

THE RURAL EARLY COLLEGE NETWORK 2.0 (RECN2)

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THE RURAL EARLY COLLEGE NETWORK 2.0

Introduction: Response to Priorities. The Center of Excellence in Leadership of Learning (CELL) at the University of Indianapolis, is applying for this Education Innovation and Research (EIR) Mid-Phase Grant to support its Rural Early College Network 2.0 (RECN2). Rigorous evaluation has shown Early College (EC) increases success for high-need students in postsecondary and career readiness. Using a network of mentor and partner rural high schools (HSs), RECN2 will accelerate EC implementation by providing training, technical assistance, and coaching. RECN2 will also improve student achievement and increase postsecondary options. RECN2's 20 participating HSs will impact 11,000 high-need, rural students.

RECN2 will address **Absolute Priority 1 – Moderate Evidence** by replicating the positive student outcomes found in the American Institutes for Research (AIR) *Early College: Early Success* study and the studies included in the What Works Clearinghouse (WWC) *Dual Enrollment Programs* intervention report (Berger et al., 2013; WWC, 2017). The study and intervention report (identified on the Evidence Form) along with descriptions of how the positive student outcomes and practices implemented correspond with RECN2's intended outcomes and practices. The RECN2 project replicates the student population/settings in the two sources, and we believe will generate similarly positive outcomes.

Absolute Priority 2 – Field-Initiated Innovations—General. Building on previous EC studies, RECN2 will achieve the end goal of developing and implementing multiple models (traditional academic and career-technical [CTE]) of EC across the state to meet students' varied postsecondary needs. Because EC emphasizes the value of postsecondary education, it prepares underserved students for 2- or 4-year college or technical training and supports students in accessing and continuing in postsecondary education.

This project is unique in two regards: *(1) it focuses on improving outcomes for students in rural HSs.* Rural communities were disproportionately affected by the 2008 recession and most recently by the pandemic (Sanders, 2022). With the objective of implementing EC in HSs more quickly, RECN2 will leverage the model's impact on both educational attainment rates and economic development. Through RECN2, CELL will provide training and mentoring to a network of 20 HSs to strengthen curriculum and instruction. Professional development (PD) will ensure network HSs adhere to best practices for delivering rigor while supporting students exploring post-HS options. *(2) RECN2 provides significant support for rural teachers, counselors, and administrators to implement and sustain EC.* Turnover and educator shortages have hit rural Indiana school districts especially hard as they try to compete with larger districts in attracting and retaining staff (Swensen, 2023). In our initial 20 RECN HSs, there were 14 principal changes and 9 superintendent changes in five years! We did not keep track of teacher and counselor changes, but those numbers would also be high. In RECN2, we have systematically designed wide-ranging PD, coaching, and support mechanisms for all educator groups. If teachers, counselors, and principals are better supported and their needs met, they, in turn, can better support their students and help them achieve success.

Competitive Preference Priority 1 - Promoting Equity in Student Access to Educational Resources and Opportunities: CELL will partner with Indiana's only statewide community college system, Ivy Tech Community College (ITCC), on the RECN2 project. Ivy Tech is a large community college network of over 40 campuses and nearly 100,000 students. This partnership will allow RECN2 to promote equity in student access by a) focusing primarily on the implementation of dual credit (DC) and EC programs for underserved students using Ivy Tech as the dual credit provider, b) hiring Ivy Tech College Connection Coaches (CCCs) to serve the 20

RECN HSs, and c) receiving Ivy Tech student and course data to better focus supports for students and coaching for educators.

CELL is currently completing a 2019 Mid-Phase grant for RECN, the forerunner to RECN2. Despite the pandemic, RECN accomplished most of its intended original outcomes, helping participating schools meet students' new and growing needs created by COVID-19. In IN, our college-going rate dropped from 59% to 53% in 2019 and has not recovered, reflecting national decreases (ICHE, 2022). Rural students' college-going rates, already lower than their non-rural counterparts, have also significantly decreased (ICHE, 2021a). Rural HSs have reported significant increases in students' mental health issues, while attendance and grades have dropped. Teachers have been leaving the profession in higher numbers due to the stresses inflicted by the pandemic (Steiner & Woo, 2021). Learning loss is also significant across all grades. Our RECN EC students missed almost two years of in-person instruction, and their lack of maturity and below-grade-level achievement are roadblocks for their teachers struggling to remediate academically, socially, and emotionally (Fahle et al., 2023). We believe the framework and approach we have used in RECN should be scaled, and we have some aspects we need to enhance before taking the project to scale. Thus, we are requesting another round of Mid-Phase funding to support and evaluate a new set of rural HSs implementing EC as a model for addressing learning loss, mental health issues, and disengaged students through the RECN successful practices that have worked. These practices include:

- Network: Our 20 HSs meet 3 times per year for PD and to discuss EC practices and issues.
- Quads (1 mentor HS with 3 partner HSs): These biannual meetings are smaller and more focused on regional needs, problems of practice, and progress monitoring.

- Teachers: During Network and Quad meetings, teachers meet by content areas. Rural teachers can be a department of one, so the meetings provide opportunity for peer learning.
- Counselors: Like teachers, counselors meet to discuss college and career transitional practices, student supports, social-emotional needs, and new HS requirements.
- Leadership: Principals and district superintendents discuss school policies annually to support and sustain EC efforts.
- PD: Resources and training grow and support teacher and leader development.
- Coaching: Each HS has a CELL coach and mentor HS to support becoming endorsed.
- Focus and accountability on the EC Core Principles (CPs): CELL provides an accountability structure and regular meetings that support schools to meet targets and deadlines as they work to become endorsed as high-quality Early College High Schools (ECHSs). In fact, RECN has been so successful that the Indiana Department of Education asked CELL to replicate a network for urban HSs called UCAN (Urban College Acceleration Network).

Although we have strong outcomes in RECN despite the pandemic's impact, we welcome the opportunity to demonstrate even stronger outcomes in RECN2.

A. Significance: National Significance of This Project: This project elevates the assets of rural communities while also addressing challenges in increasing postsecondary attainment rates — distance from universities and industries, poor internet connectivity, high poverty, and low college completion rates. With nearly 30% of U.S. HSs being rural (Education Commission of the States, 2017), RECN2 is a game-changer for high-need students and rural communities as it develops rural ECs that prepare students for postsecondary education, award certifications, address local workforce demands, and can be validated and scaled across the nation.

To help rural students become more prepared for postsecondary, research shows that they need skills to attend and complete degrees. In addition, many rural communities do not provide amenities to retain residents or continue to attract newcomers. To address both of these needs, RECN provided teacher PD on place-based education (PBE). This strategy “expands student’s skills and leadership mindsets beyond subject mastery to apply knowledge and feedback, engage in reflection, and develop collaboration and communication skills, beneficial for college and career (Cardenas, 2022). By instructing both HS students and teachers in PBE through RECN2, a cadre of current student-teacher-residents assist their communities with developing community engagement and support students’ well-being. PBE effectively connects individuals to their communities, increasing their social capital and benefiting teachers and students (Beames & Atencio, 2008). This will not only improve aspects of the community, but also build deeper connections among the teachers, students, and community, potentially driving economic development. For example, one HS from RECN is opening a coffee shop in its tiny town to employ students and provide work-based-learning (WBL). The coffee shop was launched after receiving training on PBE. This is another scalable practice for other rural HSs and communities.

A national teacher shortage exists that was exacerbated by the pandemic (Steiner & Woo, 2021) and still continues. Rural schools have been significantly impacted because fewer qualified applicants are willing to teach in rural areas (Oyen & Schweinle, 2020). CELL is working to help schools develop teacher education pathways in HSs to nurture a pipeline of future educators. RECN2 will strive to develop this pathway in these rural HSs.

The EC model is increasingly recognized nationally by policymakers as an effective strategy to help underserved students (AIR, 2020). RECN2 offers an improvement network approach, accelerating rural HSs to become effective, high-quality ECs, better preparing

students for the future (AIR, 2020). In the first RECN, repeatedly we saw the effectiveness of networking school teams across IN to work on the common goal of EC implementation.

Promising New Strategies: EC compresses the time it takes to complete a HS diploma *and* postsecondary credential while targeting certain populations: low-income, first-generation (FG), high-risk, and students of color. EC is based on the principle that academic rigor and the opportunity to save time and money are powerful motivators for students to work hard and meet serious academic challenges. Research shows EC is effective at improving students' non-cognitive abilities, enhancing engagement, and mitigating the effects of poverty. Multiple studies conclude that EC students are more likely to graduate HS, enroll in college, and earn a degree, regardless of gender, race/ethnicity, family income, prior achievement, and FG college-going status (Berger et al., 2013; ██████████ et al., 2017).

One method of EC expansion is locating ECHSs on postsecondary campuses. HE is often inaccessible for rural IN students, so CELL responded by embedding EC within HSs. Since receiving a 2003 Gates Foundation grant to establish ECs in IN, CELL has been the state's lead cultivator, trainer, and supporter of HSs implementing the EC model. In 2013 and 2019, the Indiana Commission for Higher Education (ICHE) named CELL the sole endorser of high-quality ECHSs (Appendix J, pg. 62). Expanding EC across IN has benefited a variety of HSs and students, and rural HSs are a large proportion of HSs seeking to offer EC.

To ensure fidelity, CELL developed an EC model based on eight CPs, more than the five principles used by other states (Berger et al., 2013). CELL's principles build on existing strategies, providing guidance for HSs implementing EC (see Appendix J, p. 48). CELL's EC initiative is also unique in its use of an endorsement process to ensure high-quality ECHSs (see Appendix J, p. 55). The process involves data collection, portfolio development, and a CELL

leadership team (CLT) visit to the HSs to conduct interviews with EC stakeholders (school leadership team, students, parents, central office, HE partners). HSs scoring high on all aspects of CELL's EC rubric are then awarded endorsement, with re-endorsement occurring every five years (see Appendix J, p. 49, 55). The alternative delivery of EC in HSs instead of on college campuses, CELL's expanded principles, and our EC endorsement process are promising practices CELL will share with other states/regions. In addition, CELL's CPs are continually reviewed for relevance; as a result of the current RECN, we revised our academic and technical EC rubrics and our endorsement process. Revisions included adding rigor indicators and requiring a school leadership team (SLT) for each endorsed HS.

The RECN2 implementation offers a distinct approach by expanding EC to additional rural HSs. RECN2 includes infusing rigorous college and career readiness (CCR) into EC implementation to accelerate postsecondary success for high-need students and demonstrating the flexibility of EC (e.g., various pathways and organization of students). RECN2's unique features include 1) providing PD on PBE for rural educators, an instructional approach that combines service and project-based learning (PBL); 2) offering principal mentoring and coaching, teacher leadership development, and counselor support and renewal for continuity and consistency within the EC program in these high-need schools to strengthen sustainability; 3) leveraging EC as a statewide rural economic development strategy; 4) adding/enhancing advisory programs to provide students more social-emotional support and college-career readiness, and 5) providing College Connection Coaches (CCCs) from Ivy Tech to assist students with preparation for and transition to postsecondary education.

RECN2's mentor and network approach, with successful, endorsed ECHSs mentoring new HSs, is a highly-effective practice. RECN2 will develop a cohort of high-performing rural

ECHSs focused on increasing the number of high-need students graduating from HS ready for both postsecondary and careers. Through RECN2, these practices will be shared statewide and nationally, allowing faster scaling of successful strategies in multiple communities.

The ICHE released *Early College Credit: Dual Credit, AP & The Broader Landscape of Earning College Credits in High School* in January 2019 and the *Indiana Early College Credit Report 2021* in January 2021. The findings indicate that IN EC graduates performed better than non-EC graduates in terms of college-going, college persistence, and degree completion (ICHE, 2019; ICHE, 2021b). The EC data were reported by HSs that CELL trained and endorsed. The table below summarizes EC findings in ICHE’s reports.

Early College Credit*, ICHE, January 2019 & 2021, College Graduates

	EC grads enrolling in IN public colleges within 1 year of HS graduation		Non-EC grads enrolling in IN public colleges within 1 year of HS graduation	
	2019	2021	2019	2021
College Going	78%	93%	65%	37%
Persistence	70%	75%	66%	57%
Completing Degree Within 4 Years	43%	57%	35%	26%

**Includes Advanced Placement Credit in addition to Dual Credit*

CELL’s endorsed EC programs track each graduating cohort’s various data. The next table highlights student credit earnings and financial savings for 2018-19 and 2019-20 below.

CELL Endorsed Schools Data: Credits Earned and Financial Savings

	2021-22 (n=44)	2022-23 (n=54)	Biennium Total
Total EC Grads from Endorsed HS*	3,873	4,831	8,704
Total DC Hours Earned	118,533	147,679	266,212
Total Reported Tuition Savings**	\$23,265,327	\$27,451,254	\$50,716,581

**Data reported in End-of-Year Reports from endorsed ECHSs.*

These data are especially compelling since EC students are from traditionally underserved populations, typically less likely to succeed in postsecondary. EC opens the door for underrepresented students to enter and succeed in postsecondary education.

B. Strategy to Scale: Strategies that Address Barriers: The main strategy for scaling is the *network*, with mentor and partner schools connecting and working together to overcome barriers. RECN2 will assist small, rural IN HSs in efficiently implementing the EC model with fidelity. Five mentor HSs will each work with three partner schools. These 20 HSs will form RECN2. The mentor HSs have been determined—Logansport, Rising Sun, Sheridan, Southridge, and Winchester, partner HSs in RECN. During the first six months of the project, CELL will provide training and resources to the mentor HSs, creating systems of support for them to assist partner HSs. The CELL Leadership Team (CLT) and mentor HSs will conduct a selection process to determine the 15 partner HSs from rural areas that meet the federal locale code requirement.

To guide HSs’ work, several structures will be implemented. The CLT, the evaluation director, and one administrator from each HS will form the Project Leadership Team (PLT). The PLT will convene 4-5 times a year to plan meetings, monitor data, and troubleshoot emerging issues. Each HS will be assigned a CELL coach. Also, each participating HS will form a School Leadership Team (SLT) composed of—at a minimum—the principal, counselor, at least two DC teachers, and the CCC, with additional staff eligible to serve on the team. The SLT will meet monthly to guide their EC implementation as well as focus on student needs. These structures and schedules evolved during the first rendition of RECN and, because of their success, will continue in RECN2. Additional barriers we will address through the network are below:

Barrier 1: Costs for College

Strategies: More students taking DC and Advanced Placement (AP) coursework • HSs offer the Indiana College Core (see Appendix J, p. 59)

Background/Rationale: ICHE has invested significant time and money identifying barriers to students going to postsecondary education, and the number one barrier is cost. Cost leads other factors by wide margins, strengthening the argument for EC and students earning DC in HS.

Barrier 2: Time to EC Endorsement

Strategies: Provide structured time and coaching to plan and accomplish: updating curriculum, offering more DC courses, increasing rigor, creating a continuum of supports for postsecondary readiness

Background/Rationale: The typical timeline to become an endorsed ECHS takes about 3-5 years, meaning many students will miss this opportunity. A rural HS network can accelerate EC implementation and endorsement, and this has been borne out in the current RECN project. Our 15 current RECN partner HSs achieved endorsement in 2-1/2 to 3 years. RECN2 would help us further refine our practices so we can accelerate and scale EC implementation statewide and nationally.

Barrier 3. DC Teacher Supply

Strategies: Provide funding and tuition support and/or salary schedule incentives for teachers to continue their education and get credentialed for DC instruction

Background/Rationale: In 2014, the Higher Learning Commission (HLC) increased requirements for adjunct faculty and HS staff who teach DC courses to take effect in September 2025. Since IN is an HLC state with over 2,500 teachers providing DC instruction, this change has had daunting implications for IN's robust DC offerings. In the previous decade, IN removed financial incentives from district salary schedules, so few teachers now earn master's degrees. Financial incentives are needed to encourage teachers to earn the necessary graduate credits to teach DC courses (Butler & Riggs, 2022).

Barrier 4: Funding

Strategies: CELL will study how RECN2 schools spend their allotted funding and determine the amount of funding essential to launch and sustain ECHSs to inform prospective HSs, policy and legislation.

Background/Rationale: HSs approaching CELL about implementing EC have various program components in place, such as student supports, tuition and textbook funding, and varying numbers of credentialed teachers. Most schools adjust their budgets and/or commit to raising funds to implement EC. During the initial RECN, we could not accurately determine

EC program costs because HSs also received ESSER funds, which made it difficult for some to expend all of their RECN funding.

Barrier 5: Sustained Leadership

Strategies: Provide PD and incentives to teachers for focused training • Convene all counselors for renewal and support • Mentor and coach partner HS principals

Background/Rationale: Much attention has been focused on the shortage of teachers throughout the nation, but little notice has been paid to changes in leadership and counseling. Indiana not only has a shortage of teachers, but also a shortage of principals, superintendents, and counselors. Districts are often scrambling to find school & district leaders & are often left to settle for less qualified candidates (Diliberti & Schwartz, 2023). In RECN’s first five years, 14 principals and 9 superintendents changed across the 20 districts! IN also saw the counselor-to-student ratio increase from 450 students to 694 students in a caseload (Bouthier, 2023)!

Barrier 6. Post-Pandemic Issues

Strategies: Inclusion of Advisory Programs and SEL curriculum • CELL coaching on cultural and socioeconomic issues impacting college-going • Networks among role-specific individuals across schools • Quad and Network meetings addressing common HS problems/issues

Background/Rationale: The pandemic exacerbated the decline in college-going rates for IN students, with a 6% drop from 59% in 2019, to 53% in 2020 (ICHE, 2022). The decline was even more pronounced for student populations who have been historically underrepresented in postsecondary education - including rural students. Students continue to demonstrate increased absenteeism, more disengagement in school, and mental health issues.

Factors contributing to the decline in college-going among rural students during and after the pandemic include the social/emotional and academic challenges they faced (as discussed above) and the broader economic forces facing them, their families, and communities. As Sowl and Crain (2021) explain, “Higher education cannot respond to issues of rural educational inequity, particularly college access, if it does not understand the processes and mechanisms involved in rural life.” Specifically, factors influencing college decisions for rural students include “student attachment to family and place, family/school/community messaging regarding

the value of a college degree, academic self-efficacy and preparation, socioeconomic status, and perceptions of the local labor market” (Sowl & Crain, 2021). CELL will provide substantial resources, coaching, and PD to RECN2 HSs to ensure postsecondary success for rural students. The networking among RECN leaders was vital during the pandemic. Leaders were able to brainstorm and troubleshoot with one another and developed relationships that will last long after the grant ends.

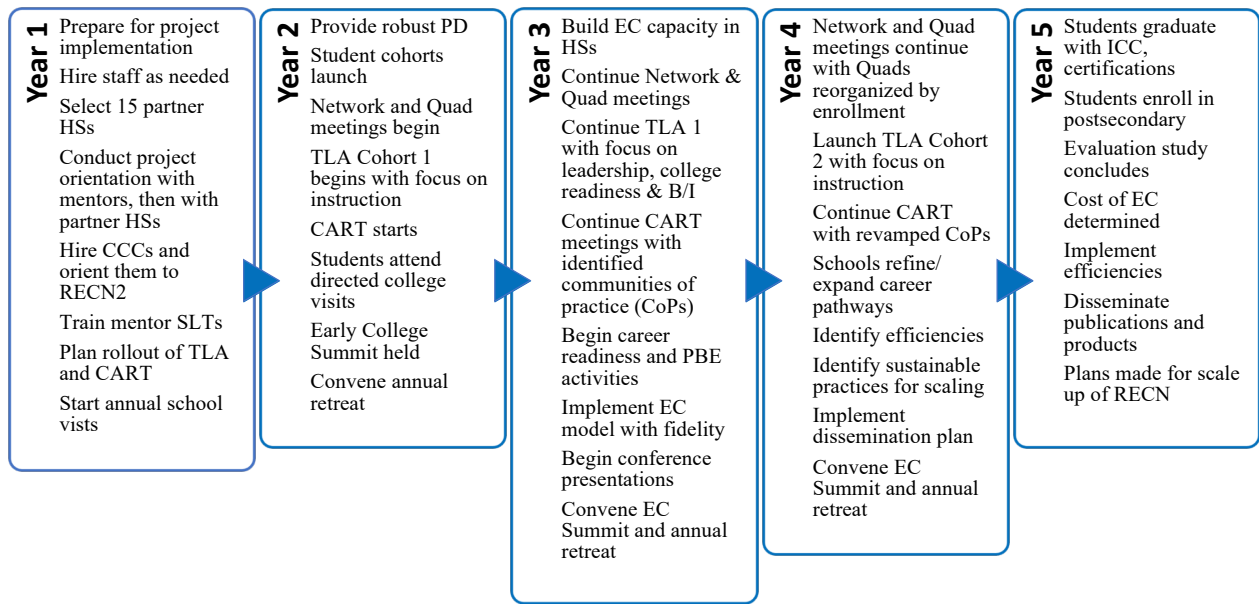
IN has the 8th largest rural student population in the U.S, with 1 in 4 IN students attending a rural school (Hartman et al., 2023). These small HSs are continually asked to do more with less time and money. Rural schools already have their staff performing multiple roles, for which the staff may not have been trained. RECN2 will provide invaluable time and coaching to allow HSs the opportunity to plan and create pathways, resources, marketing materials, partnerships, etc., crucial to successful ECs. And half of school leaders are considering a career change or retirement, and almost 3/4 of leaders indicated they need help with their mental or emotional health (NASSP, 2022). As schools seemingly become more responsible for all the ailments of society, the quality and continuity of leadership are more critical than ever, especially for fostering a specific skillset and knowledge base to support the EC model.

The turnover in leadership within the first RECN had the potential to derail implementation. To prevent this, we intend to develop teachers as leaders with leadership training created specifically for the EC model. Teachers will be more likely to stay in their position if they are adequately prepared to make decisions for their programs and HSs. An addition to RECN2 will be a two-year Teacher Leadership Academy (TLA) beginning in Year 2 (more detail in Budget Narrative). TLA will provide specialized training to develop a pipeline of future ECHS leaders with 1) a strong understanding of the HE system, 2) the specific supports

that encourage college-going (especially among marginalized student groups), 3) specific knowledge of student financial aid and credit transfer, 4) more rigorous instructional strategies, and 5) strategies and best practices for teacher leaders.

Another addition to RECN2 is the Counselor Action and Renewal Team (CART). In the last three years, the IN legislature has passed a slew of HS requirements and changes, with responsibility for most landing on counselors. IN already has the worst counselor-to-student ratio in the US (Bouthier,2023), and the additional stress of new, demanding requirements is driving more counselors out of schools (Hartman et al., 2023). Repeatedly we found the counselors in RECN needed time to meet together to share strategies and offer support to one another as they navigate the ever-changing HS landscape in IN. To better support our RECN2 counselors, we will add CART, a mechanism for helping counselors understand and handle HS requirements as well as juggle their many responsibilities. Each of the RECN2 counselors will be paired with a RECN counselor counterpart so that they have a thought partner. At CART meetings, counselors will create and participate in communities of practice (CoPs) on issues and topics they want to focus on, such as new HS diplomas, social-emotional needs (student and adult), college readiness, career preparation, etc. CoPs will work on strategies to share with the whole CART to benefit all counselors in their work. (See more CART detail in Budget narrative). CART will launch in Year 2 and continue through Year 5.

Adequacy of Project Management Plan: The charts below show the overall management plan over the life of the project. The detailed Project Management Plan is located in Appendix J, page 2. The external evaluation will document progress aligned to the management plan, the logic model, goals, and the performance objectives.



Timelines are essential for accomplishing project goals and objectives in an organized, expedient manner. See Activity and Milestones chart below for REC2’s timelines.

Activity with Milestones	Responsibility	Y1	Y2	Y3	Y4	Y5
Prepare for project implementation: • secure agreements • hire staff • meet with evaluators • set up leadership • train mentors • implement partner HS selection process • gather baseline data • conduct orientation with schools • schedule year’s meetings	CELL Leadership Team (CLT), Evaluation Director, Project Support Team	Q 1-2				
Provide robust PD & support for EC implementation: • lead school- and role-specific PD to school staff • offer network-wide PD on CPs • establish incentives to credential teachers for DC • foster HS and HE teacher collaboration on DC curriculum • coach mentor principals • provide support to new CCCs	CLT, School Leadership Teams (SLTs)	Q 3-4	Q 1-4	Q 1-4	Q 1-4	Q 1-4
Implement EC model with fidelity: • provide PD & support on CPs • develop and implement advisory programs • create student support continuum • organize	PLT, SLTs, EC teachers & counselors	Q 3-4	Q 1-4	Q 1-4	Q 1-4	Q 1-2

college visits for students • schools achieve EC endorsement • offer study visits to ECHSs in IN and out of state						
Teacher Leadership Academy (TLA): • recruit teachers to participate • create curriculum and training materials • provide training/support throughout (2 cohorts)	CLT, HS principals, EC teachers		Q 1-4	Q 1-4	Q 1-4	Q 1-4
Counselor Action & Renewal Team (CART): • recruit RECN & RECN2 counselors to participate • design meeting format, CoPs • provide training/support throughout project	CLT, school counselors from RECN & RECN2					
Engage students: • enroll students in EC program/DC courses • take students on college & business visits • engage in PBE • increase WBL involvement • provide academic, social/emotional & CCR supports	SLTs, CCCs	Q 3-4	Q 1-4	Q 1-4	Q 1-2	Q 1-4

Applicant’s Capacity: A successful project depends on talented professionals for optimal implementation. See Appendix J, page 5 for a table depicting the key personnel listing specific people and their responsibilities in RECN2. Resumes in Appendix B depict the deep experiences and skills of key personnel, and additional details about project responsibilities can also be found in the Personnel section of the Budget Narrative. The majority of personnel worked on the original RECN project and thus, are well qualified for implementing RECN2.

CELL will contract with Ivy Tech Community College on two project aspects. A stipend will be paid an existing staff member to collect data on RECN2 students and schools so the PLTs can monitor progress and create interventions as needed. In addition, ITCC will hire four College Connection Coaches (CCCs) dedicated to each serving four to five RECN2 HSs. The CCCs will provide services to each HS in terms of enrolling and advising students, assisting with transfer, and other duties to assist school counselors. CCCs will attend all Network and

Quad meetings, the summer retreat, and SLT meetings as part of their duties. The addition of these CCCs will provide significant help to short-staffed rural HSs.

Dissemination mechanisms: RECN2 encompasses a multi-pronged dissemination strategy that will ensure that tools, resources, and knowledge created through the project will support the communication of RECN practices and the scaling of RECN in the future. Our strategies include 1) documenting successful practices that carry over to our IN EC Network and position CELL for scaling up RECN on a regional or national basis, 2) development of a guidebook for CCCs or similar roles in other organizations, 3) compiling project resources developed in RECN2 to support replication and expansion, 4) conference presentations, 5) white papers and blog posts, and 6) leveraging multiple strategic communications channels to ensure broad dissemination. For a complete list of anticipated project products, see Appendix J, page 71.

Practices for accelerating EC implementation and effectively networking HSs will carry over to CELL's statewide EC Network. Refinements to existing materials, training, and outreach will be benefits from RECN2. CELL will use RECN2's framework to create other EC networks for HSs regionally located, with specific populations such as additional rural HSs, urban, and ELL, and/or with a STEM or PTECH focus.

RECN2 will use data in its advocacy effort with legislators, policy makers, and external funders to gain support for further EC expansion. To generate funding, CELL will inform IDOE, ICHE, and legislators about the financial support and teacher credentialing incentives needed for ECHS launches and implementation.

A guidebook developed by the CCCs will offer guidance on effective HE-HS partnering, ways to assist schools with student advising and credit transfer needs, and tools for reporting and using data generated. This product will be of special value to Ivy Tech.

CELL will disseminate information on RECN2 during the project and at its conclusion. CELL's publications will share RECN2 information and initially invite rural HSs to apply to be partner schools. During the summers of Years 1-5, CELL will hold a summit for IN HSs, HE partners, and other state stakeholders to showcase RECN2 HSs' practices and outcomes as well as showcase other ECHSs with effective practices. Communications will promote the conference and provide highlights during and after the event. The conference, open to attendees from outside IN, will disseminate RECN2 findings.

CELL will continue its communication and marketing of RECN2's successes to communities, scholarly journals, and other media. CELL and SERVE staff and RECN2 HS leaders will present at state and national conferences. For the current RECN project, we have presented at five national conferences in the past year alone. In addition, a variety of social media—Facebook, LinkedIn, and X—and a RECN webpage will share RECN2 progress and accomplishments.

Utility of the products: All RECN2 products will be designed with utility and usability across a variety of settings and audiences in mind as we plan for expansion and scaling. CELL intends to create and share products and resources. RECN2 will provide an opportunity to update both EC rubrics, our endorsement procedures, and the CPs. These resources are fundamental to our work and are frequently requested by organizations in other states.

The Quad model in RECN2 allows for deeper relationship building among schools, and the next step could be shared programs and shared staffing. Rural HSs often have difficulty

providing a DC course, so sharing staff across districts would provide an economy of scale that supports both schools. This could be accomplished across the four schools in a quad or done geographically and recruit neighboring HSs into the collaborative. Documentation of action steps and on-the-ground strategies will help other states with similar staffing issues.

A series of webinars and/or “Lunch and Learns” will test interest in RECN2 practices and strategies and help us refine our products and delivery across multiple platforms. A focus on working with underserved and/or rural students to prepare them for college and careers will be a theme throughout many of our products and presentations.

C. Quality of the Project Design: Conceptual Framework: The logic model embodies the RECN2 framework and will guide project implementation and evaluation (see Appendix G). The RECN2 logic model identifies the Key Components (KC), mediators, and outcomes across three domains (identified by color) – network (orange), school (blue), and student (gold). The combined logic model (Figure X-2) identifies support activities implemented by CELL and the mentor schools to support the network and school staff (KC1). These activities support the EC intervention (██████ et al., 2022; Song et al., 2019) through school-level structures (KC2) and EC student cohort activities (KC3) to support the implementation of the EC CPs with increasing quality and breadth to enhance postsecondary readiness. The network supports are also intended to enhance peer-to-peer learning for continuous improvement and increased capacity to manage and sustain EC programs.

The program theory is that student outcomes -- including attendance, success in core HS courses, success in college-level courses, and improved performance on college readiness exams-- will be enhanced for all students in each school, with an additional impact on students in the targeted cohort intervention. Enhanced postsecondary readiness for students during HS is

connected to Goal 1. Goals 2 and 3 then support Goal 1 by building the capacity of educators to implement high-quality EC programs and building network-wide efficiencies with more teachers able to deliver DC, more endorsed EC programs, and enhanced network support for EC.

Goals, Objectives, and Outcomes: RECN2 focuses on three goals: 1) increase students' college readiness and postsecondary acceptance, 2) strengthen educator supports so that they can better serve students and sustain the program, and 3) increase efficiencies to build capacity and sustainability for RECN2 HSs. The Management Plan details goals, objectives, activities, start/end dates, and measures (see Appendix J, p. 2).

Design Addresses Needs of Target Population: A key emphasis of EC is its target student populations, who have not considered themselves college material. The EC model helps students change their perspective through college visits, DC courses, and WBL. Many parents are not aware of the complexities of college and cannot serve as strong advisors or advocates for their children to pursue postsecondary education. RECN2 will help HSs prepare parent engagement activities so parents can learn about the opportunities available to their children, becoming more knowledgeable supporters of postsecondary options.

RECN2 addresses the needs of HS students who have experienced many challenges. The EC model is designed to help all of these student populations because it is flexible *and* has academic, CCR, and social/emotional support built into the model. Student supports are scaffolded from grades 9-12. Academically, HSs assist 9th-10th grade students by strengthening their math and literacy skills, preparing them for the rigorous DC courses. Concurrently, teachers and counselors help students with the stress of rigor by focusing on time management, organizational skills, and self-advocacy. For upperclassmen taking increased numbers of DC courses, other support structures can be put into place—study tables, tutors, study groups,

resource periods, etc. Advisory programs and PBE are other ways that this project will address the needs of targeted student populations.

CELL staff have repeatedly witnessed how the EC model is a game-changer for under-served students. First, students become motivated to earn significant numbers of DC, often resulting in the Indiana College Core (ICC) or even an associate's degree. (In Indiana, the ICC is 30 hours of HE gen-ed courses, which are guaranteed to transfer to all public state HEIs). When they learn about the savings in money and time from EC participation, true believers are born. EC graduates often return to their home HSs to share with their teachers how well EC prepared them and how many more options opened up to them as a result of earning significant amounts of DC. Students may lessen their college course load by semester, may graduate early, add more majors or minors, study abroad, start graduate work earlier—all as a result of being in EC!

In the last decade, CELL has trained over 150 HSs and CTE centers on CELL's CPs. HSs range from tiny to large enrollments and are located in urban, rural, and suburban communities. These HSs use various configurations to implement EC, including cohorts, school-within-school models, and whole school designs. EC is a flexible model easily replicated in any setting and with varied student populations. CELL plans to replicate RECN2 with more rural HSs to help improve student outcomes and change students' lives, and we envision other states would use CELL's network format and practices to scale this accelerated EC implementation.

One project outcome is to accelerate the time it takes HSs to achieve EC endorsement, and while CELL has trained over 150 HSs and career centers in EC, only 59 have achieved endorsement. Generally, HSs achieve endorsement in 3-5 years. But with RECN2's continual technical assistance, coaching, and emphasis on networking, we anticipate RECN2 HSs' progress toward endorsement will be accelerated to 2-3 years based on our RECN experiences.

D. Evaluation Plan. The Early College Research Center (ECRC), housed at the SERVE Center at the University of North Carolina at Greensboro (a minority-serving institution), will conduct the external evaluation of RECN2. The Principal Investigator (PI), [REDACTED], has 15 years of experience with the EC model, including eight years as an evaluator of designs meeting WWC standards. The evaluation team also includes [REDACTED], [REDACTED], and [REDACTED], who *each* have 10-20 years of experience in EC research and evaluation through studies meeting WWC standards. ECRC's deep experience in the EC model (including in IN) will allow the evaluation to situate the Indiana EC model in a national context.

RECN2 will support a targeted cohort of students (assessed by an RCT study) and schools as a whole (evaluated by a QED study). The cohort activities focus on grade 9-10 interventions to help students prepare for postsecondary expectations. The whole-school activities focus on school-wide initiatives (e.g., PD and students in grades 11-12) to prepare students for postsecondary and increase college-level course-taking. Due to the data collection and student selection timing, the random assignment study can only assess early-in-HS outcomes. However, schools' implementation of EC will include all students in grades 9-12 in each treatment year. The QED will analyze school-level impacts for cumulative HS and early postsecondary outcomes for students in RECN2 schools during the study period. The theory of change is that all students will benefit from activities by creating high-quality EC programs. Students in the cohorts will receive additional benefits to help them take full advantage of EC.

Methods Produce Evidence that Meets WWC Standards without Reservations: The primary impact study will measure grade 9-10 outcomes of the intensive EC intervention using an RCT. In the 15 partner HSs, two cohorts of incoming 9th-grade students will be randomized to treatment (T) or control (C) conditions before the 2026-27 and 2027-28 school years.

T students will participate in EC activities in grades 9-10 to help them complete DC courses and prepare for postsecondary. T students will also have higher expectations to enroll in DC courses. C students will attend the same HSs and receive the business-as-usual services that all students receive. C students will have access to DC coursework without the intensive T group activities.

The study will examine the impacts of two years of intensive EC intervention. Measuring program impacts at this point will maximize the sample size of students in the intervention that can be assessed during the grant period. The RCT study will answer the question: What is the impact of two years of exposure to student-targeted RECN2 EC program services on a) attendance, b) on-track completion of core academic HS courses, c) number of college credits, and d) scores on college readiness exams, compared to students in the same schools not receiving those services? We will also answer exploratory research questions on the same outcomes after one and three years. The table below summarizes the definitions of the outcomes and their corresponding domains from the WWC Transition to College Protocol 4.0. For outcomes in the same domain, we will use the Benjamini-Hochberg adjustment.

Outcome	Pre-Treat Covar	Domain	Definition
Attendance	8 th grade attendance	Attendance	Number of days absent
On-Track Completion of Core HS Courses	8 th grade ELA and math test z-scores	Progressing in School	Completion of core courses required for entrance into college with a C or higher, aligned with IN grad pathways
Receipt of College Credits	8 th grade ELA/ math z-scores	Academic Achievement	Number of credits earned through course DCs or 3+ score on AP exam
College Readiness Exams	8 th grade ELA/ math z-scores	Academic Achievement	Composite scores on the PSAT, taken by all grade 10 IN students

HSs will discuss the EC cohort opportunity with their spring 8th-grade students and families, after which students will apply to the program. HSs will submit lists of students to the evaluator for randomization. HSs will then create schedules and other structures to differentiate activities for their treatment cohorts. The evaluator will send student names (without IDs) to the IDOE. IDOE will return student-level data sets that tag student IDs (without names) by T/C status for analysis. This process has succeeded in previous EC work between the evaluator and CELL, both for selecting cohort students and obtaining data from IDOE.

This within-school randomization can be subject to crossover, with control students potentially benefiting from the additional support and school-level structures for the treatment group. The evaluation design mitigates these concerns in two ways. First, CELL and SERVE will work with the schools to develop structures such as specialized advisory periods and common cohort scheduling that help differentiate activities between T and C students. Second, the evaluation team will collect student survey and implementation data to ensure the HSs have feedback about and understanding of treatment-control differences.

Our analysis will use an intent-to-treat (ITT) framework, meaning that even if students do not participate in EC, they will be analyzed as part of the T group. Through Year 2 of the original RECN evaluation, the sample had an attrition rate of only 5% (2% due to the inability to match students in the IDOE data and 3% no longer attending Indiana public schools). We expect the attrition to be similarly low for RECN2. Per WWC guidance, if attrition is differential and high between T and C groups, we will assess baseline equivalence on pre-treatment demographic and achievement covariates and conduct matching to ensure groups are equivalent. We will use a linear model with students nested within randomization blocks. Random intercepts are estimated for each block, representing the deviation of each block from the grand mean intercept and

treatment effect. We will use the following Greek model, where Y_{ij} = the outcome for student i in block j , T_{ij} = treatment status, Y^*_{ij} = pre-treatment covariate (see table above), X_{mij} = other student covariates (economic disadvantage, race, ELL, SWD), and $Block_j$ = a unique lottery indicator. This model estimates a treatment-comparison impact for each block and outputs a precision-weighted estimate (β_1) for the overall treatment effect.

$$Y_{ij} = \beta_0 + \beta_1(T_{ij}) + \beta_2(Y^*_{ij}) + \sum_{m=1}^M \beta_{3,m}X_{mij} + \sum_{j=1}^{J-1} \beta_{4,j}Block_j + \varepsilon_i$$

We will conduct subgroup analyses by economic disadvantage and race/ethnicity using interaction terms. We will use the dummy variable method for missing outcome, pre-test, and covariate data. We will use Cox's Index for dichotomous variables and Hedges' g for continuous variables to calculate effect sizes. Our power calculations assume cohort sizes of 60 per school (35 treatment and 25 control), using the harmonic mean of the anticipated cohort sizes. To determine the Minimum Detectable Effect Size (MDES), we used the PowerUp model 2.3 for individuals randomized within blocks, with an average of 60 students in 30 blocks, an ICC of .20, and a level 1 covariate R^2 of .30. These assumptions yield MDES values of .15 SD for grade 9-10 outcomes.

School-Level Impact Study. The school-level study (detailed in Appendix J) will answer questions outside the scope and timing of the cohort intervention and is designed to meet WWC standards with reservations. We will use a comparative interrupted time series (CITS) design, using school-level data from 2017-18 through 2028-29. The impact study will address the question: What is the impact of at least two full years of school participation in REC2 on a) the number of cumulative credits earned (DC or AP equivalents), b) matriculation to a postsecondary institution, and c) SAT scores, compared to similar schools not part of REC2?

Evaluation Provides Guidance for Replication: The evaluation will provide guidance for replication through publications and dissemination, detailed implementation data collection and analysis, sub-investigations of innovative activities, and feedback/reflection among those implementing the program.

Publications and Dissemination. ECRC will collaborate with CELL to create products and regularly release findings to a variety of stakeholders. The ECRC has an established website, monthly newsletter, and LinkedIn presence through SERVE that will be used as primary channels to disseminate the work. The ECRC team and CELL will also present results from RECN2 at conferences targeting practitioners and researchers. We will also develop a series of products designed to reach a variety of audiences with support from the SERVE communications team. For example, we may create a journal article with an accompanying topic brief, infographic, and blog post. We also plan to publish the survey/interview instruments that others can use to implement the EC model in other settings. We will also develop an EC Implementation Guide with CELL and the RECN2 schools as a final product that will describe the Key Components in detail, along with local innovations, lessons learned, and relevant data.

Implementation Study Data. We will capture detailed data related to program implementation and the associated costs (i.e., monetary and time) from a variety of sources, including staff and student surveys, observations, site visits, interviews (including focus groups), and documents. We will also collect survey data from the C students within each HS and from a set of comparison school leaders to allow us to describe the business-as-usual condition. These varied data sources will allow us to document variation in implementation and its relationship to outcomes – both for the cohort and whole-school interventions. Implementation fidelity can be met while allowing and encouraging innovations in *how* the KCs are implemented in each

school. The implementation of the program in different rural settings allows for documenting local innovations regarding the way the various components are implemented, which will inform our Implementation Guide.

Sub-Investigations of Innovative Activities. The project also contains some features to support the EC model that have not yet been tested in previous studies. We will create briefs on components, including the Teacher Leadership Academy, peer-to-peer support for counselors (CART) and principals (mentors, CELL coaches), and the integration of Ivy Tech CCCs. We will also conduct a cost-effectiveness study by conducting a detailed cost study using the ingredients method and blending the results with impact study findings. [REDACTED] has completed the five-day course in conducting educational cost studies at Center for Benefit/Cost Studies of Education and is prepared to lead this work.

Feedback and Continuous Improvement. Providing ongoing feedback to CELL and the HSs is another key goal of the evaluation that supports replication. By reviewing the annual evaluation report and creating customized staff and student survey reports for each HS, the evaluation team will guide CELL and the HSs through cycles of data-focused reflection that benefit the dissemination of strong practices both among the network of RECN2 HSs and to the other 50+ HSs already implementing EC in Indiana supported by CELL.

Evaluation Articulates Key Project Components, Mediators, and Outcomes: The implementation studies align with the design of the impact studies to understand the components necessary for high-quality EC implementation. The student cohort implementation study (aligned to the RCT) will explore how the study schools implemented activities for EC cohorts in grades 9-10. The school-level implementation study (aligned to the QED) will explore

schools' EC program progress toward endorsement and beyond. The table below summarizes the implementation study questions and their connection to the impact studies.

Level/Study	Implementation Study Questions	Data/Analysis
Student Cohorts (RCT study)	RCT.Impl.1) To what extent were cohort activities (aligned to the EC CPs) implemented with fidelity?	FOI data collection in Y2-4, focus group interviews
	RCT.Impl.2) To what extent did EC cohort students' 9 th and 10 th grade experiences differ from their control group peers?	Student surveys for T/C groups in Y2-4, focus group interviews
School (QED study)	QED.Impl.1) To what extent were the key components of the School/Network Support Activities intervention implemented with fidelity?	FOI data collection in Y2-4, staff interviews
	QED.Impl.2) To what extent did schools implement elements of the EC CPs?	Staff surveys in Y1-5, interviews, and comparison staff surveys in Y1, 3, and 5.
Network (Sustainability & Scale study)	SCL.1) To what extent did RECN2 increase the number of a) endorsed ECs and b) DC credentialed teachers?	Descriptive data reported by CELL and project schools
	SCL.2) To what extent did RECN2 build sustainable EC practices throughout the network?	Project artifacts and implementation interviews
	SCL.3) In what ways did CELL apply lessons learned to enhance the EC endorsement process and EC support?	with items about sustainability, process, and support

We will use a Fidelity of Implementation matrix in Years 2-4 aligned with the KCs in the logic model. KC 1.1-1.4 are related to CELL and mentor school support to partner schools; 2.1-2.4 are school-level structures to support EC; 3.1-3.4 are EC cohort activities for the T group. We will aggregate the number of indicators met by each HS by adding the number of ones and

calculate a percentage of indicators met by each HS in each KC by dividing the sum by the number of indicators. A sample for cohort advising/ support activities is included below; the complete draft FOI matrix is in Appendix J, page 45.

FOI Indicator	Threshold for Acceptable Implementation
3.4a Specific Support for Underrepresented Groups	1 = Lessons/programming/support is offered that address challenges for underrepresented groups (such as first-generation students)
3.4b Individual Four-Year Plan	1 = At least 90% of cohort students have a four-year plan with HS and DC coursework
3.4c Students Meet with Advisor to Focus on Data & Individual Plans	1 = At least 90% of cohort students meet with EC advisor/cohort teacher/CCC about progress focused on data (such as grades and attendance) at least once per month
3.4d Parent Outreach	1 = At least one parent outreach event for cohort student families occurred during the school year

The evaluation will also measure mediating factors associated with each level of the evaluation. Through previous work, the evaluation team has developed survey instruments with CELL to measure the presence of implementation KCs and the EC CPs. The staff and student survey items were designed and validated through the RECN project from 2019-2024 and are included with reliability values (see Appendix J, p. 9). The staff survey instrument has items to measure schools’ development in the CPs (e.g., college-going culture, supports for student success), implementation factors (e.g., awareness, buy-in, communication, barriers), and perceived impacts. The student survey includes items measuring students’ perceptions of the cohort KCs, college readiness skills, enhanced relationships with peers and school staff, and increased postsecondary readiness mindsets (e.g., persistence). The mediators and proposed measures for each are summarized in the table below. Specific survey scales are included in italics in the instruments/measures column.

Primary Mediator Constructs	Instruments/Measures (See Appendix J, p. 9)
<i>Peer-to-Peer Learning for Continuous Improvement (See Figure X-3)</i>	
Engagement & satisfaction with network supports	*Session evaluations; staff survey (<i>Professional Dev., Network Benefits</i>); staff interviews
Knowledge sharing across the network	*Session evaluations; staff survey (<i>EC Communication</i>); staff interviews
Statewide collaboration on EC issues	*CELL and staff interviews, documents
Collaboration to address emerging “problems of practice”	*Network/Quad meeting observations and notes
<i>Increased Capacity to Manage and Sustain EC Programming (See Figure X-3)</i>	
Increased network- EC self-efficacy	*Staff survey (<i>Self-efficacy</i>); staff interviews
Increased feelings of support and connection to other schools	*Staff survey (<i>Feelings of Support, Connection to Other Schools</i>); staff interviews
Increased enrollment in and completion of graduate programs for teaching credentials	*Staff survey (<i>DC Credentialing</i>); Enrollment/completion records collected from schools
<i>School Implementation of the EC Model focused on the Core Principles (See Figure X-4)</i>	
Enhanced quality of CP implementation	*Staff survey (<i>8 scales</i>); Student survey (<i>Rig. Instr., 5 scales on readiness/support</i>); staff/student interviews
Enhanced awareness of and buy-in to EC	*Staff survey (<i>Awareness, Collective & Personal Buy-in</i>); Student survey (<i>Awareness, EC Satisfaction</i>)
Increased staff college-going expectations for students	*Staff survey (<i>College-Going Culture</i>); Student survey (<i>Postsec. Expectations</i>)
Increased college-level course offerings	*School-provided annual course offerings in alignment with postsecondary credentials
<i>Student Postsecondary Readiness Experiences (See Figure X-5)</i>	
Increased exposure to college and career readiness activities	*School reports of activities, staff and student interviews; Student survey (<i>Advising, Career Prep</i>)

Enhanced relationships with peers and school staff	*Staff and student interviews; Student survey (<i>Peer Belonging, Staff Relationships</i>)
Increased postsecondary readiness skills and mindsets	*Student survey (<i>Persistence, Postsecondary, Preparedness, College/Career Knowledge, Readiness for College, DC Success Support</i>)
Increased perceptions of relevance	*Student interviews; Student survey (<i>Relevance</i>)
Increased engagement in school	*Staff and student interviews; Student survey (Communities in Schools, 2021).

Finally, the outcomes for each study follow definitions from the WWC *Transition to College Protocol v4.0*. See the table in Section D, pp. 22-23 for details about the RCT outcomes and Appendix J for more information about the QED outcomes.

In summary, the RECN2 project will continue the success of the original RECN initiative and strengthen aspects of the project to make it more scalable as well as sustainable. RECN2 will prepare 11,000 high-need rural HS students for postsecondary enrollment and attainment using the EC model and the mentor-partner school framework. Principals, counselors, and teachers will be strongly supported through coaching, PD, and mentoring so that they are better skilled at supporting their students and the EC program. A rigorous evaluation will yield data and findings that will be disseminated using an array of publications and products.

Bibliography

- American Institutes for Research. (2020). *The lasting benefits of early college high schools: Considerations and recommendations for policymakers*. <https://www.air.org/sites/default/files/downloads/report/Lasting-Benefits-Early-College-High-Schools-Brief-Feb-2020.pdf>
- Azano, A. P., Eppley, K., & Biddle, C. (2021). *The Bloomsbury Handbook of Rural Education in the United States*. Bloomsbury Publishing.
- Beames, S., & Atencio, M. (2008). Building social capital through outdoor education. *Journal of Adventure Education and Outdoor Learning*, 8(2), 99–112.
<https://doi.org/10.1080/14729670802256868>
- Berger, A., Turk-Bicakci, L., Garet, M., Song, M., Knudson, J., Haxton, C., Zeiser, K., Hoshen, G., Ford, J., Stephan, J., Keating, K., & Cassidy, L. (2013). *Early college, early success: Early college high school initiative impact study*. American Institutes for Research.
https://www.air.org/sites/default/files/downloads/report/ECHSI_Impact_Study_Report_Final_0.pdf
- Bouthier, B. (2023). *Indiana has 1 counselor for every 694 students*. WFYI-Indianapolis.
<https://www.wyfi.org>
- Butler, T. & Riggs, S. (2022). *Expanding early access to college and careers: Recommendations for prioritizing and growing Indiana's pipeline of dual credit teachers through incentives and support*. Center of Excellence in Leadership of Learning (CELL) at the University of Indianapolis. <https://mailchi.mp/uindy/expanding-early-access>
- Cardenas, L. (2022). *Preparing college students for career and leadership development through place-based learning*. Center for Academic and Faculty Excellence, Claremont Graduate

University. <https://my.cgu.edu/faculty-excellence/2022/08/29/preparing-college-students-for-career-and-leadership-development-through-place-based-learning/>

Communities in Schools. (2021). Engagement monitoring & support tools: Student engagement surveys. <https://app.box.com/s/jqydevi2cl2rfinxysyu5zaer9fmb0wh>

Demarest, A. B. (2015). *Place-Based Curriculum Design: Exceeding Standards through Local Investigations*. Routledge.

Diliberti, M. K. & Schwartz, H. L. (2023). *Educator turnover has markedly increased, but districts have taken actions to boost teacher ranks: Selected findings from the sixth American school district panel survey*. RAND Corporation.

https://www.rand.org/pubs/research_reports/RRA956-14.html

Dumont, A. & Davis, D. P. (Eds.). (2021). *Investing in rural prosperity*. Federal Reserve Bank of St. Louis & Board of Governors of the Federal Reserve System.

[REDACTED]

Education Commission of the States. (2017). *Advanced placement access and success: How do rural schools stack up?* <https://www.ecs.org/wp-content/uploads/Advanced-Placement-Access-and-Success-How-do-rural-schools-stack-up.pdf>

Erlichman, D. (2020). *Improvement Networks*. Berrett-Koehler Publishers, Inc.

- Fahle, E. M., Kane, T., Patterson, T., Reardon, S., Staiger, D. O., & Stuart, E. (2023). *School district and community factors associated with learning loss during the COVID-19 pandemic*. Center for Education Policy Research at Harvard University.
https://cepr.harvard.edu/sites/hwpi.harvard.edu/files/cepr/files/explaining_covid_losses_5.23.pdf
- Hartman, S. L. & Klein, B. (2023). *The Middle of Somewhere: Rural Education Partnerships and Innovation*. Harvard Education Press.
- Hartman, S. L., Johnson, J., Showalter, D., Eppley, K., & Klein, B. (2023). *Why rural matters 2023: Centering equity and opportunity*. The National Rural Education Association.
<https://wsos-cdn.s3.us-west-2.amazonaws.com/uploads/sites/18/WRMReport2023DIGITAL.pdf>
- Indiana Commission for Higher Education. (2019). *Early college credit: Dual credit, AP and the broader landscape of earning college credits in high school*. https://www.in.gov/che/files/Early-College-Credit_Jan-2019_FINAL.pdf
- Indiana Commission for Higher Education. (2021a). *Indiana college equity report 2021*.
https://www.in.gov/che/files/2021_College_Equity_Report_07_14_2021.pdf
- Indiana Commission for Higher Education. (2021b). *Indiana early college credit report 2021*.
https://www.in.gov/che/files/2021_Early_College_Credit_Report_01_28_2021.pdf
- Indiana Commission for Higher Education. (2022). *Indiana college readiness report 2022*.
https://www.in.gov/che/files/2022_College_Readiness_Report_06_09_2022.pdf
- Johnson, K. M. (2022). Population redistribution trends in nonmetropolitan America, 2010 to 2021. *Rural Sociology*, 88(3), 193–219. <https://doi.org/10.1111/ruso.12473>

- Kristof, N. D. & WuDunn, S. (2022). *Tightrope: Americans Reaching for Hope*. Alfred A. Knopf Publishing.
- Maddah, H. A. (2022). *Diversity and Multiculturalism in Higher Education: Racism, Bilingualism, LGBTQ, and Urban/Rural Imbalance*. Kindle Direct Publishing.
- Marietta, G. & Marietta, S. (2020). *Rural Education in America; What Works for Our Students, Teachers, and Communities*. Harvard Education Press.
- McShane, M. Q. & Smarick, A. (2018). *No Longer Forgotten: The Triumphs and Struggles of Rural Education in America*. Rowman and Littlefield.
- Mitchler, S. (2023). *Critical Rural Pedagogy: Connecting College Students with American Literature*. National Council of Teachers of English.
- National Association of Secondary School Principals. (2022). *Survey of America's schools leaders and high school students*. <https://survey.nassp.org/2022>
- Oyen, K. & Schweinle, Amy. (2020). Addressing teacher shortages in rural America: What factors encourage teachers to consider teaching in rural settings. *Rural Educator* 41(3), 12–25. <https://files.eric.ed.gov/fulltext/EJ1303960.pdf>
- Plastrik, P., Taylor, M., & Cleveland, J. (2014). *Connecting to the Change the World: Harnessing the Power of Networks for Social Impact*. Island Press.
- Rockhold, G, & Andrews, H. (2024). *Rural school teacher shortages: Developing a meaningful* <https://www.nsba.org/ASBJ/2024/april/online-only-rural-teacher-shortage>
- Sanders, Austin. (2022). *Rural employment and unemployment*. U.S. Department of Agriculture, Economic Research Service. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-employment-and-unemployment/>

- Song, M. & Zeiser, K. (2019). *Early college, continued success: Longer-term impact of early college high schools*. American Institutes for Research.
<https://www.air.org/sites/default/files/Early-College-Continued-Success-Longer-Term-Impact-of-ECHS-September-2019.pdf>
- Sowl, S., & Crain, A. (2021). A systematic review of research on rural college access since 2000. *Rural Educator*, 42(2), 16–34. <https://files.eric.ed.gov/fulltext/EJ1315184.pdf>
- Steiner, E. D. & Woo, A. (2021). *Job-related stress threatens the teacher supply*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA1108-1.html
- Swensen, A. (2023) *Get the administrator's edge on Indiana's teacher shortage*. Indiana Online, Central Indiana Education Services Center. <https://indianaonline.org/get-the-administrators-edge-on-indianas-teacher-shortage/>
- What Works Clearinghouse. (2017). *Dual enrollment programs* (WWC Intervention Report). U.S. Department of Education, National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_dual_enrollment_022817.pdf