

Preparing Teachers for Deeper Learning at the University of Colorado Denver

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Abstract

This brief is based on a [case study](#) of the University of Colorado Denver's Urban Community Teacher Education program, one of seven cases examined by the Learning Policy Institute (LPI) as part of its study *Preparing Teachers for Deeper Learning*. The study sought to explore how leading programs are creating ways to prepare future teachers for deeper learning and equity and to understand the policies needed to transform teacher education systemwide. LPI research teams collected data in 2015–16 through site visits, interviews, observations of university and school classes, reviews of program documents, and surveys of teacher candidates in each program.

Additional briefs related to this research can be found at <https://learningpolicyinstitute.org/product/preparing-teachers-deeper-learning>.

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One spring afternoon at Hinkley High school, Marla—a teaching candidate at the University of Colorado Denver—was co-teaching a diverse group of 10th-graders with her clinical teacher (CT). In the midst of their 5-week unit on probability, they were seeking to help students learn to “write and answer questions about the likelihood of an event” and “prove whether two events are independent using the multiplication rule.”

Eight boys and eleven girls sat in preassigned small groups of threes and fours, each with a data set and poster paper. As class began, they paired up and stood, swinging arms in big circles past each other to wake them up after lunch. As a preview to the group task they would be doing, their teachers peppered them with questions using everyday examples of two events that might or might not occur independently—e.g., girls and sneaker wearing—having them generate ideas about how they could determine independence.

Then, after a quick reminder about the roles they would play in their groups, the students went to work to make sense of the data in front of them and create at least five questions that could be asked and answered using that data set. Then, on their poster paper, they wrote at least two simple probabilities, two conditional probabilities, and a fifth probability of the group's choice. Each group also needed to prove whether the events in their given data sets were independent using the multiplication rule. The two teachers circulated, probing, answering questions with more questions, and giving hints—scaffolding the groups' work.

As the students finished their posters, they moved casually into the wide and empty hallway outside the classroom and taped their posters to the wall, chattering about their own work and eagerly peering at what other groups had done. They did a “gallery walk” carrying calculators and graphic organizers to assist them as they wrote and answered questions posed on the posters and explained whether two events being reported on the posters were independent.

At the end of the hallway activity, they returned to the classroom and had a whole-group conversation about the experience—asking questions, reporting what they learned, and boasting about what they had accomplished.

Introduction

The University of Colorado Denver (CU Denver) is a large, urban public university located at the center of the state's capital city. CU Denver's Urban Community Teacher Education (UCTE) program has taken on the task of providing the highest-quality preparation to teachers who will begin their teaching careers in schools located in communities facing poverty and racial isolation. The UCTE program serves approximately 750 teacher candidates in five distinct but interrelated pathways to licensure, which serve (1) traditional undergraduate students; (2) first-generation undergraduates who need financial and other supports to navigate college and licensure (NxtGEN); (3) bachelor's degree holders who have committed to employment in the Denver Public Schools (Denver Student Teaching Residency); (4) traditional graduate students with bachelor's degrees in the content areas they will teach; and (5) uncertified bachelor's degree holders who are employed as teachers and seeking licensure through alternative routes (Aspire to Teach). While these pathways vary in their sizes, structures, paces, and timing of preparation experiences, the faculty strongly consider the five pathways to be one program. This brief, and the [case study](#) from which it is drawn, focuses primarily on the traditional graduate and undergraduate pathways that use the professional development school (PDS) strategy described here.

The teaching practices and dispositions that CU Denver seeks to develop through intensive coursework and supervised field experiences are aligned with the educational concept known as “deeper learning.” (See “What Is Deeper Learning?”) Marla's class, described above, featured collaborative problem-posing and -solving. She engaged her students in thoughtful instructional conversations that allowed them to construct and apply complex knowledge to real problems in the context of a well-developed learning community. As her CT said in a lesson debrief, “I try to go ... procedural.” To accomplish this, Marla and her CT gave students time to discuss ideas, take on different roles, and share their mathematical reasoning. Candidates in the UCTE program experience a curriculum focused on deep learning of subject matter, on instructional practices that reflect the science of learning, and on social and racial justice for students attending urban schools in high-poverty neighborhoods.

What Is Deeper Learning?

Deeper learning is both a new and an old idea, rooted in the findings of research on learning over the past century yet also aligned with the needs of 21st-century students. Deeper learning experiences allow students to apply challenging academic content to real-world problems and contexts that engage them in communication, collaboration, and critical thinking. Such experiences equip students with the skills to find, analyze, and apply knowledge in new contexts and situations, preparing them for college, work, civic participation in a democratic society, and lifelong learning in a fast-changing and information-rich world. We identified five dimensions that define the practices and the vision that enable deeper learning for both students and prospective teachers:

- Learning that is developmentally grounded and personalized
- Learning that is contextualized
- Learning that is applied and transferred
- Learning that occurs in productive communities of practice
- Learning that is equitable and oriented to social justice

CU Denver candidates' responses to a 2016 LPI survey about their preparedness to engage and support students demonstrate a strong alignment with CU Denver's commitments to social justice, equity, and teaching for deeper learning. In the LPI survey, 96% of those responding felt "well" or "very well" prepared to teach students from diverse backgrounds, and more than 80% reported that they were "well" or "very well" prepared to teach these students from a multicultural vantage point and in ways that support English learners. The program received similarly high ratings from respondents on items related to addressing students' needs through culturally responsive practices and differentiation of instruction. In addition, two thirds or more of the responding candidates also reported being well prepared to engage and support students in several dimensions of deeper learning, including supporting students' development and encouraging them to take diverse perspectives, engage in active learning, and apply content to real-world settings.

Employers give CU Denver alums high ratings. One elementary school principal explained that out of the 28 teachers on his staff, 15 were CU Denver alums, and of those, 12 completed their clinical year at the school working under his more veteran teachers. He also made clear that these CU Denver alums meet his high standards for joining his faculty:

They have the desire to be an urban teacher: a strong work ethic, passionate about wanting to learn, a need to get better every day, and an open mind about practice, not assuming they have answers right away. They are open to nontraditional, nonstandardized ways of teaching; they look at individuals.

CU Denver is successful, in part, because it has operationalized its values as well as its conceptualizations of learning experiences. To express its values in the program's pedagogy, CU Denver has adopted the five standards developed in the 1990s by the Center for Research on Education, Diversity, and Excellence (CREDE) and has added a sixth standard—critical stance—to create its own Standards for Effective Pedagogy,¹ which show strong connections to the dimensions of deeper learning. The Standards for Effective Pedagogy include:

1. **Joint Productive Activity:** Learning is facilitated through collaborative activity between teachers and students working together on a shared project.
2. **Language and Literacy Development:** Teachers provide structured opportunities for students to engage in reading, writing, and speaking activities to develop competence in the language and literacy of instruction across the curriculum.
3. **Contextualization:** Teachers connect new information with what students already know from home, school, and community.
4. **Challenging Activities:** Teachers design and enact challenging activities with clear standards and performance feedback to develop complex cognitive development in their students.

5. **Instructional Conversation:** Teachers engage students through goal-oriented dialogue and elicit student talk by questioning, listening, and responding to assess and assist in student understanding.
6. **Critical Stance:** Teachers consciously engage learners to interrogate conventional wisdom and practices, reflect upon ramifications, and seek to actively transform inequities through a lens of democracy and civic engagement.

The CREDE standards augment the state’s standards, and together, the two sets of standards serve as CU Denver’s “north star” toward which all the content, pedagogy, and assessment structures and practices are pointed.

Program Structures Enable Pathway Alignment and Partnerships for Deeper Learning

To ensure that the program maintains its approach across the many settings in which faculty teach and teacher candidates are learning to teach, the program has developed **concrete program elements** that are used across all of its pathways. These elements include four essential questions, six anchor experiences, and three program level assessments that embody the program’s guiding principles. These shared practices are found in everything ranging from learning objectives in university courses to the goals of clinical practice, as well as candidate assessment processes and reflections.

The **essential questions** used by CU Denver contain the defining characteristics outlined by Grant Wiggins and Jay McTighe, under which a question is deemed “essential” if it is open-ended and thought-provoking, calls for higher-order thinking, points toward transferrable ideas, raises additional questions, requires support and justification, and recurs over time.² As such, the following essential questions serve as a frame for teacher candidates as they move through the program and for instructors as they design courses:

- **EQ #1:** What do I know and believe about myself, my students, their families, and their communities within the larger social context?
- **EQ #2:** How do I act on these beliefs to create inclusive and responsive learning opportunities and transform inequities?
- **EQ #3:** How do I enact principles of social justice and equity, inclusiveness, cultural and linguistic responsiveness, learning theory, and discipline-specific pedagogy within my pedagogical practices to plan, revise, and adjust curriculum, instruction, and assessment to ensure success and growth for all my students, always acting as a critical urban educator to advocate for my students?
- **EQ #4:** How do I reflect upon principles of social justice and equity, inclusiveness, cultural and linguistic responsiveness, learning theory, and discipline-specific pedagogy within my pedagogical practices in order to further plan, revise, and adjust curriculum, instruction, and assessment to ensure success and growth for all of my students, always acting as a critical urban educator to advocate for my students?

To infuse these essential questions into concrete activities to prepare teachers, the university created six **anchor experiences** that are grounded in the authentic work of teachers and designed to facilitate candidate reflection on their progress. These anchor experiences are aligned to one or more of the Colorado Teacher Quality Standards, have a clearly stated purpose and expected learning outcomes for candidates, are connected directly to at least one university course and to clinical work, and are assessed during one of the program level assessments. The anchor experiences are integrated into and evaluated within coursework and clinical placements, and CU Denver faculty and PDS partners use a common set of guiding materials for each. Anchor experience assignments begin with candidate introspection and run through lesson planning and into unit design, and they include work on developing family and community relationships and understanding students. For example, Anchor Experience 4, “Understanding Students as Learners,” requires teacher candidates to:

use a variety of methods and tools to gather and analyze information and create a holistic understanding of a learner situated within sociocultural context (including community asset mapping, family/student interviews or questionnaires, formal and informal tests, observations, [and] analysis of student work).

In another example, Anchor Experience 5, “Lesson Level Planning, Instruction, and Assessment” requires candidates to “engage in lesson level planning, instruction and assessment across multiple courses and experiences,” guided by a framework that addresses the CREDE standards, learning outcomes, differentiation of instruction, assessment, and post-instruction reflection and revision. Along the way, each of these anchor experiences builds on one another, scaffolding candidates’ learning about teaching.

As students engage in the anchor experiences, they are also expected to collect artifacts of their learning and reflections that weave connections between clinical work and university coursework into evidence that they will use during **program level assessments**, which occur at three points during preparation. Program level assessments are formal performance assessments that look much like an oral defense, in which candidates present to small groups of faculty, k–12 partners, and peer evaluators. Candidates’ presentations address their own growth and development related to the four essential questions, drawing on specific evidence from anchor experiences, coursework, and clinical experiences to reflect on their emerging classroom practice. Candidates also submit written self-reflections that are then scored according to a rubric, which discriminates between emergent, basic, proficient, and advanced levels of performance, with performance expectations increasing as candidates progress through the program. The focus of the program level assessments also grows with this progression:

- End of Semester 1: Focus on Essential Questions 1 & 2 and Anchor Experiences 1 & 2
- End of Semester 2: Focus on Essential Questions 1–4 and Anchor Experiences 2–5
- End of Program: Focus on Essential Questions 1–4 and all 6 Anchor Experiences

By pulling together material from coursework, clinical experiences, and their own reflections on their learning, candidates apply what they have learned, personalizing and contextualizing it through their reflections on teaching.

Along with these core program elements, CU Denver’s program is built upon structures such as its **Professional Development School Network**, composed of over 15 urban schools across 4 districts in the Denver metro region. These PDS schools see the relationship with CU Denver, nurtured over the past 20 years, as mutually beneficial, with two-way, equal-status sharing as partners in the preparation of new teachers and in the schools’ own improvement efforts. PDS educators and university faculty co-construct clinical experiences that align fieldwork and coursework. Supported by resources from the district and the university, a site coordinator (employed by the district/school to oversee teacher preparation on behalf of the school) and a site professor (who represents the university in the clinical experience) support both clinical teachers (CTs) and candidates at each school, while CTs work with candidates and provide day-to-day modeling and instruction. Site professors and coordinators also schedule events where all CTs come together at least twice a semester to build capacity and consistency across candidate experiences. Topics at these events include problem-solving around common challenges and offering strategies and tools to share. The program also maintains an online community for CTs, through which they can exchange ideas with and get input from CTs at other PDS sites.

This model of partnership is built on a vision of “simultaneous renewal” in which candidates, clinical teachers, site teams, and the broader school faculty engage in ongoing professional learning and a commitment to improvement of practice. The high value of this partnership approach is signaled by CU Denver’s placement of its **program leadership** in its **Office of Community Partnerships**. University resources have been dedicated to create and staff this office, which not only funds the course releases for tenure track faculty to participate in program leadership but also maintains an ongoing budget line for site professors. These fiscal commitments have held even in tight budget years. Collaborative engagement in program leadership is a benefit to tenure-line faculty, helping them think more programmatically about how their other scholarly and teaching work fits coherently into the school, and is aided not only by funded course release but also by recognizing teacher education program leadership work in faculty tenure and promotion decisions.

Program Practices Support Teacher Preparation for Deeper Learning

The university teacher preparation coursework intentionally engages teacher candidates in the deeper learning pedagogy that they are being taught to use in their own classrooms. **Faculty routinely model this pedagogy** by using the six CREDE standards to guide their own teaching, and they name the strategies they are using, explain why they are powerful, and suggest how they can be used in k–12 classrooms. To do this well, faculty often pause at critical junctures to specifically alert candidates to the ways they have organized a lesson, structured questions, or designed groups to accomplish the learning objectives. This explicit transparency in teaching provides rich opportunities for candidates to unpack why and how they might be able to transfer their learning from the university classroom to their k–12 clinical classrooms. In some instances, the university instructors engaged teacher candidates in full lessons, from beginning to end, that the candidates could then use in their classrooms the very next day. This experience-reflect, implement-reflect approach allows candidates to unlock the “black box” of teaching and begin to anticipate how k–12 students will experience their approach to content delivery.

Coursework at CU Denver also has an **explicit focus on social justice teaching**. The first two courses undergraduate and graduate students take set the tone for the entire program. Focused on identity, culture, White privilege, and social inequality, the courses have an eye-opening impact on the mostly young, White, middle-class students who comprise a majority of teacher candidates in the conventional undergraduate and graduate pathways. The critical perspectives taught at the beginning of the program are then interwoven throughout the pedagogy courses, the subject matter methods courses, and the clinical placements. Addressing issues of equity, social justice, and culturally relevant teaching gives candidates skills to combat the harms brought by inequality and exclusion in their students' lives. The program emphasizes that the appropriate teaching response is to employ school and classroom strategies that advance deeper learning rather than falling into common patterns of seeing urban teaching as remediating basic academic deficiencies.

CU Denver's programs are also characterized by **close alignment between coursework and fieldwork** from the time candidates take their first courses in the program. Their first three courses nurture an inquiry stance toward communities, schools, and young people, in addition to introducing foundational theoretical and philosophical underpinnings of education. Corresponding field experiences ask undergraduate students to choose a question or a topic about communities, schools, and young people that "makes them wonder" and then spend time observing and applying the learning from the coursework. For example, they might look at the community through the lens of Bronfenbrenner's ecological theory,³ collect data, and then reflect on the experience through the theory and the theory through the experience. Their work is assessed as they present "poster sessions" on their projects to their peers.

Intensive clinical experiences, or "internships" to use CU Denver vernacular, take place during the final, "Professional" year of the undergraduate pathways and throughout the traditional graduate pathway year. Teacher candidates have a range of internships (clinical experiences) at the PDS sites. These internships are not simply a place to "practice" what they have learned in courses. Rather, the schools and classrooms serve as a "lab" within which candidates can interact with students, observe, co-plan, and co-teach with their CTs and eventually "take over" the instruction under the guidance of the CT and site team. What is often considered "practice teaching" turns into a deeper learning experience, as PDS site professors coach and actively engage candidates in an intentional cycle of planning, action, and reflection that requires making connections between coursework and their teaching.

At CU Denver, **relationships** are universally believed to be at the heart of high-quality teacher preparation, as well as teaching and learning in k-12 classrooms. Supportive and nurturing classroom relationships, as well as relationships through professional learning communities and through connections with families and communities, provide important counterpoints to the narratives of failure that often constrain teaching and learning in neighborhoods of concentrated poverty and racial isolation. CU Denver leaders and faculty have thought creatively about how candidates might learn about, demonstrate an understanding of, and develop skills for engaging with communities and families. Undergraduates have their first such learning opportunity in the Community Based Experience during their first year of study. Students spend 4 hours per week (for a total of 60 hours during the semester) embedded in a child-focused community-based organization. During this field experience, students are simultaneously enrolled in a seminar course at

CU Denver in which they learn ecological systems theory and asset-based community development. The combination of field experience and coursework helps begin to take a strengths-based perspective when talking about and interacting with diverse children who hail from myriad contexts and circumstances that present unique pressures and opportunities.

Conclusion

Blending strong values of social justice with learning science perspectives embedded in the CREDE framework, CU Denver has developed and codified a structure and practice of preparing teachers to engage their own students in deeper learning practices that mirror the learning opportunities the program itself provides. CU Denver's unique position and passion is one that is interwoven throughout all that the program says and does—from coursework to clinical experiences—and its impact is evident in the types of teaching and learning from which teacher candidates and students alike benefit. The coherence of the CU Denver program, its strong values for deeper learning and social justice, and the deep relationships it has forged between the coursework and clinical preparation have fostered a community of professionals—from novices to senior leadership—who share commitments and standards of practice. As such, the CU Denver program can provide useful guidance to policymakers and teacher educators who hope to move teacher preparation programs toward the goal of readying teacher candidates to teach for deeper learning.

Endnotes

1. CU Denver draws its Standards for Effective Pedagogy from the Center for Research on Education, Diversity & Excellence (CREDE). See: <https://manoa.hawaii.edu/coe/credenational/>; Dalton, S. S. (1998). *Pedagogy matters: Standards for effective teaching practice*. Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.
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