Five Tech Design Principles to Promote Equity in Education

Principles to consider when designing and implementing technology solutions that help drive equitable experiences in education
About This Report

This report outlines a set of principles to consider when designing and implementing technology solutions that help drive equitable experiences in education. Specifically, it investigates students from Black and Latinx heritages who are first in their family to go to college, over the age of 24, working full-time while attending school, or have dependents as they get to and through their first year of post-secondary education. The U.S. Department of Education refers to these students as “nontraditional” learners. Supporting these students getting to and through their first year helps set them up for success to reach graduation and secure gainful employment. The Impact Labs cohort focused specifically on this challenge as these students often see the greatest disparities in post-secondary graduation rates.

These principles are intended to support educational organizations and institutions in assessing their current interventions and guiding them toward designing more equitable ones.

The Five Principles Include:
01. Meet Me Where I Am
02. Teach Me as I Go
03. Help Me Stay on Track
04. Be Clear and Concise
05. Design for Collaboration

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This report examines boosters and barriers to success for Black and Latinx learners, specifically those with “nontraditional” characteristics as defined by the U.S. Department of Education. It examines perspectives of students themselves, academic advisors and college counselors, and subject matter experts participating as Salesforce.org Impact Labs Community Fellows.

**Impact Labs Community Fellows:** In-depth interviews and a series of co-creative working sessions with 15 individuals representing community colleges, historically black colleges and universities (HBCUs), student success-oriented nonprofit organizations, K-12 schools, and research institutions.

**Academic Advisors and College Counselors:** In-depth interviews and solution shaping sessions to understand challenges and opportunities when supporting students in getting to and through post-secondary education.

**Black and Latinx Students:** In-depth interviews and solution shaping sessions to understand experiences in navigating their post-secondary education pursuits.

**Secondary Research:** Examination of the scope of the problem and existing technology solutions by reviewing previous reports and articles.
Introduction

Ensuring equity in education in the United States today requires cross-sector participation, influence, and leadership to address. Salesforce.org Impact Labs brought together community stakeholders across the U.S. to understand opportunities where thoughtful design and technology intervention could respond to barriers facing students from underrepresented minorities, specifically Black and Latinx students, and the organizations and institutions that support them. Solving complex challenges like this requires not only technology solutions but also strong cross-sector collaboration focused on creating equitable paths throughout the student journey, such as policy changes and support from institutional leadership.
Fostering Equity for Black and Latinx Students

Today’s student population has changed, yet many students aren’t set up for success. According to the National Center for Education Statistics, the notion of the full-time residential student is no longer the norm. In fact, the Center found that 74% of undergraduate students had at least one “nontraditional” characteristic.¹ These characteristics include being financially independent from their parents, having a child or other dependent, lacking a traditional high school diploma, delaying postsecondary enrollment, or being first in their family to attend college, also known as being a first generation student.²

Students with these characteristics must persevere in the face of balancing familial, financial, emotional, and academic constraints. One study found that students with at least two “nontraditional” characteristics had a 15% graduation rate over six years, in contrast to 57% for “traditional” students, those living on campus and attending school full-time.³

While race and ethnicity are not a characteristic used to define this type of student, marginalized students make up a larger percentage of students with “nontraditional” traits. For example, among all undergraduate students, the Department of Education classified 25% of White and Asian-American students as first generation, compared with 41% of Black and 61% of Latinx students. These students are also more likely to attend school part-time and be older than their peers, which are additional “nontraditional” characteristics.⁴

Meeting the needs of students with these traits is not only the right thing to do, it’s critical for institution success given most students now have one or more of these characteristics. Through interviews and workshops with students, student advisors, and community experts, the Salesforce.org Impact Labs cohort uncovered five key principles to follow when designing tech interventions for this rising population of students:

01. Meet Me Where I Am
02. Teach Me as I Go
03. Help Me Stay on Track
04. Be Clear and Concise
05. Design for Collaboration

Note: In this report, when we say “students” we are referring to Black and Latinx students with one or more “nontraditional” characteristics. Names and photos of students have been changed to protect their privacy.

² https://www.bestcolleges.com/blog/what-is-a-nontraditional-student/
³ https://www.aacu.org/diversitydemocracy/2016/winter/scobey
⁴ https://pnpi.org/first-generation-students/
Design for the Whole Student: Moving to a Student-Centric Approach

Learners of color with “nontraditional” attributes are especially affected by imbalance across three core barriers: academic, financial, and social-emotional. For these students to succeed in achieving their education goals, they must be supported to overcome these barriers.

Academically, many students who face these three core barriers may have additional challenges that inhibit their ability to complete the coursework or develop the study habits they’ll need to complete their first year in college. Financially, students may be supporting themselves and children while also paying for their education. Others may not have family to support tuition payments and managing complex financial obligations. And on the social-emotional front, students might be navigating a range of hardships – from feeling like they don’t “fit in” to encountering mental health issues and exhaustion from juggling life and school.

At the same time, institutions face barriers to understand and act on holistic student support because of organizational and data silos that prevent insight and coordinated care. This fragmented view puts the onus on the student to “hold it all together.” Many have neither the skills nor resources to do this, creating a situation where any one of these barriers can lead to crisis and the potential for students to stop out.5

“Our students are a flat tire away from dropping out of college. Not because they don’t know how to fix it, but because it’s the 700th thing that’s happened to them that week. (…) There’s just this stacking effect.”

Austin Buchan, CEO, College Forward

5 https://www.aacu.org/diversitydemocracy/2016/winter/cohey
Three Core Barriers for Students

Financial Barriers
- Applying to, understanding, and comparing financial aid options and offers
- Navigating unexpected costs, e.g. housing deposit or fees for books
- Developing short-term budgeting and long-term debt management skills

Academic Barriers
- Connecting personal interests with career pathways
- Identifying early academic warning signs for proactive interventions
- Lack of family or friends who can offer a realistic picture of practicing an unfamiliar profession

Social Emotional Barriers
- Finding students “like me” to connect with and be supported by
- Discomfort with participating and asking for help in an unfamiliar environment
- Pressure to attain upward mobility for self and family
Three Real-Life Stories From Students

Brian’s Story
Financial Barriers

As a first-gen student with a 4.0 GPA, Brian navigated the student loan process on his own. Following his interests, he enrolled in two schools, securing loans for both – not knowing that it wasn’t allowed. His loans were canceled, leaving him in debt and unable to finish school. Five years later, he is on a path to getting his degree.

“I was getting financial aid to pay for both schools – I didn’t know you couldn’t do that. I ended up owing a bunch of money and I couldn’t finish school, so I dropped out and was unmotivated.”

Brian, Male, 30
Black, First Generation Student

Adriana’s Journey
Social Emotional Barriers

Adriana entered a four-year college but, feeling out of place socially and academically (and tired of the long and expensive commute) reverse transferred to a community college. After finding help for mental health issues, connecting with a supportive friend at community college, and getting academic support, she has been able to transfer back to the four-year school.

“I felt very uncomfortable participating in class. I felt like I wasn’t as smart or my social class didn’t fit in...There were students who had siblings or parents who had gone but it was always the first gen students who were quiet in class.”

Adriana, Female, 24
Latina, First Generation Student

Amanda’s Journey
Academic Barriers

Amanda was awarded basketball scholarships after high school but didn’t feel academically prepared for college. She felt she “wasn’t smart enough” and didn’t pursue the resources that would have helped her persist, causing her grades to suffer and her to leave after two years. Years later, she has completed a nursing degree and plans to join the Air Force to help pay for her master’s degree.

“My grades were terrible. Academically, I just was not ready at all... I was supposed to go to all these different colleges, but in my head I wasn’t smart enough, so I never graduated.”

Amanda, Female, 38
Black, Single Mother
The Five Principles to Guide More Equitable Student Support Interventions

Through interviews with students, advisors, faculty, and staff at educational institutions and organizations, the Salesforce.org Impact Labs cohort identified five principles to guide more equitable student support interventions.

Today, students must shift their behavior to fit our existing educational models. With student-centric technology designed with these five principles in mind, we can help students balance the social-emotional, financial, and academic challenges they face.

Principle 01: Meet Me Where I Am

Principle 02: Teach Me as I Go

Principle 03: Help Me Stay on Track

Principle 04: Be Clear and Concise

Principle 05: Design for Collaboration
Principle 01: Meet Me Where I Am

Black and Latinx students with “nontraditional” traits are more likely to be experiencing academic, financial, or social-emotional challenges – sometimes all at once. Meeting students “where they are” means making sure solutions are designed with compassion for the whole student, are easy to use, and offer real value for the student.

One example of meeting a student where they are is being aware of students’ evolving digital footprints and behavioral preferences. For instance, many students prefer communicating via text, not email. 47% of all students want a self-service chat tool for support, but only 26% say it is available. And, when interacting with digital experiences such as an app or chatbot, students want a clear path to reaching a human if they need one.

Enable self-service

“Students don’t really like to ask for help, or bug other people, they would much rather just look up the answer on their own. However, if it’s too difficult they won’t do it.”

College Counselor, Nonprofit Organization

Create safe spaces for students to seek help

“I really don’t go to nobody…I’ve experienced a lot of moments where people will think I have bad intentions, I have piercings, long hair. I have trauma that people thought I was delinquent, until they see my resume, hear me speak, get to know me. That caused me to lock myself and my mind where I believe I have to do everything on my own.”

Terrell, Male, 19
Black, First Generation Student

Put This Principle Into Action

Journey map the experience of your students to understand common challenges and opportunities.

Allow students to find help and guidance through the channels they prefer, on their own time.

Supporting the whole student

With nearly one-third of Dallas College students living below the poverty level and many holding more than one job while in school, Dallas College recognizes that offering wrap-around services to meet students’ basic needs often makes the difference between a degree completed and a dream deferred. Dallas College and its seven campuses have partnered with community organizations to bring much-needed services to students, such as food bank access and free transit cards that allow many of their students to travel safely to class on a full stomach. During the pandemic, Dallas College established food pantries and housing assistance via emergency aid funding, which has also financed hotspots and laptops for students to participate in distance learning.

More than 70% of students at Dallas College are juggling work and school at the same time, but the College’s career-connected learning model also provides its students the opportunity to “enroll in a career.” Dallas College offers broad groupings of programs where courses and sequences are mapped, so each student can chart a real-world path from their education to an existing, in-demand job. Career-connected learning aligns the many educational opportunities that Dallas College brings to the community with the needs of the workforce.
Principle 02: Teach Me as I Go

There’s a lot to learn before students ever reach the classroom, and for students with “nontraditional” characteristics, this learning curve is often even steeper. Many of these students are navigating the system on their own or with family who are learning the process along with them.

Take students’ cues as to what students need to know, when they need to know it and give them information that’s relevant and useful to their current need or circumstance. Parsing out information at the right time keeps students focused on the most important next step.

Keep in mind, there may be crucial information that students don’t know to ask for. For instance, “undermatching” can occur when a student chooses a school that’s less expensive but has a lower graduation rate for their demographic. Surfacing this type of information at the right time can be pivotal to a student’s success and ability to make the right choices.

Supply just-in time guidance

“... My freshman year was very challenging. I was out of place; everyone had someone guiding them and I didn’t have that in my family.”

Adriana, Female, 24
Latina, First Generation Student

Provide support networks to help guide students

“I went to an adult learning program outside of school, that helped a lot. I was (studying) by myself and didn’t know where to start... I thought the school should have provided tutoring sessions for it, (but they didn’t). The support would have helped me.”

Amanda, Female, 38
Black, Single Mother

Put This Principle Into Action

Don’t assume students have support at home.

Provide timely information when and where the student needs it by chunking out relevant information.

Surface opportunities for support for students who don’t know what to ask or where to begin.
Principle 03: Help Me Stay on Track

The process of getting to and through a post-secondary education can be overwhelming, and many students struggle to balance achieving their degree with the other responsibilities in their lives. Juggling full-time work or caring for family while attending classes makes completing a degree even harder. With so many steps and requirements — from applications to tuition to course selections — it’s easy for important actions to fall through the cracks, sometimes with devastating consequences.

Actionable nudges for essential requirements can help keep students stay on-course and meet important deadlines. Prompts could take the form of an automated text message or a call from an advisor.

Put This Principle Into Action

Remember “Principle 1: Meet me where I am” when deciding the best way to nudge students (text, phone call, etc).

Make it personal: text, email, or call students with a personalized message.

Be sure your nudges are easy to act on: include a link or simple directions of the next step.

Provide personal touches

“The switch to in-person vs. online was hard for me… The school sent out postcards – that meant a lot to me. I saw them as encouragement. (I thought) someone really wants me to succeed here because they cared enough to write out this postcard and send it to me.”

Noa, Gender Non-binary, 23
First Generation Student

Help students be proactive

“We see the most reverse transfers, because there’s not as much individualized support for students at 4-year institutions. So you have to be really proactive in those systems to get what you need, and if you’re not really used to that amount of independence and needing to be proactive, you can run into trouble.”

Student Advisor, Community College
Ivy Tech Community College recognized that many students who had not paid tuition were getting automatically unenrolled from classes. While this intervention was intended to help students avoid racking up bills for classes they were not planning to attend, it actually inadvertently disincentivized students from continuing their education. In response, the school implemented a small intervention to send a financial aid and payment reminder prior to auto-unenrolling students. As a result, they saw a tremendous increase in continued enrollment. Even small changes to help students stay on track can have an outsized impact.

**Case Study**

**Principle 03: Help Me Stay on Track**

**Small intervention, big impact**

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Principle 04: Be Clear and Concise

Getting to and through college requires students to complete seemingly endless, unintuitive forms and navigate often disparate systems. It’s intimidating and confusing. And, many learners of color with “nontraditional” characteristics are navigating this on their own or come with English as their second language.

It’s important that the language and user experience is approachable, easy to understand and follow; students simply don’t have time or resources to untangle convoluted journeys or instructions. Clear and concise language is just as important when explaining options and recommendations.

Students may not be aware that different decisions will have different ramifications. On student loans for instance, not all students understood that government loans offer more protection over private loans and credit cards. Communicating clearly and without jargon can make a huge difference in student’s lives.

Put This Principle Into Action

- Test instructions with students to make sure they make sense.
- Offer multilingual solutions so parents can support their families more effectively.
- Provide short videos to further breakdown complicated topics or processes. Closed captions can also help non-native English readers.

Provide digestible content

“There’s a gap in terms of knowledge for many students – a short video to teach them the 10 things they need to learn quickly – that would help.”

Dr. Kinnis Gosha, Morehouse College

Define complicated terms

“With the loan process... if you’re 18, don’t have a parental support, you don’t know what you’re doing, he financial aid office is not helpful either. (Information needs to be) put into layman’s terms.”

Maya, Female, 29, Black
Mother, Working Full Time
Principle 05: Design for Collaboration

Support networks are often sparse and disparate for students with “nontraditional” characteristics. Systems are designed with the assumption of a nuclear family, but many learners find themselves with varying types of family support systems. Family members may be working long hours and not readily available to help, or may be experiencing complicated admissions processes for the first time alongside the student.

Make it easy for family and advisors to help students: design experiences that invite a student’s family or advisors to participate and learn at their own pace (in tandem or asynchronously) in their preferred language.

Designing for collaboration also means helping students connect with a community they trust. To help cultivate a sense of belonging, design solutions that help students meet other students or mentors from a similar background.

Put This Principle Into Action

Make it easy for parents to help students on their own schedule, in their preferred language.

Help students build a network of students, advisors, and alumni.

Include parents and advisors

“For a lot of students, parents are not involved at all (in the FAFSA application process). That’s where a lot of confusion comes in because they don’t have a way for parents to ask questions.”

Student Advisor, Educational Organization

Foster belonging

“Communities that (I and other LGBTQ) can identify with is like finding a needle in a haystack…”

Emanuel, 20, Gender Non-binary Black, First Generation Student
Taking Action

Outlined in this report are 5 principles for designing technology interventions to meet the evolving needs of learners with “nontraditional” traits, specifically those from underrepresented minorities. Through purpose-built education products and solutions, Education Cloud enables institutions to capture 360-degree views of every learner from recruitment and admissions to alumni engagement. With one, integrated platform, institutions can capture actionable insights that help personalize the learner experience, tailoring support to their needs.

These principles are intended to help institutions and organizations design learner-centric technology solutions to consciously consider the needs of often marginalized students in our ever-evolving learner population.

Learn more about how institutions are creating learner-centric experiences with Education Cloud
Appendix

Impact Labs
At Salesforce.org, we believe technology, when used for good, can change the world. We build powerful technology for, and with, our community of nonprofit, educational and philanthropic organizations to help them operate effectively, raise funds and connect.

The social issues facing our world today are complex and require multiple stakeholders to collaborate to make lasting change. Salesforce.org Impact Labs brings community members together to navigate this complexity and collaborate with peers to drive social change. The goal of Impact Labs is to combine the expertise of community members with the technology and talent of Salesforce. By combining the two, the program de-risks innovation and provides technology investment where otherwise there may not be resources to take a risk.

In 2021, Impact Labs kicked off its second program focused on addressing Equity in Education in the United States. This topic area aligns to Sustainable Development Goal 4: Quality Education, and aims to create a technology solution that support students with “nontraditional” traits who come from underrepresented minority groups as they get to and through post-secondary education to achieve both their academic and long-term career goals.

Learn more about Salesforce.org Impact Labs