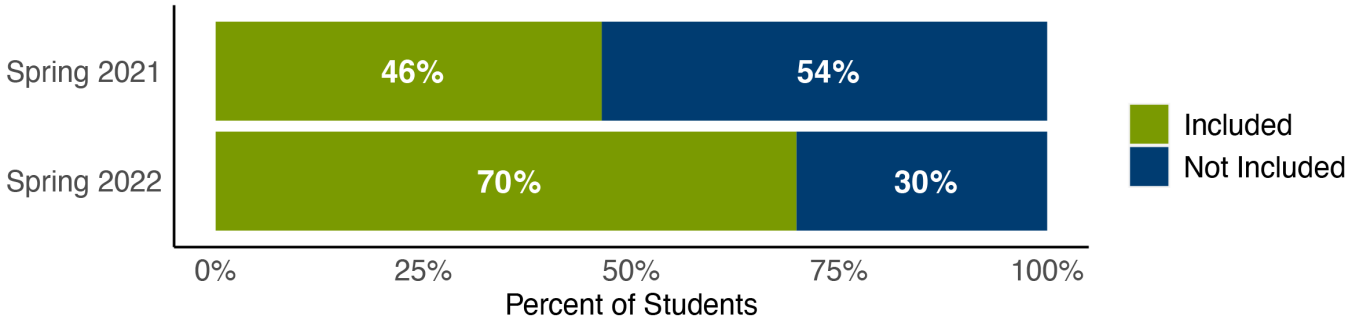
Figure 6: How would you rate the instructor on… welcoming recommendations for how to improve the course? (JSU Chemistry)



Spring 2021 n = 75, Spring 2022 n = 175

The college algebra survey responses reflected a major change in the instructor's pedagogy. There was a dramatic increase in the proportion of students reporting that the class included time set aside for working in small groups, $p < .05$. (There were not enough students in the participating instructor's English course to support reliable estimates for the two surveys.)

Figure 7: Which of these are included in this course?… Time set aside during a live class for work in small groups or pairs (JSU Algebra)

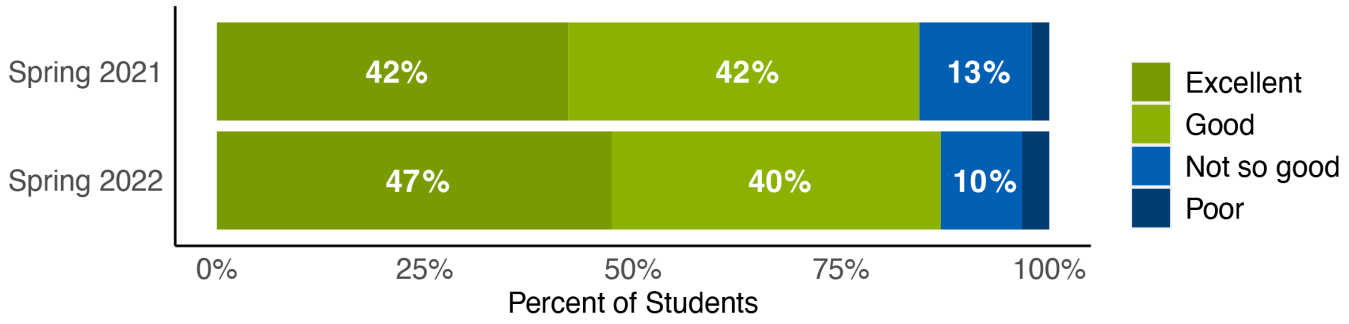


Spring 2021 n = 63, Spring 2022 n = 56

NMSU

The NMSU project team leveraged podcasting technology and GoReact for Communication assignments they redesigned to give students choices in how they demonstrate their understanding of the course content and to connect to current social issues. Their student survey results suggested that their assignment redesign efforts were having some success in making the course content more interesting to students, but the difference was not significant statistically.

Figure 8: How would you rate your course on… including activities that stimulate your curiosity? (NMSU)

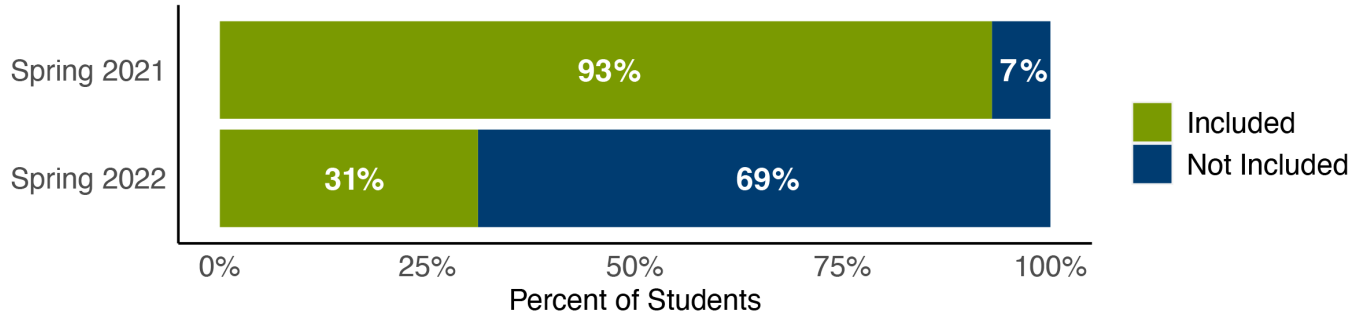


Spring 2021 n = 215, Spring 2022 n = 282

UMBC

The integration of Realizeit practice and formative assessments into one of UMBC's gateway chemistry courses coincided with the return to in-person instruction in spring 2022. The instructor reported that in spring 2021 she had invested her time in frequent outreach to individual students because she could not see them in class. In spring 2022 she relied upon their time together to forge the instructor-student bond and make her aware of student struggles. This difference in instructor practice was reflected in students' responses to a survey item about whether they experienced personal messages from the instructor, $p < .001$.

Figure 9: Which of these are included in this course?… Personal messages from the instructor about how you're doing in the course (UMBC Chemistry)

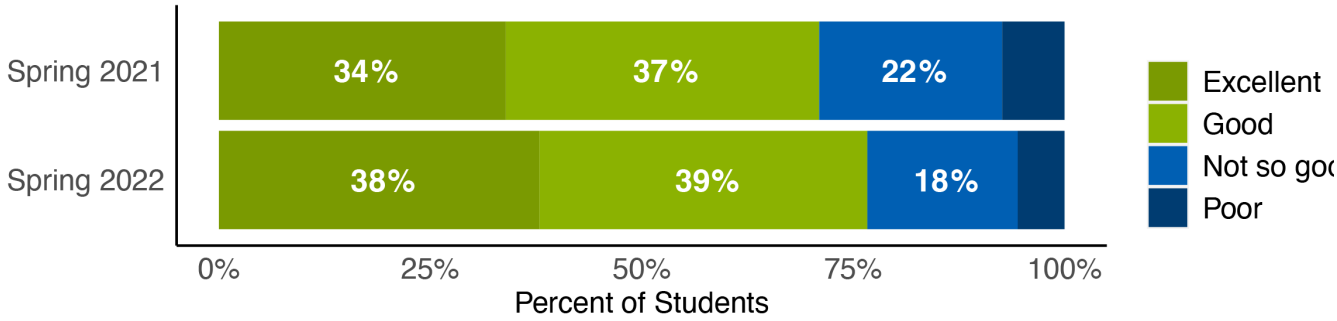


Spring 2021 n = 695, Spring 2022 n = 738

Although spring-to-spring survey responses to other survey items showed much smaller differences, they did suggest that spring 2022 students had more negative perceptions of the chemistry course than spring 2021 students did. In turn, these results imply that more frequent personal messages from the instructor in 2021 may have been positively received by the students.

For the physics gateway course, the UMBC team noted during the data dive that many of their students did not feel they got helpful feedback on their work. Several instructors put considerable energy into improving this aspect of their practice in the 2021-22 academic year. Student survey responses suggest that their efforts were starting to make a difference in student perceptions, $p < .05$.

Figure 10: How would you rate your course in terms of… helpful instructor feedback on your drafts or works in progress (not just a grade)? (UMBC Physics)



Spring 2021 n = 596, Spring 2022 n = 772

BLIPOC Students' Perceptions of Course Quality

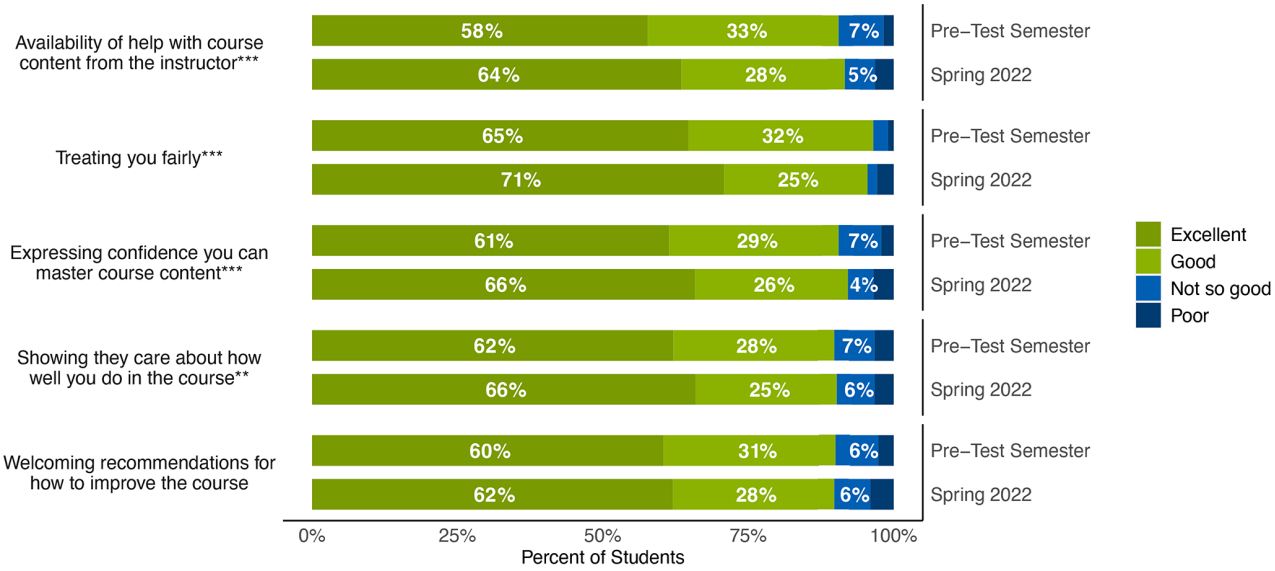
As noted previously, examining survey responses for all students in the RPP courses in aggregate revealed no across-the-board changes in the perceptions of students in courses before the RPP activities (in spring 2021 for four of the institutions and fall 2021 for two) and those after (in spring 2022). The picture that emerges is different, however, for the subset of responses from students who self-identified as Black, Latinx, Indigenous, or other person of color (BLIPOC).

Across the five institutions 4,738 students completed the survey. To enable us to identify BLIPOC students, a Racial Identity question asked students to self-identify with options of American Indian or Alaska Native, Asian, Black or African American, Hispanic/Latinx, Native Hawaiian or Pacific Islander, White, and Another Race Not Listed Here and instructions to select all that apply. Almost all students (90 percent) selected a single racial identity, and a very small portion declined to answer (2.6 percent).

Students who identified as American Indian or Alaska Native, Black or African American, Hispanic/Latinx), Native Hawaiian or Pacific Islander, or Some Other Race were included in the BLIPOC analysis. Additionally, any student who selected any of those identities in combination with Asian and White was also included. Students not classified as BLIPOC were those who identified as White, Asian, or White and Asian, and students who opted not to reply. The final subsample of students who self-identified as BLIPOC numbered 2,114 students (45 percent of all respondents). In aggregating student responses across institutions, institutional response rates were unit-weighted.

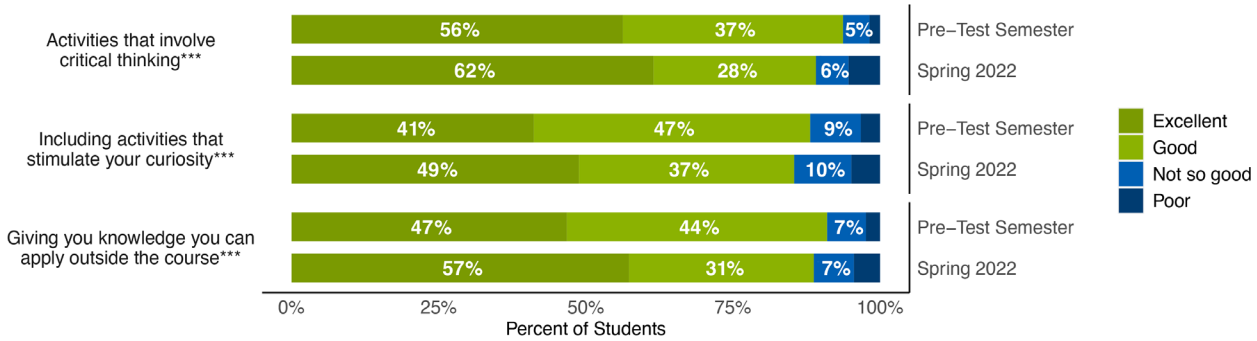
The figures below all demonstrate positive, statistically-significant effects on BLIPOC students' course experiences related to elements of culturally-responsive teaching from pre to post. In each case, students were asked to rate the degree to which the course implemented a given element.

Figure 11: BLIPOC students' perception of instructor-student partnership



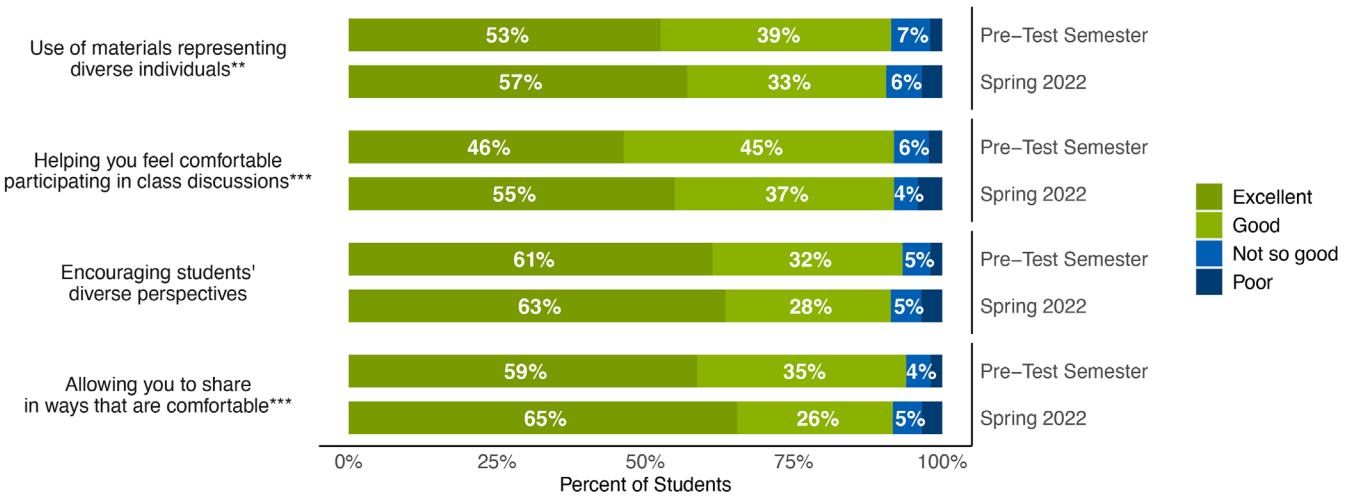
Pre-semester survey sample size ranged from 949–999 for different survey items.
Post-semester survey sample size ranged from 1,111–1,113 for different survey items.
*** Statistically significant; p < 0.01*
**** Statistically significant; p < 0.001*

Figure 12: BLIPOC students' perceptions of cognitive engagement



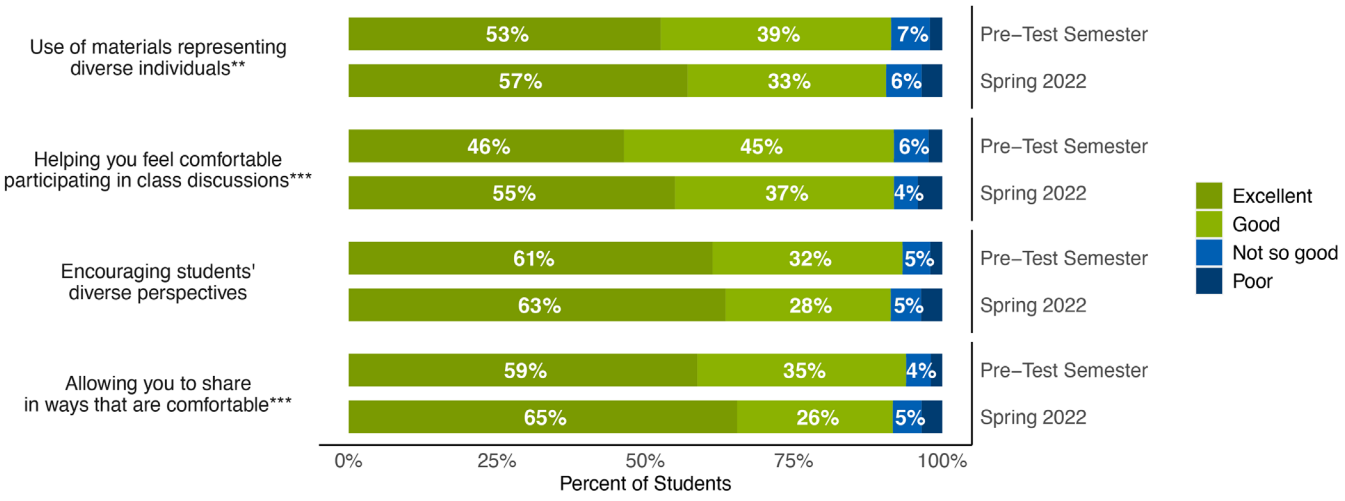
Pre-semester survey sample size ranged from 995–999 for different survey items.
Post-semester survey sample size ranged from 1,111–1,112 for different survey items.
**** Statistically significant; p < 0.001*

Figure 13: BLIPOC students' perceptions of re ecting and respecting diversity



Post-semester survey sample size ranged from 1,049–1,112 for different survey items.
*** Statistically significant; p < 0.01*
**** Statistically significant; p < 0.001*

Figure 14: BLIPOC students' perceptions of course outcomes

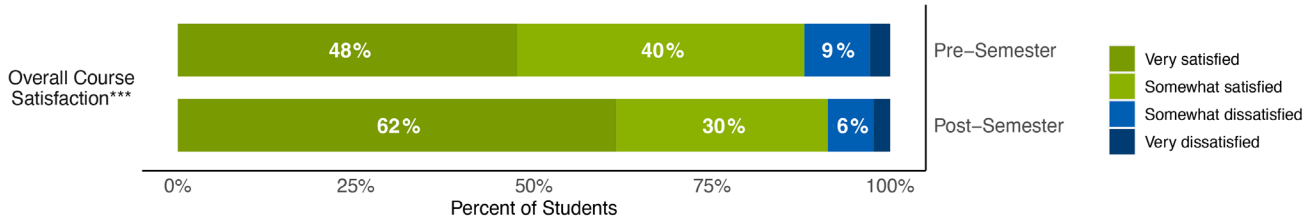


Pre-semester survey sample size ranged from 995–996 for different survey items.
Post-semester survey sample size ranged from 1,110–1,112 for different survey items.
*** Statistically significant; p < 0.01*
**** Statistically significant; p < 0.001*

In her widely cited book on equity-minded teaching, Zaretta Hammond (2015) argues that intellectual rigor is core to culturally responsive teaching. To prepare students from underserved communities for rigorous and independent learning, Hammond recommends a set of practices including connecting new content to culturally relevant examples, using formative assessments and feedback, reconstructing the student-teacher relationship as a partnership, and creating an environment that is intellectually and socially safe.

BLIPOC students' responses to individual Equity in Digital Learning Survey items addressing practices such as these show a significantly more positive perception of their courses after the instructors engaged in the Equity and Digital Learning RPP activities. The overwhelming picture of BLIPOC student experiences painted by the survey data as a whole is one of experiencing greater respect for diversity, an increased sense of partnership with the instructor, deeper cognitive engagement and learning, and a stronger sense of belonging in the classes instructors taught after their RPP experience. This dramatic improvement in BLIPOC students' perceptions of the courses that RPP teams worked on is reflected also in BLIPOC students' ratings of their overall satisfaction with their courses.

Figure 15: BLIPOC students' overall satisfaction with course



Pre-semester survey n = 999
Post-semester survey n = 1,114
**** Statistically significant; p < 0.001*

It should be remembered that different students took the survey in the pre-RPP and spring 2022 semesters, but with over 1,000 BLIPOC students surveyed at each time period, it is highly unlikely all of these differences occurred because of differences in the student samples. Taken as a whole, the differences in course perceptions of RPP instructors' BLIPOC students before and after participation in the RPP provide an encouraging early indicator that good-faith efforts to provide more culturally responsive instruction supported by technology can improve students' course experiences and their perceptions of what they gained from the course.

V. RPP Impacts on Student Grades

As it was initially conceived, the Equity and Digital Learning RPP sought to improve both the quality of educational experiences (described in the previous chapter) and the resulting academic outcomes for students from marginalized communities. Although we considered the seven months between the start of RPP activities and the beginning of the spring 2022 academic term too short to be likely to yield measurable academic improvement,[4] the RPP was intended to model continuous improvement processes, including regular inspection of course outcomes disaggregated by key student characteristics.

Digital Promise requested course grades and demographic and prior achievement data for students in the RPP focus courses in spring 2021 and in spring 2022. Using criteria and analytic methods they have applied in previous course redesign research (Digital Promise, 2022), analysts calculated the difference between course grades (on a 0–4 scale) in standard deviation units for 11 courses with adequate sample sizes and student data from pre- and post-RPP classes.[5] In addition, two courses provided spring 2022 data for concurrent comparisons of grades for students in course sections taught by instructors who participated in the RPP and by instructors who had not participated. All of the analyses controlled for any differences in prior student academic achievement, Pell eligibility (a proxy for low income), race/ethnicity, gender, full- or part-time enrollment, and whether the student had attempted the course before. Out of the 13 contrasts in the analysis, three were statistically significant in a positive direction, and two were significant in a negative direction, with the majority of courses showing no significant difference between spring 2022 and spring 2021 in terms of course grades.

As expected, the data do not suggest statistically significant gains on average for students in RPP classes in the first year of implementation. However, there were instances of positive trends suggesting that the RPP equity-minded practices have promise. At Harper College, for example, students in spring 2022 English 101 classes taught by faculty who had participated in the Equity Teaching Academy in summer 2021 had a higher likelihood of earning an A, B, or C than did their counterparts in the same course taught by faculty who had not participated. Though not significant statistically, this positive difference in student outcomes buttressed support for the Equity Teaching Academy within the college. In addition, course pass rates for Black, Latinx, and first-generation students in English course sections taught by faculty who had participated in the Equity Teaching Academy in summer 2021 tended to be higher than those of their counterparts in the same course taught by the same faculty in spring 2021, with the difference for Latinx students in English 102 attaining statistical significance.

4. Measured impacts on course grades during this period are also complicated by the varied timing of COVID-driven periods of online instruction, both in colleges leading up to the intervention and in students' later years of secondary school.
5. Digital Promise developed a statistical model to control for differences in prior academic achievement (by far the strongest predictor of course grade), Pell eligibility (a proxy for low income), race/ethnicity, gender, full- or part-time enrollment, and whether the student had attempted the course before. Digital Promise analysts computed estimates of the course outcomes for the two groups only if differences in these student characteristics in the pre- and post-RPP sections were small enough to be controlled statistically (i.e., less than .25 standard deviation). The analysis also required a minimum sample size of 30 students with complete data in each group being compared.

Making student outcome data visible in the working sessions conducted by Digital Promise led instructors to think more deeply about the changes they had made and next steps for refinement.

For example, one college's data showed a sizable proportion of enrolled students failing chemistry in spring 2022. Fail rates were particularly large for Pell and first-generation students. At the data dive with Digital Promise, the course lead shared her observation that some students were trying to do the online portion of the class over a cell phone (sometimes even from a place of employment). She voiced her plan to share the findings discussed at the data dive during a departmental meeting to illustrate the problems many students are having with online classes and advocate for having a higher proportion of the class taught in person.

Eight of the redesigned courses had large enough enrollments of BLIPOC students to meet our requirements for generating reliable estimates of course grades for these students of color. With smaller sample sizes, a difference between grades in the two semesters (in standard deviation units) would have to be larger to attain statistical significance. In our analysis of BLIPOC students' grades in the eight courses with adequate samples, only outcomes from the two largest courses attained statistical significance. The BLIPOC student average grade in BMCC's Speech 100 course was higher in spring 2022 than in spring 2021 (E.S. = 0.125) as was the BLIPOC average grade in UMBC's Chemistry 102 course (E.S. = 0.203). An earlier UMBC internal analysis of fall 2021 grades in the latter course also found that more BLIPOC students earned As in fall 2021 chemistry (the first semester of implementation of RPP-inspired changes) than in earlier fall terms.

VI. Reflections on the Research-Practice Partnership Experience

This section reflects on participants' experience of the Equity and Digital Learning RPP from two perspectives: Digital Promise's model of Inclusive Innovation, which focuses on equity, and Henrik et al's (2017) Dimensions of a High-Performing RPP, which focuses on the workings of an RPP.

Tenets of Inclusive Innovation

Digital Promise's Center for Inclusive Innovation has articulated a set of processes for addressing grand challenges in education through equity-driven, scalable research and development (R&D) that engages stakeholders in designing for impact. The resulting model of Inclusive Innovation (Angevine et al., 2019) draws upon concepts of research-practice partnership but goes beyond them in prioritizing the experiences and expertise of community stakeholders. The Center for Inclusive Innovation has identified six core tenets of the approach:

- Research and design teams are co-led by stakeholders who are reflective of the diversity of communities and schools.
- Challenges are co-researched and solutions are co-designed to address issues the community deems important and build on what is already working within communities and schools.
- Context expertise is prioritized to center the history, culture, and perspectives of those with lived experience relevant to the challenge.
- The intersection of race and poverty is addressed throughout the design of solutions to acknowledge the inequitable conditions impacting communities.
- Progress is realized when community stakeholders have access to, can participate in, and benefit from the created solutions.
- Intentional capacity building purposefully sustains equity-centered research and design practices.

The Equity and Digital Learning RPP was not designed as an explicit demonstration of Inclusive Innovation (see White, 2022 for descriptions of initiatives that were), but the tenets of the approach help us consider the strengths and weaknesses of our research-practice partnership from an equity perspective.

Stakeholders representing the community's diversity serve as co-leaders. The diversity of their student bodies was a major consideration in selecting higher education institutions for the RPP. The identification of project leads within those institutions was left to the institution, but the leads who came forward (and the participating faculty) were highly diverse in terms of race/ethnicity, age, teaching field, and gender identity. More intentionality was evident in the way in which Digital Promise structured the sharing of power within the RPP. Digital Promise left the specifics of each higher education institution's

equity and digital learning focus open enough that each team could craft a course improvement strategy that aligned with their institution's strategic goals as well as the characteristics and circumstances of their students. The RPP organizers also opted to work with digital learning broadly defined, including the use of any digital technology as an integral component of student learning, rather than focusing only on a particular tool or on adaptive courseware (which had been the focus of the first two years of Every Learner Everywhere work).

This choice elevated the leadership role of each IHE partner, allowing them to identify and work on an equity and digital learning problem of practice they regarded as important within their institutional context. The words of one college's project lead in an interview with an external researcher illustrate the sense of ownership the practitioner partners had:

> *We communicate with [the Every Learner Everywhere organizations] what we would like to do, what we're doing, and they enhance, they add on, so I think we drive the practices that are taking place.*

College teams also had broad latitude in how they conceptualized equity. For some teams, whose institutions had strategic goals related to making education financially accessible to more students, equity in digital learning meant developing and incorporating open-access course materials. For other teams, achieving equity meant changing instructional practices to create a more inclusive learning environment for students, which aligned with their institution's strategic goal of creating a welcoming educational experience for all students.

Challenges are co-researched and solutions are co-designed. A corollary of sharing leadership and decision-making is that research partners do not drive all decisions about what gets studied or what data are collected and analyzed. Digital Promise researchers solicited their education partners' requests for ways in which they would like to see their student survey and course success data disaggregated. Some institutions wanted to examine results for different course modalities (e.g., online versus face-to-face) or term lengths, or for different sets of faculty, and these data disaggregations were provided for both student survey and course outcome data. Digital Promise also responded to education partners' requests for additional data collections. For example, because the necessary agreements for administering the Equity & Digital Learning Survey to students were achieved very late in the spring 2021 term for BMCC and Harper College, relatively few of their students responded to the initial EDLS administration; as a result, both colleges requested (and received) a survey of their fall 2021 students. In addition, BMCC asked Digital Promise whether an expanded cohort of 25 faculty teaching their speech course could be given a faculty survey in fall 2021 and then again in spring 2022 to capture changes in faculty attitudes, and Digital Promise developed and administered the requested instrument.

Context expertise is prioritized. Inclusive Innovation requires honoring and prioritizing the expertise that comes from lived experiences relevant to the challenge. In the case of the Equity & Digital Learning RPP, the experiences of BLIPOC and low-income students were given prominence through the solicitation of student course perceptions in the spring 2021 student survey, which was anonymous but asked for self-reporting of racial identity and other characteristics that supported disaggregation of results. Reviewing their student survey findings in June 2021 helped the college teams identify areas in which students

felt their courses were not strong and to identify differences in the perceptions and challenges of digital learning for different groups of students. For example, one team was surprised to find that their Latinx students had less positive perceptions of one of their courses than other students did.

Intersection of race and poverty is addressed throughout the design of solutions. While the data introduced to teams through the RPP (through the survey and course grades) were invaluable for unpacking issues of equity and racial or socioeconomic factors, in many cases the student enrollment in the courses undergoing redesign was not large enough to support reliable quantitative estimates at the intersection of specific race/ethnicity groups and poverty status. Nevertheless, in their interpretations of the data and in their design processes, college team members brought considerable contextual expertise and an acute awareness of specific issues many of their students faced at the intersections of race and poverty. New Mexico State University, for example, serves many students who did not grow up with English spoken at home, including students who were continuing their coursework online from homes in Mexico with poor internet connections. BMCC has large numbers of students coming from non-English-speaking countries who must deal with issues of relocation and poverty at the same time that they are seeking to become fluent in English communication. The expertise of the college team members was an essential enabler for the RPP's ability to uphold this tenet of Inclusive Innovation.

Community stakeholders have access to, can participate in, and bene t from the created solutions. The primary stakeholders for the Equity and Digital Learning RPP were the students taking the courses taught by participating faculty. During 2021–2022, over 16,000 students were enrolled in courses that were changed in direct response to participation in the project. Equal numbers of students can be expected to benefit from the changes in teaching practice in the coming years.

Intentional capacity-building purposefully sustains equity-centered research and design processes. RPP activities were designed with an eye to capacity building for both practitioners and researchers. The RPP structure let college teams lead the diagnosis of the roots of student struggles in their courses and the design of new approaches to addressing them. At the same time, college team members were provided with course-specific student data they had never seen before, summaries of relevant prior research, and examples of what practitioners at other colleges were doing that increased their understanding of their education challenge and toolkit of potential responses.

One participant described the importance of the data provided by the project:

> *Relying on our own institutional research data, it's not really helpful and beneficial for us just because a lot of data is not just for our department or just for one course. So, with this particular collaboration we actually get to administer surveys … that can [provide] meaningful data that we can draw from and it's very course-specific…so we can play around with a lot of different variables to really tease out the things that we're trying to address.*

Through the cross-institutional RPP experiences, members were able to see and appreciate different ways in which equity challenges could be addressed. For example, during an inter-institutional collaboration session, project teams from New Mexico State University and BMCC shared how their understanding of classroom equity had shifted over the course of their engagement in the RPP. Specifically, their new view

of classroom equity expanded beyond the attainment of passing course grades to the implementation of course structures that position each student's individual and cultural characteristics as communal assets. While their actual implementation of these structures was still uneven at the close of the funding for the RPP, project teams said they had gained an appreciation that such a definition of classroom equity requires a commitment to building trust, valuing differences, and deepening the instructor-student partnerships.

Grounding the RPP work in the baseline results of the Equity in Digital Learning Survey helped project teams center their course redesign efforts on improving students' learning experiences. Teams came to the work with a coarse-grained view of student success along the lines of race/ethnicity. With its focus on using data on student course experiences and outcomes, the EDLS functioned as a model that participants internalized and started using in new course improvement efforts. At Harper College, for example, the EDLS data collection and data dive experiences were adopted for new course redesign teams launched as part of the Academy for Teaching Excellence in spring 2022. A co-lead for the Harper team explained the following:

> *This group of people [who have been] doing the course redesign, with your guidance in terms of using data and the survey that we did and all the PD that we had, we are going to serve as a model, as planned, for the people in this [new Academy] course. . . . So we're one step ahead of them so we'll be able to share with them and support them.*

Dimensions of a High-Performing RPP

To complement the above reflection on the Equity and Digital Learning RPP with respect to the tenets of Inclusive Innovation, this section of the report considers the partnership's strengths and weaknesses with respect to five qualities of a high-performing RPP identified by Henrik et al. (2017):

1. Building trust and cultivating partner relationships
2. Conducting rigorous research to inform action
3. Supporting achievement of goals within the partner practice organization(s)
4. Building capacity for partnership work for participating researchers and practitioners and their respective organizations
5. Producing knowledge that can inform educational improvement efforts more broadly

Although the language is different, some of these RPP quality dimensions (1, 3, and 4) overlap conceptually with tenets of Inclusive Innovation.

Builds trust and cultivates partnership relationships. Both in interviews with an external evaluator and in a survey conducted by Every Learner Everywhere, members of the higher education institution project teams praised the research-practice partnership for building trust among participating organizations. Some noted specifically that they were comfortable with the level of "power sharing" among participating organizations. Grounds cited for these perceptions were the opportunities to present their work and perspectives at cross-RPP meetings and the fact that they could shape the focus and nature of the

research on their campus. Participants reported feeling "safe" expressing their views in RPP meetings and that they felt their expertise was recognized and respected.

Conducts rigorous research to inform action. As noted in the description of RPP activities, participating colleges worked with Digital Promise to administer a student survey and examine course grades both before and after commencement of the RPP course improvement activities. Data from the initial survey administration in spring 2021 and student grades from that semester were examined not just for students as a whole but also for particular groups of students defined by race/ethnicity, low-income status, or other variables of interest to instructors (e.g., course modality). When comparable data for spring 2022 became available, Digital Promise ran analyses comparing student perceptions and outcomes for the two terms, using an analytic model that controlled for any pre-existing differences on an extensive set of variables (prior academic achievement, Pell eligibility, race/ethnicity, gender, age, full- or part-time enrollment status, and whether the student had taken the course before). In this way, the research conducted by the RPP helped the course redesign teams avoid the pitfall of attributing differences stemming from differences between student cohorts to differences due to instructor practice. This level of analysis was new to all the teams.

Supports achievement of goals within the partner practice organizations. The leeway provided to partner practice organizations made it possible for them to use the RPP funding and structure to enhance and accelerate work on existing organizational goals. Harper College, for example, amplified the work it was already doing with its Academy for Teaching Excellence. BMCC was already committed to moving to open educational resources (OER) in order to save students the cost of a textbook and to have the leeway to make their course materials culturally relevant and trauma-informed. The institution's $25,000 subaward was used for instructor stipends for authoring and editing chapters in a new OER text for the course as well as revision of course syllabi to reflect the dimensions of the Equitizing Your Syllabus workshop offered as part of the RPP.

Builds capacity for partnership work for participating researchers and practitioners and their respective organizations. Many of the individuals interviewed by the external evaluator reported that the RPP had resulted in new or strengthened relationships with internal colleagues. Some of the course redesign teams held regular internal team meetings, usually weekly or biweekly. In addition, the two institutions that worked with instructors from multiple departments (JSU and UMBC) both reported examples of ideas spreading across departments.

College teams were unanimous in their expectation that their RPP work would lead to broader and sustained impact within their organizations, an indication that they saw an increase in organizational capacity. Some foresaw spillover effects on the ways in which they and their colleagues taught other courses (i.e., not just those that were the focus of RPP work). Project leaders in particular saw potential for broader institutional change through demonstration of new models for collaborative initiatives and ways of thinking about equity and digital learning.

On the researcher side, the Equity and Digital Learning RPP was the first experience of a research-practice partnership for many of the researcher participants. Researchers had opportunities to hone their active listening skills, drawing out the knowledge instructors had acquired through working with students in

their courses, and asking questions rather than telling. They learned to share leadership in deciding what questions to study and how to look at the data and its implications for practice. Researchers also became aware of equity nuances in student experiences and classroom dynamics. For example, they learned about one course that was conceptualized originally as a means of helping students whose home language was not English to lose their accents and sound more like members of the dominant culture. Now the course is envisioned as helping all kinds of students share their stories, and the ability to understand accented English is considered an essential skill for the 21st century.

Produces knowledge that can inform educational improvement efforts more broadly. In addition to generating insights that can be used for improvement efforts within participating practitioner organizations, an RPP ideally will generate findings and know-how that can be applied in other organizations and settings. This is not to say that the exact same instructional materials or instructor practice will be used everywhere but rather that the RPP experience generates concepts and hypotheses that can be adapted and tested within other improvement efforts. RPPs produce potentially generalizable knowledge both about how to conduct an effective RPP and about the RPP's focus—in this case redesigning courses with a technology component to better support BLIPOC and low-income students. The major insights the Equity and Digital Learning RPP offers in both of these areas are described in the section below.

VII. Looking Forward

Prospects for Sustaining and Scaling Equity and Digital Learning Practices

Reflecting on their work as part of the RPP, some participants expected lasting impact in the form of newly created resources or course redesigns which would live on beyond the project. Others foresaw spillover effects on the ways in which they and their colleagues taught other courses (i.e., not just those that were the focus of RPP work in the fall). For example, at Jackson State University, English faculty member Laura Miller used Equitizing Your Syllabus rubrics for her own first-year English course and subsequently shared them with the university's undergraduate advisory committee for use in evaluating proposed new course curricula. The tool was immediately useful to the committee, which was responding to student feedback about Euro-centric, second-year English courses and working to make the courses more globally inclusive.

Team leaders at several campuses talked about the potential for broader institutional change catalyzed by the RPP's demonstration of new models for faculty collaboration and ways of thinking about equity and digital learning. These leaders felt that the student perception and course outcome data developed as part of the RPP gave them a "big stick" to take into departmental meetings and use to advocate for change.

Implications for Future Efforts

Research-practice partnerships have the virtue of bringing together the capacities and tools of researchers, instructors, and academic leaders to pursue meaningful change. At the same time, RPPs have roots in improvement science and do not impose unrealistic expectations that something new will have all of its desired impact the first time it is tried. Rather, a process of iteration informed by data is to be expected.

The Equity and Digital Learning RPP demonstrated the willingness of higher education faculty and staff to sign on to this new kind of experience, given a set of overarching goals they care about (in this case, teaching in more equitable ways with the support of digital tools). The areas in which teams chose to focus in their RPP work suggested that most teams saw equity-minded instruction as a more important focus than the use of digital learning tools per se. This suggests that future institutional change efforts lead with equity rather than with a presumed technology solution. We also learned that the financial support offered to participating institutions ($25,000), while relatively modest, was a significant enabling factor. It gave the colleges' project leads resources they could use to incentivize staff for committing extra time to the project and raised the status of the RPP work within their institutions. At the same time, the financial support reinforced explicit agreements setting forth RPP expectations (including data collections and data sharing) and helped project leaders keep their teams on track, even with the many other things faculty were dealing with as the COVID epidemic continued into AY 2021–2022.

A key prerequisite for a successful RPP is building trust among the partners, and reports from project teams indicated that the Equity and Digital Learning RPP did this quite successfully. Key to this endeavor was acknowledgement by the Every Learner Everywhere partner organization staff that they were learners in this area and would be "journeying alongside" the educator partners rather than imparting answers. In addition, launching RPP team activities with the collection of student data and the discussion of data disaggregated for different kinds of students with individual college teams proved useful in highlighting equity issues without casting blame. Project teams were deeply interested in their student data. As described earlier, several teams requested additional data collections (student and faculty surveys in fall 2021) not called for in the RPP contractual agreements.

The Equity and Digital Learning RPP experience confirmed the conclusion drawn from earlier education RPPs that more extended engagements are beneficial (Farrell et al., 2022). In less than 12 months, Equity and Digital Learning college teams made solid progress in making the spring 2022 course experience more positive for students of color and those from low-income backgrounds. That change was accompanied by improvements in these students' course grades for only a few of the courses, however. More refinements of approach and iterations with additional student cohorts would help teams deepen their understanding of root causes for students' failure to thrive in their gateway courses and enable instructors to learn from peers teaching classes where BLIPOC and low-income students have high likelihoods of course success.

From a funder's perspective, research-practice partnerships are resource-intensive and take multiple years to impact student outcomes. But one could argue that these features hold true for any initiative that has ever made a difference in the American education system. There is no shortcut to transformation and significant improvement. Arguably, the best prospects for change at scale lie in supporting and publicizing demonstrations of intensive collaborative, data-informed improvement efforts.

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Glossary

Adaptive courseware—a digital platform used by students to access and engage with content for a specific course. It includes features such as graded/ungraded assessments, practice exercises, highlighting and note-taking functionality, and message boards and forums. Adaptive courseware customizes the learning experience by collecting, analyzing, and using student assessment data to offer personalized learning paths to each student or reports and recommendations to instructors.

Capacity building—the process of identifying and addressing the full set of needs (e.g., personnel, financial, technological) associated with achieving the project outcomes

Continuous improvement—an iterative, data-informed process for evaluating, refining, and implementing actions to achieve incremental progress toward an aspirational goal

Culturally responsive practice—instruction that actively leverages each student's culture as a learning resource

Digital learning—learning that is supported by digital platforms, tools, systems, or applications, including, but not limited to, blended and online learning

Equity—the state in which students have the access, support, and resources necessary to be successful such that variations in student learning outcomes are no longer predicted by demographic factors

Evidence-based practice—an institutional or teaching practice that research has demonstrated to be effective in achieving the targeted educational outcomes

Gateway course—an introductory course, typically taken during the first two years of college, that a student must receive a passing grade in prior to accessing advanced coursework in a degree program

Marginalized communities/student populations—communities that are excluded from mainstream social, economic, educational, and/or cultural life

Sustainability—the ability for project outcomes to be maintained via institution-based mechanisms and infrastructure

Theory of change—a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context

Appendices

Appendix A: Descriptions of College Partner Activities

Borough of Manhattan Community College RPP Activities

The Context: Borough of Manhattan Community College (BMCC) is a 2-year minority-serving institution with an enrollment of 20,000 that is 90% students of color. The BMCC RPP team focused on their Fundamentals of Public Speaking course (SPE100/102), which is a graduation requirement taught in about 180 sections serving 4,500 students every semester.

The Challenge: Barriers that students face include lack of community, belonging, and purpose in the course, gaps in academic preparation, socioeconomic challenges, and speech anxiety. These barriers are especially acute for minoritized, marginalized, and/or unconventional students in SPE100/102. (SPE 101 course sections are designed for native English speakers while SPE 102 sections are designed for non-native speakers.) Black and Hispanic students withdraw from these speech courses at higher rates than other groups. Both equity/inclusion/racial justice and digital learning were priorities in the department and college prior to the RPP, but there was no guiding framework or consistent set of pedagogical strategies in place to address them.

The Team: Led by department chair Vincent (Tzu-Wen) Cheng, the initial core team included SPE100 professors Anthony Naaeke (who later withdrew from the project due to personal reasons) and Alvin Eng and SPE102 professor Naseer Alomari.

The Approach: The BMCC team focused first on intensifying efforts underway within the department and then on scaling the effort to a much larger number of faculty. Over the summer, the initial core team focused on the OER course materials used in SPE 100/102, revising to better exemplify equity, inclusion and racial justice. Additionally, the team hoped to explore use of digital applications/tools in SPE 100/102 classes as a way to give students choices among multiple ways of learning and how to demonstrate their competencies. The team's plan was to incorporate VoiceThread so student could create podcast segments addressing issues of equity, inclusion, and racial justice. In the fall, Cheng moved to expand the effort, using their institutional RPP honorarium to fund $800 stipends for each of 25 instructors who agreed to participate in a community of learners (COL) around implementing equity-minded practices and digital learning in the public speaking courses at BMCC.

Aspirations for Scale: Cheng hopes to scale the equity and digital learning approaches the team is developing across all SPE 100/102 instructors. He hopes that getting a critical mass of instructors on board will move instructor practice, especially among the many adjuncts teaching SPE 100/102. Using the RPP data on student outcomes and engagement, Cheng is optimistic that they will be able to spread the Equity & Digital Learning practices to other courses within his department and beyond.

Learning from RPP Partners: According to Cheng, the first all-RPP webinar "inspired new ideas" and left the team "fired up." Based on the webinar discussions, the SPE 102 instructor began asking his students for reflections and feedback and developed rubrics to provide students with more useful feedback during his fall course. BMCC's core team of 4 also participated in ATD's Equitizing Your Syllabus workshop. As the team expanded to 25 and began their community of learners (COL) meetings, they asked ATD to present key ideas from the syllabus workshop in their first session and Digital Promise to present on using data for course improvement in the last. They also asked Digital Promise to provide a survey they could use with the 25 COL instructors in Fall 2021 to probe faculty attitudes and practices at baseline and after the COL experience and requested that the RPP's student survey be re-administered in Spring 2022. A joint webinar with New Mexico State communications instructors revealed shared challenges and insights. BMCC, which has been trying to obtain funding for former students to offer supplemental instruction (SI) services in the speech courses, was very interested in the way NMSU has worked to support their teaching assistants and uses those assistants to collect feedback from students.

Accomplishments and Experiences to Date: BMCC successfully recruited 25 speech instructors for their COL, which required participation in biweekly COL meetings, revising their course syllabus, adopting at least one chapter from the new OER textbook in their spring course, taking pre- and post- faculty surveys, and encouraging their students to take the Equity & Digital Learning Student Survey. The five fall COL meetings included a 2-hour session on equitizing your syllabus, three 2-hour discussion forums reviewing draft OER textbook chapters with their authors, and one 2-hour meeting sharing SPE100/102 course-specific equity and digital learning best practices and pedagogical strategies. Folders in Microsoft TEAMS provide a space for COL members to upload their original and revised/equitized syllabi, offer comments/feedback on OER chapter texts, and share exercises, readings, online resources, and pedagogical strategies.

Harper College RPP Activities

The Context: Harper College is a community college located in Palatine, IL. Just over half (51%) of Harper's 12,000 students racially identify as something other than White; over a third are Pell recipients (37%). The college's strategic plan emphasizes equity, and its Academy for Teaching Excellence, their center for teaching and learning within Harper, has been a key group working on these endeavors.

The Challenge: English 101 and 102, the focal courses for this project, exhibit sizable variations in pass rates by race/ethnicity identity. For example, the English 101 Spring 2021 pass rate for White students was 58% compared to 38% for Black or African American students and 45% for Hispanic students. There is also large variation between instructors (e.g., in English 102 the section with the lowest pass rate had just over 25% of students passing compared to nearly 90% in the section with the highest pass rate).

While several instructors for these courses were already seeking to make equity-centered revisions to their sections to address the gaps mentioned above, efforts were not systematic or scalable. The Harper Academy for Teaching Excellence sought to pilot and iterate an Equity Teaching Academy (ETA), a 3-course professional development series in which instructors would examine, reflect on, and redesign for equity. The series offers a systematic approach to revising course sections to include equity-based teaching practices and is formalized to allow for scaling.

The Team: The team was led by Rob Hill, Inclusive Instructional Design Specialist in the Academy for Teaching Excellence, and Stephanie Whalen, Chair of the Academy for Teaching Excellence and professor of English and Interdisciplinary Studies. The three additional faculty members working on the project were Andre Berchiolly, Simona Bonica, and Ana Contreras, all instructors for English Composition 101 and 102. All of these team members are involved with the Art of Teaching for Equity Community of Practice and the Teaching for Equity group's Equity Literacy Project, an online resource for educators.

The Approach: The Equity Teaching Academy was designed as an opportunity for Harper instructors to reflect on and seek to eliminate equity gaps in their sections. It provides a community of practice on campus, a regular opportunity to reflect on data, and guidance for revising courses, as part of a shared equity journey. While the ETA was already in development, Hill and Whalen used the support of the RPP project and the Digital Justice Faculty Learning Circle (DJFLC) to strengthen the ETA by expanding awareness of approaches for equity-centered instruction, providing additional resources and support for participating instructors, and learning from and sharing with other institutions.

Aspirations for Scale: The first iteration of the ETA included mainly instructors who were already champions for equity on campus, and RPP team members were aware that, similar to many colleges, the same faculty regularly engage in diversity, equity, and inclusion professional development at Harper. The team's hope is that the data from the Equity & Digital Learning Student Survey, showing positive differences in student experiences and outcomes directly related to the changes coming from participation in the Equity in Teaching Academy, will inspire further involvement in equity activities beyond the typical champions as time goes on. Additionally, with greater numbers of instructors participating in the Academy and increased scaling of equity practices, the team anticipates greater consistency in student support and pass rates.

Learning from RPP Partners: Hill observed that the Harper team appreciated the discussion questions and hearing from the other institutions during the Equity Minded Teaching workshop. Additionally, Harper participants have also contributed to knowledge sharing and facilitation in the RPP. Bonica and Contreras presented in the Faculty Share & Learn session, and Whalen co-led the Collecting & Using Authentic Student Feedback session.

Accomplishments and Experiences: Fall 2021 has involved Hill and Whalen leading the first two courses of the ETA: Examine for Equity and Reflect on Equity, while preparing for the third in Spring 2022: Redesign for Equity. Additionally, the Equity & Digital Learning Student Survey was re-administered to Harper students toward the end of the fall term to increase the sample size for a baseline comparison (the spring 2021 survey had garnered only about 50 responses compared to about 210 in fall 2021). The data gathered from the fall survey helped guide the aspects of the course that were re-designed and implemented in spring 2022.

Jackson State University RPP Activities

The Context: Jackson State University (JSU) is a 4-year Historically Black College/University (HBCU) and research institution located in Jackson, Mississippi. JSU has an estimated student enrollment of 7,000, approximately 90% of whom identify as Black and an additional 4% as a member of at least one other underrepresented racial group. As of 2020, approximately 75% of JSU students were from the state of Mississippi. While some students come to JSU from excellent public or private high schools, others come from under-resourced schools where they did not receive a full college preparatory experience. JSU describes itself as a learning community for highly capable students, as well as for capable but underprepared students who require a nurturing academic environment.

The Challenge: JSU has a storied reputation as one of the largest HBCUs in the country. At the same time, JSU must provide many of its undergraduates with fundamental skills they did not acquire during their K-12 educational experiences. The RPP team from JSU focused on introductory courses in English, Mathematics, and Chemistry. English faculty were concerned about students entering without college-level writing skills and wanted to increase the percentage of students who successfully complete freshman English and pass the university's English Proficiency Examination required for graduation. In Chemistry, approximately 33% of students who enroll in the course earn a D, F or eventually withdraw. In Mathematics, two previously separate courses were combined into Integrated College Algebra. The instructors saw a need to engage students in problem solving and critical thinking and to make sure the course really focuses on what is needed for future mathematics courses. Across all three disciplines, course completion was a concern, which was intensified by the transition to virtual/hybrid course formats during the pandemic. In addition, faculty across all three departments believed their students could benefit from increased critical thinking exercises, more curriculum-related practice, and augmenting their study habits so they can focus on learning rather than just completing assignments.

The Team: Team leads Dr. Shirley Burnette (Interim Chair, University College Math, Instructor) and Dr. Lynda Brown-Wright (Professor of Psychology) assembled a core team that including Laura Miller and Summer Graces (English), Dr. Naomi Campbell and Dr. Teresa Demeritte (Chemistry), and Stacey Davison (Mathematics). Faculty members on the JSU team were among the most proficient in the RPP in the use of a variety of digital tools to support student learning. The JSU team was also supported by Dr. LaToanya Robinson-Kanonu (IR Contact), Andrea Jones-Davis (Executive Director JSU Online), and Floressa Hannah (Ombudsman in Academic Affairs).

The Approach: Faculty responsible for each of the courses were looking for ways to respond to differences in students' prior preparation without segmenting students by achievement level. They explored ways to promote students' meaningful engagement with course materials and the development of good study habits and metacognition. Digital learning tools were selected to enhance students' ability to achieve these goals. Real-world relevance was an additional theme in the JSU efforts, as was the solicitation and use of feedback from students on their perceptions of new things being tried out in the courses.

Aspirations for Scale: All participating JSU professors intend to make cases for Equity and Digital Learning efforts in other courses in their respective departments. JSU faculty intend to offer training/coaching to their peers in efforts to increase equitable practices across departments.

Learning from RPP Partners: Tips from the Equitizing Your Syllabus workshop were implemented in revisions of the mathematics and English course syllabi. Ms. Davison shared some practices using digital tools that she uses to stimulate engagement in her math class at the first cross-RPP share-and-learn session. Dr. Burnette shared the details of the weekly reflections that JSU has math students complete on Canvas at another cross-RPP meeting.

Accomplishments and Experiences: JSU faculty successfully implemented a variety of digital learning tools across the three courses. In English, faculty worked on equitizing their course syllabi and developed interactive primary source materials that included culturally appropriate exercises and assessments, such as Canvas e-toolkits; adding diversified texts, and removing literature that was not culturally responsive. The English faculty also revised learning outcomes and implemented common rhetorical strategies. Lastly, English faculty developed a common assessment and an augmented rubric for final exams. Mathematics faculty developed and implemented a lifestyle authentic capstone assessment activity that involved making a budget for a college graduate and one for a non-graduate working a minimum-wage job. Mathematics faculty revised this assessment and increased use of Canvas and digital applications such as FlipGrid and NearPod to stimulate student engagement. Use of these digital tools was designed to increase student engagement and encourage students to do less searching for answers via generic internet search engines. In chemistry, faculty teaching in person were able to make iPads available to students, which increased engagement and allowed for better monitoring of course participation. Use of MindTap allowed for increased monitoring of student engagement with materials and student self-assessment of their understanding of content. Multiple assessment innovations were implemented as well: Chemistry faculty provided interim assessments earlier in the semester, allowing for increased insight into student comprehension. Daily quizzes based on previous class lectures were implemented to gauge student engagement with course content and encourage good study habits.

New Mexico State University RPP Activities

The Context: New Mexico State University (NMSU) is a Hispanic-Serving Institution (HSI) serving over 21,000 students. In the 2020-21 academic year, approximately 58% of NMSU students identified as Hispanic, 27% as White, and 3% as Black. A significant number of students are from the surrounding regions; some live across the border in Mexico.

The Challenge: The university's participation in the RPP focused on Speech and Communications courses taught in the Department of Communications Studies. With a sustained enrollment of approximately 600 students each semester, the in-person Speech and Communications class is among the largest at the university. A faculty member holds weekly in-person sessions with all 600 students, who also participate in 20-person lab sessions taught by a teaching assistant (TA) twice a week. There is also 16-week and an 8-week online version of the course, as well as versions for honors and STEM students. The NMSU team's goal was to reduce equity gaps in course success rates in this required course. Faculty believe that providing students with better learning experiences and access to various digital tools within this course will result in a stronger foundation, from which students can better navigate the remainder of their academic experiences.

The Team: Led by Department Head and Associate Professor of Communications Studies, Dr. Greg Armfield, the core team includes 3 additional Communications faculty members: Dr. Gabriela Morales, MxDr. Dae Romero, and Dr. Jeanne Flora.

The Approach: NMSU faculty recognized the need to provide safe space so that students would feel comfortable engaging in course content. The communications professors tried to provide classroom environments that encouraged students to ask clarifying questions and to perceive faculty as approachable. Faculty also wanted to provide experiences with technology-enabled communication to help students develop in-demand skills (e.g., creating podcasts). To this end, lab activities were redesigned to incorporate opportunities to view and analyze various forms of speech and digital literacy exercises. Assignments were also redesigned to reflect more culturally relevant content, including revised vocabulary, and to provide more opportunities for students to focus on different types of communication, increase relatability, and increase opportunities for reflection.

Aspirations for Scale: The project team would like to see the approaches that the lead faculty are taking implemented by the adjuncts who teach communications courses. The team leader reports also that campus leaders are aware of the project and may advocate spreading the approach to additional departments if the experience in Communications Studies is deemed successful.

Learning from RPP Partners: MxDr. Romero reported putting into practice advice from the Digital Justice Faculty Community workshop on soliciting student feedback for course improvement. In addition, a webinar held on December 7 for the Borough of Manhattan Community College's speech faculty and NMSU communications faculty allowed for productive exchange of ideas. Both departments rely extensively on non-tenure-track instructors (teaching assistants or adjunct faculty) to teach their courses and both create and publish their own textbooks to enable tailoring course content to their students and

reduce costs. NMSU expressed interest in BMCC's plan for spreading the Equity & Digital Learning work to adjuncts as a possibility for their department. Morales expressed interest in BMCC's practice of having a special version of the course for students whose first language is not English.

Accomplishments and Experiences: NMSU faculty implemented a number of course refinements. After participating in the Digital Justice Faculty Learning Community, faculty reviewed and revamped their syllabi to incorporate a welcome message and more inclusive language. Faculty also used digital tools to increase student engagement throughout the semester. Jamboards were used to support collaborative student participation and increase thoughtful contributions. Faculty introduced GoReact, a tool that allows students to record their speeches and receive time-coded feedback, into courses taught on campus as well as those online. Mid-semester course evaluations were initiated to provide faculty with feedback about the direction of the course and the potential need to redirect aspects of the course flow. Faculty also learned that TAs need to explicitly explain the rationale for course assignments to increase student engagement.

University of Maryland, Baltimore County RPP Activities

The Context: This minority-serving institution within a state university system serves some 11,000 undergraduate students seeking bachelor's degrees, of whom 51% are students of color. Under its charismatic president, the University of Maryland Baltimore County (UMBC) has had a strong focus on educational equity and the use of data to improve teaching and learning. The chemistry courses that were most involved in the RPP have large enrollments (between 200 and 800 students per term) and were mostly online in fall 2021 because they were too large to permit in-person instruction with social distancing.

The Challenge: While the university's College of Natural and Mathematical Sciences already has a very strong track record of preparing African American students for graduate studies and careers in STEM, faculty believe that more UMBC students could succeed in these studies if they better understood and took responsibility for their own learning. Course success rates for the six chemistry and physics courses involved in the RPP, disaggregated by race/ethnicity, showed gaps ranging from 4% to 16% between pass rates for White students and those for Black or Hispanic students. In addition, both chemistry and physics instructors were grappling with the challenge of motivating their students to use the learning behaviors they would need to master their subjects rather than trying to game the system (i.e., prioritizing earning points toward their grade rather than learning).

The Team: John Fritz, Associate Vice President, Instructional Technology, led an RPP team that included chemistry instructors Sarah Bass and Tara Carpenter and physics instructors Lili Cui, Eric Anderson and Cody Goolsby-Cole.

The Approach: UMBC's two-pronged approach emphasized (1) adopting open educational resources to save students the costs of textbooks and (2) supporting productive practice by using adaptive learning with large banks of formative assessment items customized for the course. Based on their experience, the chemistry instructors believe that any student who engages in regular practice distributed over time will succeed.

Aspirations for Scale: UMBC's RPP action plan called for starting with the first two courses in the chemistry sequence and then applying the same approach in the physics course series. Eventually, UMBC leaders would like to see equity-minded uses of digital learning in all courses within the College of Natural and Mathematical Sciences.

Learning from RPP Partners: RPP data dive conversations around UMBC's student survey and course success data prompted an examination of student DFW rates for CHEM 101 and 102 when taken "on" versus "off" their canonical terms (fall for the former; spring for the latter). UMBC's physics instructors were struck by the fact that their students' survey responses indicated a feeling that they did not get enough feedback, and subsequently focused on providing more feedback during fall 2021 classes. Both chemistry and physics faculty participated in the Digital Justice Learning Circle, during which a physics instructor received peer consulting with tips on how to increase his students' use of practice items.

Accomplishments and Experiences: Chemistry faculty Sarah Bass and Tara Carpenter used OpenStax OER in their CHEM 101 and CHEM 102 courses in fall 2021. In addition, Carpenter authored thousands of assessment items in RealizeIt and introduced them in CHEM 102 in fall 2021. She found that transferring items from Blackboard to RealizeIt was not as seamless as advertised, and she needed to spend hundreds of hours authoring items. However, preliminary analyses of the fall 2021 data for the CHEM 102 classes using RealizeIt were very encouraging. Comparison of scores on three exams taken both by fall 2020 (before RealizeIt practice) and fall 2021 (after RealizeIt practice) found a 10% improvement. What's more, the difference between the average score for White students and that for non-White students on these exams shrank from 10% to 4%. Carpenter described her course redesign work at a fall 2021 cross-RPP share-and-learn session. Bass decided to hold off on authoring CHEM 101 assessment items in RealizeIt until results for the effort in CHEM 102 could be replicated in Spring 22 classes and instead focused her fall activities on continued use of Blackboard's adaptive learning functionality to support large, online exam question banks, as well as implementing equity-minded teaching practices and use of OER, and pursuing Quality Matters certification.

In physics, the four physics courses used the adaptive release function in Blackboard to allow students to move to new content only after they had demonstrated competency on prerequisite material. In addition, Lili Cui introduced OER, replacing the Pearson's Mastering Physics homework system with her own question sets and replacing the two high-stakes exams she had used previously with more frequent, lower-stakes exams for PHYS 111/112. Two other physics instructors, Eric Anderson and Cody Goolsby-Cole worked on trying to increase the amount of feedback their students received by personally emailing students who failed to turn in assignments early in the term. They reported good results from this effort.

Appendix B: Tools Used in the Equity and Digital Learning Research-Practice Partnership

B.1: RPP Opportunity Announcement

The Every Learner Everywhere Digital Equity Research-Practice Partnership

Purpose

Every Learner Everywhere has been working with higher education institutions to improve the quality of teaching and learning in gateway courses. Our mission is to help institutions use new technology to innovate teaching and learning, with the ultimate goal of improving student outcomes for Black, Latinx, and Indigenous students, poverty-affected students, and first-generation students. Our experiences to date have revealed gaps in our understanding of how to integrate culturally responsive practice and digital learning tools to promote equitable outcomes. We—and the field at large—need to figure out how to move from high-level abstract descriptions of desirable features of instruction (e.g., "inclusive" and "technology-supported") to specific practices that designers and instructors can implement. We need experience doing this in multiple contexts in order to advance the field of knowledge and develop and release "tools" for widespread use. At the same time, the COVID-19 experience has brought the depth of the continuing Digital Learning Divide into sharper focus.

No one organization can address these issues alone. With support from Every Learner Everywhere, Digital Promise, Achieving the Dream (ATD), and the Association of Public and Land-grant Universities (APLU) are seeking four higher education institutional partners, at least two of which are Minority Serving Institutions with a strong track record in creating positive campus and classroom climates, to join an 18-month researcher-practitioner partnership (RPP) aimed at fostering innovation and improvement. (A brief explanation of what RPPs are can be found at https://rpp.wtgrantfoundation.org/)

This partnership will:

- Build the foundation for an empirical demonstration of the efficacy of redesigning gateway courses for equity and use of digital learning
- Co-create and try out tools to support this work that other colleges can use to improve their own courses

Student Equity & Digital Learning Survey

Our work needs to be grounded in the needs and lived experiences of today's students. To this end, a centerpiece of the RPP will be administration of a newly developed Equity in Digital Learning Survey (EDLS) to probe students' challenges with digital learning, their sense of inclusion in their classes and efficacy in course subject areas, as well as course practices with respect to digital learning and evidence-based teaching practices. Data collected with this tool will provide participating colleges and universities with insights about their teaching and learning environment and digital learning implementations benchmarked against a national sample.

Benefits of Participation

Participating IHEs will have a unique opportunity to gain insight into the ways in which equity principles are reflected in use of your digital learning technologies and course design. IHEs will also:

- $25,000 institutional honorarium to support course redesign and data collection activities https://www.everylearnereverywhere.org/
- Summer stipends for 2 or more faculty leading course redesign efforts
- Support from Digital Promise, APLU, and ATD to improve practices and achieve more equitable outcomes in technology-enhanced courses
- Membership in a community of like-minded institutions
- Survey data for students in the relevant academic department(s), disaggregated by income level & race/ethnicity

Partnership Responsibilities

With support from Digital Promise, ATD and APLU, institutional partners will:

- Assemble a course improvement project team of multiple faculty teaching the selected course(s), department leadership, and instructional design staff (where available) who want to collaborate with researchers to improve student course outcomes.
- Designate an executive sponsor and project lead (who may be part of the course project team).
- Administer the Equity in Digital Learning Survey to lower-division students in one or more department(s) or to all students in a high-enrollment introductory college class.
- ointly conduct deep dives with researchers into your survey data and administrative data on course outcomes disaggregated by student Pell status, gender, and race/ethnicity as preparation for course improvement efforts.
- Plan and implement changes in the course(s) to address student needs with digital learning and culturally responsive instruction.
- Recruit instructors and students from the selected course(s) to participate in online interviews to understand their perspectives and course experiences.

- Engage in ongoing phone calls and virtual site visits to discuss progress on the action plan.
- Contribute to developing and piloting tools that other teams of college faculty and instructional designers can use to support equitable implementation of digital learning.

Tentative RPP Timeline

Milestone	Estimated Timeframe
Selection of college partners	March 31, 2021
Colleges confirm course(s) to enhance through equitable practices & digital learning and inter-institutional MOUs signed	April 2021
Online EDL survey administered to students	May 2021
Analysis of Student Survey Data	June 2021
Summer faculty stipends; collaborative "data dives" into survey and course outcome data; initial course improvement planning	June – Aug 2021
Enlarged course improvement team continues course refinement planning and associated instructor professional learning	Fall term 2021
OPTIONAL: Participate in joint proposal for an NSF Improving Undergraduate Science Education (IUSE) grant for a second phase of RPP work	Summer/Fall 2021
Implement new version of redefined course(s)	Spring term 2022
Instructors & students participate in interviews	Spring term 2022
De-identified course outcome data submitted to Digital Promise	June 30, 2022
Review course data and plan refinements for future iterations	Summer 2022

Outcomes

At the conclusion of the project, each institution will have redesigned course(s) incorporating research-based principles for effective digital learning and cultural responsiveness, possess data about student perspectives and experiences in these courses, and have a road map for continuous improvement of these and other courses.

To learn more about the researcher-practitioner partnership, please contact Dr. Barbara Means, at bmeans@digitalpromise.org.

B.2: RPP Request for Interest Form

Response to Request for Interest in the Every Learner Everywhere Digital Learning Equity Researcher-Practitioner Partnership (RPP)

Institution: _____

Contact Name, Title, email, phone number for person completing this form:

Proposed Project Team Leader Name, Title: _____

(Individual who would be responsible for managing the implementation process, including working with stakeholders to set the institution's project goals, setting milestones, managing the budget, organizing meetings, and communicating with stakeholders and partners. Could be an academic chair or a course lead or coordinator.)

Executive Sponsor for the RPP Name, Title: _____

(Individual at the highest level of the institution who will advocate for the digital learning equity RPP throughout the process. Could be a provost, vice provost, academic chair, or VP of instruction or student success.)

1. What ongoing efforts at this college or university could be supported/amplified by participating in this RPP?

2. Courses you're thinking would be the focus of the improvement effort under the RPP

Course name	# students enrolled per year	# unique instructors	# course selections per term	Current instructional modalities (online, blended, in-person)

3. Reasons for selecting these particular courses:

4. Please describe any ongoing efforts at your college to help faculty incorporate digital learning tools or platforms into their instruction.

5. Please describe any ongoing efforts at your college to help faculty incorporate culturally responsive teaching practices into their instruction.

6. What would you most like to learn/accomplish from working with other colleges and/or research partners?

7. What do you think other colleges would learn from you?

Resource Note: While this RPP can support a variety of different uses of technology to support learning, the guidance in https://www.everylearnereverywhere.org/resources/adaptive-courseware-implementation-guide/ can be helpful in thinking about the process of improving teaching and learning in introductory courses by incorporating digital learning and equity principles generally.

B.3: Course Theory of Change Rubric

Equity and Digital Learning: Course Theory of Change Template

College/University Name: _____

Course/Department: _____

Prepared by: _____

a. What is the specific student success problem you're trying to solve with this course redesign?	
b. What data show the size of this problem? (e.g., differential success rates in a key gateway course for different student groups)	[You may attach graphs, spreadsheets, or data analyses to address this question.]
c. What factors contribute to the problem and what evidence do you have that each of them is an influence?	
d. What is your strategy for addressing the problem? What role will digital learning play in this strategy? What role will equity-oriented teaching practices play in this strategy? How will this work incorporate student input?	
e. What conditions and supports will need to be in place in order to implement the changes in your strategy?	
f. What early indications that your strategy is on the right track would you expect to see? (e.g., fewer students drop the course, midterm scores are higher than in past semesters, etc.)	

B.4: Equitized Syllabus Rubric

Equity-Minded Practice	Example Supporting Evidence
Welcoming Description: The syllabus includes welcoming through caring and inviting language and tone that values the student. It also conveys sensitivity to students' entering skill level and the instructor's willingness and availability to offer support. The syllabus establishes a culture of respect and inclusion with class norms like including a class anti-discrimination policy and communicating a commitment to talking through racist and discriminatory comments or behavior that arise in class or on campus.	○ Uses language and tone that makes students feel cared for and valued ○ Faculty acknowledges their role and describes ways in which they will support students and their success in the course ○ Language validates and recognizes students' entering academic abilities and skill level, notes that aspects of the course can be challenging, and suggests that it is acceptable and beneficial for students to seek help, whether or not they are struggling. ○ Faculty convey a willingness to work individually with students who need additional support. ○ Presents norms and guidelines that create community and an inclusive environment that allows for respectful class discussion and discourse of differing perspectives, ideas, and opinions. ○ Include a class anti-discrimination policy. ○ Communicates commitment to talking through racist and discriminatory comments or behavior that arise in class or on campus. Other evidence:
Representing Diversity Description: Representation in the syllabus is demonstrated through including a range of racial/ethnic experiences and backgrounds in the syllabus document including images and quotes from historically marginalized groups. This practice communicates the value of students' racial/ethnic backgrounds as assets and sources of learning and knowledge. Representation is also seen in readings, activities, and assignments that are culturally relevant and inclusive.	○ Includes language that validates, affirms, and embraces students' cultures, identities and lived experiences ○ Communicates students' racial and ethnic backgrounds as assets to learning and knowledge ○ Includes a range of racial and ethnic experiences and backgrounds in assignments and assessments ○ Includes assignments and assessments that are culturally relevant, inclusive and sustaining ○ Includes assignments and assessments that ask students to draw on their experiential knowledge ○ Includes assignments and assessments that ask students to draw on their experiential knowledge ○ Includes assignments and assessments that ask students to draw on knowledge from their communities ○ Includes assignments that encourage students to investigate real-world problems and solutions that are related to their lived experiences and cultural backgrounds Other evidence:

Equity-Minded Practice	Example Supporting Evidence
Demystify Description: Instructors demystify by presenting information in such a way that a first-time college student can easily make sense of the syllabus. The information is written clearly, in plain language, with limited academic jargon. Furthermore, it is formatted and ordered in a way that highlights what students need to know to maximize their learning and success.	○ Includes instructor contact information and offce hours
	○ Written clearly, in plain language, with limited academic jargon
	○ Formatted and ordered in a way that highlights what students need to know to maximize their learning and success
	○ Maps connections between the objectives and major assessments (i.e., each major assessment activity is mapped to one or more learning objectives)
	○ State how class and course objectives will help students succeed in future academic work, and advance career and life goals
	○ Course-level learning objectives are clearly articulated and use specific action verbs to describe in measurable terms what students will be able to do, value, or know at the end of the course
	○ Course-level assessments are in a labeled section
	○ The grading scheme is in a distinct section
	○ The grading scheme aligns with the learning objectives and the supporting assessments
	○ The basic features of major summative assessment activities are clearly defined
	○ Syllabus offers fully articulated and logically sequenced course schedule, listing topics/readings/questions in chronological order along with assignment due dates, allowing for flexibility where appropriate
	○ Evidence in the assessment descriptions or in the course schedule that complex assignments build slowly over the semester or are continually re-examined with the introduction of new material
	○ Suggests effective work and study habits
	Other evidence:

Equity-Minded Practice	Example Supporting Evidence
Creating Partnerships: Teacher-Student Relationship Description: The syllabus articulates how students and faculty will work in partnership to ensure student success. Language in the syllabus communicate the shared commitment and expectations between students and faculty. There are clear statements about what students can expect from instructors and what is expected of student learners. The syllabus articulates faculty's willingness to receive feedback from students about their teaching practices, and a willingness to use a variety of teaching approaches to foster learning. The syllabus language reflects respect for students as autonomous, critical, and reflective learners.	○ States what the instructor expects of students as learners, and what students can expect from the instructor ○ Articulates a willingness to receive feedback from students about the instructor's teaching practices ○ Articulates a willingness by the instructor to use a variety of teaching approaches to foster learning ○ Articulates respect for students as autonomous, critical, and reflective learners ○ Indicates opportunities for students to choose how they demonstrate their understanding of the course content ○ Indicates that there is flexibility around assignment deadlines or criteria when students are facing personal difficulties Other evidence:
Validating Students Description: The syllabus communicates the belief that all students are capable learners. Language validates the knowledge they bring into the learning environment. The syllabus has different types of assignments and forms of assessment that give students multiple ways to demonstrate their learning and strengths.	○ Instructor uses language that reflects a strong expectation for students to succeed ○ Students are told that they are capable of obtaining their educational goals ○ Students are encouraged to bring their own language and lived experiences into various projects reflecting instructors belief that their identities matter ○ Meaningful peer-to-peer interaction and student-instructor interaction are central to course design ○ Students are given the opportunity to choose a variety of ways to demonstrate their learning and knowledge in a manner that supports their confidence and sense of competence Other evidence:

Equity-Minded Practice	Example Supporting Evidence
Deconstructing the Norm Description: Course syllabi promote awareness and critical examination by including readings, activities, and assignments that ask students to critically examine the assumptions about different racial/ethnic and social groups, and the privileges or disadvantages they accrue by virtue of their identity that are traditionally portrayed in the discipline. The language used in the document affirms diverse perspectives, various ways of learning and engaging. The content and design of the syllabus take an inclusive and critical approach that signal to students that the course is a safe space to question dominant, racialized norms, historical perspectives, as well as identify inequalities in major social institutions (e.g., education, health, law). The structure of the syllabus disrupts the status quo of framing the document as a legal document only serving the institution.	○ Includes **readings and course materials** that critically examine: ○ assumptions about different racial and ethnic groups as it relates to privilege and/or marginalization of these groups ○ the historical experiences of people and communities that face discrimination, racism, and marginalization ○ the contemporary experiences of people and communities that face discrimination, racism, and marginalization ○ dominant, racialized norms, as well as inequalities in major social institutions (e.g., education, financial, health, law) ○ Includes **assignments and assessments** that ask students to critically examine: ○ assumptions about different racial and ethnic groups as it relates to privilege and/or marginalization of these groups ○ the historical experiences of people and communities that face discrimination, racism, and marginalization ○ the contemporary experiences of people and communities that face discrimination, racism, and marginalization ○ dominant, racialized norms, as well as inequalities in major social institutions (e.g., education, financial, health, law) Other evidence:

Scoring Rubric

Missing = 0 instances	There is no evidence in the syllabus that aligns with the listed indicators. There is no evidence in the syllabus of equity-minded practices as it relates to this practice.
Emerging = 1–3 instances	There is little evidence in the syllabus that aligns with the listed indicators. The syllabus may not have been designed to be inclusive, but elements of equity and student-centeredness are apparent in some of the sections, as it relates to this practice.
Progressing = 4–6 instances	There is little evidence in the syllabus that aligns with the listed indicators. The syllabus may not have been designed to be inclusive, but elements of equity and student-centeredness are apparent in some of the sections, as it relates to this practice.
Developing = 7–9 instances	There are multiple examples in parts of the syllabus that meet the criteria for this indicator. It is clear that the document was designed with equity, inclusion and a range of student identities in mind in most sections, as it relates to the indicator.
Advancing = 10+ instances	There is substantial and specific examples throughout each aspect of the syllabus that meet the criteria for this indicator. It is clear that the document was designed with equity, and inclusion of a range of student identities in mind throughout the document, as it relates to the indicator.