

Learning Collaborative Institute (LCI) **DATA BRIEF**

Dual Enrollment Theory of Change: How To Amplify the Postsecondary Impact of DE for Minoritized Students



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Learning Collaborative Institute (LCI) Brief: Dual Enrollment Theory of Change for Reducing Inequalities in Postsecondary Outcomes

Introduction

The significant role of postsecondary education achievement as a determinant of gains in quality-of-life outcomes, such as wealth, civic engagement, and employment is widely understood and supported in literature (Hout, 2012; Tamborini et al., 2015; Grodsky & Posselt, 2019). Building on this important foundation, studies find that inequalities in postsecondary education outcomes are strongly associated with inequalities in quality-of-life indicators, including employment rates, income level, and access to healthcare (Rogers & Freelon, 2012; Carnevale et al., 2021). Minoritized populations, including socioeconomically disadvantaged individuals and individuals of color, often experience inequalities in postsecondary education outcomes due to experience with and exposure to systemic educational inequalities in life, which act as barriers to high educational attainment (Kromydas, 2017).

There is a clear and persistent need across the United States to reduce and eliminate inequalities in postsecondary education attainment among minoritized populations (Hirschman & Lee, 2005; Los Angeles County Chief Executive Office, 2023; Shapiro et al., 2017). Dual enrollment (DE) is a strategy that has shown to harness equity in college enrollment and credit transfer to reduce the financial challenges associated with higher education, particularly for socioeconomically disadvantaged students and those impacted by long-standing systemic gaps along racial identity lines (Angel, 2023). This LCI Brief builds on the research of the Learning Collaborative Institute, its research partner Capacity To Impact (CTI), and extant literature to posit a Dual Enrollment Theory of Change which may be used to understand the mechanisms by which dual enrollment equitably increases student college and career readiness and success, thereby informing dual enrollment policies and practices to reduce inequality.

Statement of the Problem

A six-year longitudinal study of over 4,000 Southern California high school students found that minoritized students, similarly to their advantaged peers, enter high school with high aspirations for college, with over 88% of Freshmen in both groups aspiring to obtain a college degree (Zargarpour & Postlewaite, 2022). Yet college expectations among the minoritized group wane drastically by the time they near the end of high school (Zargarpour & Postlewaite, 2022). As minoritized students experience greater exposure to systemic inequalities across the education pipeline (Rogers & Freelon, 2012), the gap between their postsecondary aspirations (Cooper, 2009), expectations, and performance continues to widen with each milestone – from high school graduation to postsecondary enrollment, persistence, and completion (Kao & Tienda, 1998; Cabrera & La Nasa, 2000; Zargarpour & Postlewaite, 2022). These discrepancies in

postsecondary aspirations and attainment often lead to grave inequalities in life outcomes, including low employment rates, lower median income level, and less access to healthcare (Carnevale et al., 2021).

Of significant concern, the gap in postsecondary aspirations (Cooper, 2009) and attainment is wider among socioeconomically disadvantaged students and students of color than their advantaged peers (Feliciano & Ashtiani, 2012; Zargarpour & Postlewaite, 2022) due to systemic challenges that minoritized students face (Ma et al., 2016; Welsh & Swain, 2020). Research finds that systemic inequalities in the dimensions of race, ethnicity, and economic standing contribute to lower college enrollment rates and lower completion rates within marginalized populations (Ma et al., 2016; Zajacova & Lawrence, 2018). College attainment disparities are amplified in neighborhoods “highly segregated by race and by income” (Domina et al., 2019), where already marginalized students are underrepresented in advantageous programs that help reduce inequalities in college access and completion, such as dual enrollment, resulting in lower representation in college. Therefore, understanding the mechanisms by which initiatives such as dual enrollment support minoritized students is critical to improving postsecondary outcomes and subsequent life outcomes.

LCI Dual Enrollment Theory of Change

A Dual Enrollment Theory of Change for Reducing Inequalities in Postsecondary Outcomes (LCI DE Theory of Change) has emerged (see Figure 1), based on extant literature and over a decade of LCI research in place-based education reform efforts focused on reducing inequalities in postsecondary outcomes for minoritized students in California. These LCI efforts have been focused in California, leveraging the State’s fiscal and policy investments in dual enrollment, as well as, institutional and practitioner interests in targeted expansion of dual enrollment to reduce inequalities in education outcomes.

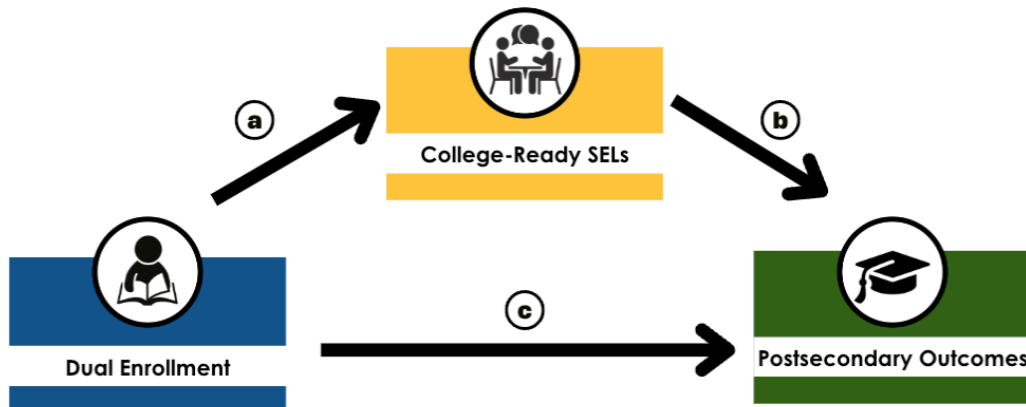
As dual enrollment policies expand more broadly across the nation (College in High School Alliance, 2023), we are optimistic that the posited LCI DE Theory of Change will be of use to researchers, practitioners, and policymakers across the nation. Researchers have noted that interventions implemented in California are scalable to the nation due to the challenging nature of California’s diverse regions and array of demographic groups, each with unique needs (Marcus & Mello, 2019).

Figure 1. *LCI DE Theory of Change*



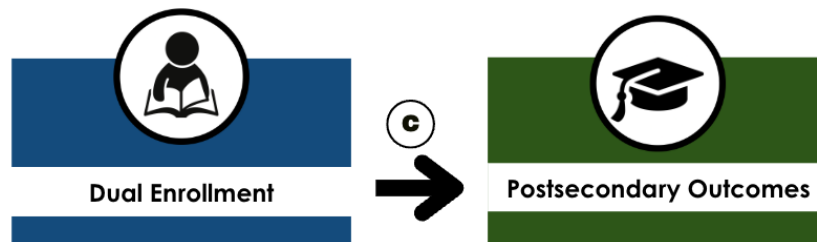
The underlying relationships that are posited in the LCI DE Theory of Change have been tested and validated across three critical paths (see Figure 2 below). Testing the Theory of Change with particular attention to the mediating effects of College-Ready SELs on Postsecondary Outcomes is an effort currently underway at LCI. The sections below elaborate on each of the three critical paths that have been tested and validated.

Figure 2. LCI DE Theory of Change Paths



We believe it is important to share the LCI DE Theory of Change widely with research and practice partners, colleagues, and policymakers, even as it continues to evolve. As the Theory is applied across multiple settings and groups, we anticipate it will continue to evolve and its impact potential will continue to grow and expand, reducing inequalities for minoritized students in California and across the nation.

Path c: Dual Enrollment Reduces Inequality in Postsecondary Outcomes



The potential of dual enrollment programs to impact positively the lives of those experiencing educational inequalities has been well-documented by researchers as a promising practice to improve college attainment for minoritized students (Karp et al., 2007; Struhl & Vargas, 2012; An, 2013; Henneberger et al., 2022). Systematic reviews, including a study of over 77,000 dual enrollment students in the United States, found that dual enrollment participation was linked with higher probabilities of enrolling in college, persisting at full-time status, and completing degrees (What Works Clearinghouse, 2017). While in college, former dual enrollment students, especially socioeconomically disadvantaged students, were also more likely to: (a) have higher

first-term and long-term college GPAs; (b) persist longer in college (Hughes et al, 2012; Giani et al., 2014); (c) earn more college credits; and (d) enroll directly at four-year institutions (Rodríguez et al., 2012)

LCI's ongoing dual enrollment research and evaluation findings validate the positive impact of dual enrollment participation on the postsecondary outcomes of minoritized students (Learning Collaborative Institute, 2023). Among the 2018 through 2021 high school graduating cohorts in a California school district identified as unduplicated headcount of 100% minority population, LCI found that dual enrollment participants went on to enroll in college at greater rates (71%) compared to non-dual enrollment peers (49%) and enrolled in baccalaureate institutions at greater rates (63%) compared to demographically homogenous non-dual enrollment students (39%). Among the 2018 cohort, dual enrollment students who enrolled in community college after high school, later transferred to baccalaureate institutions at over double the rate (40%) of non-dual enrollment students (19%).

Of pivotal importance, we note that the above significant postsecondary outcomes attained by dual enrollment student cohorts between 2018 and 2021 were sustained during a timeframe that saw a marked rise in dual enrollment participation among minoritized students, particularly Latinx students (Zargarpour & Warren, 2022). Since 2018, this school district and its partners in the Regional Learning Collaborative (now Learning Collaborative Institute) have engaged in consistent data-driven efforts to increase equitable access to dual enrollment. As a result of these efforts, participation rates increased by over 300% among Latinx students and 200% among socioeconomically disadvantaged students from 2018 through 2021 (Learning Collaborative Institute, 2024). Thus, dual enrollment was effective in increasing postsecondary outcomes for students regardless of socioeconomic status or race/ethnicity.

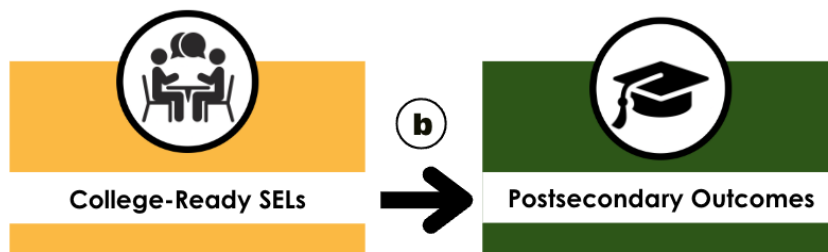
Research highlights several features of dual enrollment programs that reduce identified inequalities and thereby promote positive college outcomes for minoritized students. Dual Enrollment reduces both the financial costs and time spent in college that may limit college access for socioeconomically disadvantaged students and students of color, because students earn college credits while enrolled in high school (What Works Clearinghouse, 2017). Additionally, dual enrollment students gain valuable college knowledge and college experiences through early exposure to Dual Enrollment courses (Learning Collaborative Institute, 2023), and in cases where courses are taught on college campuses, they also benefit from early exposure to the college environment. In this way, they gain knowledge and skills needed in college, while also receiving high school-level support and advising (Struhl & Vargas, 2012; An, 2013; What Works Clearinghouse, 2017; Duncheon, 2020).

Path a: Dual Enrollment Supports College-Ready SELs Among Underrepresented Students



The positive impact of dual enrollment on college-related socio-emotional outcomes has been demonstrated in literature (Kanny, 2014; Lile et al., 2018; Giani et al., 2023). Research conducted by LCI also supports the association of dual enrollment participation with specific socio-emotional skills related to college readiness (College-Ready SELs; Learning Collaborative Institute, 2023). These **College-Ready SELs** derive from literature (Paolini, 2019) and are most frequently reported by students as areas of growth in LCI and CTI annual student surveys: **goal setting, leadership, future expectations, college-going mindsets, academic self-efficacy, academic motivation, sense of belonging, and self-regulation** (Ready to Rise, 2021; Zargarpour et al., 2022; Zargarpour et al., 2023a; Zargarpour et al., 2023b). For example, students report that, as a result of participation in dual enrollment, they feel more prepared to go to college (college-going mindsets; 87%), have more confidence in their college success (academic self-efficacy; 84%), and understand how college fits into their future (future expectations; 82%; Zargarpour et al., 2023b). Importantly, in comparative analytics, dual enrollment students report higher levels of College-Ready SELs than matched peers who did not participate in dual enrollment (Zargarpour et al., 2023c).

Path b: College-Ready SELs Reduce Inequalities in Postsecondary Outcomes



The emphasis on socio-emotional learning (SEL) over the last decade has generated quite a bit of interest in and research on the effects of SELs on postsecondary attainment (Choi, 2005; Wanzer et al., 2019; Ndoeye, et al., 2020; Koh, et al., 2022; Sorrenti et al., 2024). More specifically, college exposure and experiences in high school have been shown to lead to greater college-going mindsets, college-related socio-emotional competencies, and college readiness indicators such as high school GPA (Buckley et al., 2022; Vargas et al., 2019), which in turn have been found to result in increased college performance (An, 2015) and college degree attainment (Ou & Reynolds, 2016). For example, research has shown that the SEL skill of growth mindset is particularly beneficial for student academic achievement (Dweck et al., 2011), and empirical

research has demonstrated that growth mindset interventions improve postsecondary outcomes such as GPA, especially among Latinx students (Broda et al., 2018). Additionally, academic self-efficacy has been shown to contribute to college readiness (Saunders et al., 2021) and positive college outcomes such as higher retention rates in postsecondary education (Gore, 2006).

Providing a more nuanced understanding of the role of SELs in determining the impact of dual enrollment on postsecondary outcomes, research indicates that there are significant group differences in the effects of SELs on predictive postsecondary indicators, namely high school GPA (Wanzer et al., 2019). These differences may be due to the barriers of classism and racism that students experience (Jeffrey, 2020; Baker, 2021) and call for more nuanced research to identify the specific SELs that help reduce inequalities in postsecondary attainment for specific underrepresented student groups. To account for group differences, LCI studied the effects of College-Ready SELs on Postsecondary Outcomes, among specific student groups, namely socioeconomically disadvantaged students and Latinx students (Ready to Rise, 2021; Zargarpour et al., 2022). We found that minoritized students who reported high levels of SELs, including **leadership, future self-expectations, sense of belonging with peers, sense of belonging in school, and academic self-efficacy**, achieved higher levels of **matriculation to and persistence in college**. These findings support the important role that College-Ready SELs play in the achievement of postsecondary outcomes among underrepresented students and confirm Path b in the LCI DE Theory of Change for reducing inequalities in postsecondary outcomes among underrepresented students.

Contribution to Research, Policy, and Practice

We have established three pivotal, positive relationships between dual enrollment, College-Ready SELs, and Postsecondary Outcomes, especially among minoritized students. Collectively, the three paths detailed above highlight the crucial role of specific college-related SELs in achieving postsecondary success for minoritized groups. To further strengthen these findings, we are currently examining the LCI DE Theory of Change model as a whole, by studying role of specific SELs in determining (mediating) the impact of dual enrollment on postsecondary outcomes (college enrollment, persistence, completion, and degree/certification type). Additionally, we are examining the relationships between dual enrollment, College-Ready SELs, and Postsecondary Outcomes across various settings (urban / rural) and among diverse groups of minoritized students, to gain further insights that will guide researchers, practitioners, and policymakers in effectively reducing inequalities in postsecondary education through more nuanced and tailored dual enrollment strategies.

Given the significant and lifelong benefits that underrepresented and minoritized students gain through participation in dual enrollment programs (Struhl & Vargas, 2012; An, 2013; Henneberger et al., 2022), the LCI Dual Enrollment Theory of Change presents opportunities for further research, policy, and practice to support effective implementation of dual enrollment across diverse student groups and settings nationwide. Researchers, practitioners, and policy makers will find this framework valuable to inform the design of future studies and guide the development of more effective dual enrollment practices aimed at reducing inequalities in postsecondary education and life success.

Researchers

Researchers may build on the existing work by exploring new dimensions of how SELs influence dual enrollment outcomes. Suggested areas of focus include:

- Researchers may further examine specific SELs that may serve as mediators of postsecondary outcomes for underrepresented students, such as resilience and perseverance.
- Given the different lived experiences of students across groups, researchers may engage in additional studies that examine the mechanisms underlying the Theory of Change across various settings (e.g., urban/rural) and specific underrepresented student groups.

Practitioners

Practitioners have the opportunity to use dual enrollment programs strategically to improve College-Ready SELs and enhance outcomes for minoritized students. As practitioners design and implement dual enrollment programs, they may use the DE Theory of Change to inform ongoing program delivery decisions. Specifically, practitioners may consider how their dual enrollment program design, development, and delivery decisions may be focused to:

- Support development of specific College-Ready SELs, including, **goal setting, leadership, future expectations, college-going mindsets, academic self-efficacy, academic motivation, sense of belonging, and self-regulation;**
- Tailor programming and tailored student supports to address the needs and lived realities of specific students and student groups

Policymakers

Policymakers play a critical role in shaping dual enrollment policies that promote equity and success. Policymakers may consider dual enrollment policies that allow for adaptive and nuanced implementation of programs to support specific student needs and contextual realities, so that this powerful strategy can be optimized to deliver on its significant potential for reducing inequalities in secondary and postsecondary education for minoritized students. By supporting nuanced practices and impacts, policymakers can guide implementation of more equitable and impactful DE strategies, ultimately contributing to the reduction of systemic disparities in education across the United States.

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