

Table of Contents

1. Significance	2
1.1 Strategy Development and Extension of Existing Strategies.....	3
1.1.1. Existing Strategies.....	3
1.1.2. New strategy that will be developed.....	5
1.1.3. How YPAR builds off existing approaches.....	7
1.2 Dissemination.....	10
2. Project Design	11
2.1. Conceptual Framework.....	13
2.2. How the Project Will Address Needs of the Target Population.....	14
2.3. Project Goals, Objectives, and Outcomes.....	15
3. Resources and Management Plan	16
3.1 How Management Plan Will Achieve Project Objectives.....	16
1.1.1. Responsibilities.....	16
1.1.2. Timeline and milestones for accomplishing project tasks.....	17
3.2 Qualifications of Key Personnel.....	18
3.3 Costs.....	19
3.4 Feedback and Continuous Improvement.....	19
4. Project Evaluation	20
4.1 Effectiveness Evaluation.....	20
4.1.1. Data sources.....	21
4.1.2. Analytic approach.....	21
4.2 Performance Feedback and Progress Assessment.....	23
4.2.1. Data sources and analysis.....	24
4.3 Contribution to the Field.....	26
References	27

We propose to develop an evidence-based, field-initiated student-led action research innovation to improve academic, social, and civic competencies for high-needs students. We will implement and rigorously evaluate the innovation. The goal is to generate an evidence-based solution to problems of student underachievement and disengagement, particularly among high-needs students. In this proposal we use the term “high-needs” to refer to students who are living in poverty, students of color, English learners, students with disabilities, homeless students, and student marginalized by other structural forces. The title of the proposed project is “School-Based Youth Participatory Action Research” or “SchYPAR.” The Center for Urban Education at Cleveland State University (CSU) directed by [REDACTED] will lead the proposed project in partnership with the American Institutes for Research (AIR), the Educational Service Center of Northeast Ohio (ESCNEO), and the Educational Service Center of Central Ohio (ESCCO).

1. Significance

There is strong evidence—reviewed in section 2 of this proposal—that student-led action research (referred to herein by the acronym “YPAR”) has promise to improve education outcomes for high-needs students. In this way, our proposal is responsive to Absolute Priority 1—it establishes the evidence requirement for this early phase grant. We will also explain how the proposed project is responsive to Absolute Priority 4—there is strong evidence to suggest that our field-initiated innovation will foster knowledge and promote the development of skills that prepare students to be informed, thoughtful, and productive individuals and citizens.

Further, our proposal will address Competitive Preference Priority 2 by engaging students, teachers, and other school stakeholders in two-way, mutually respectful YPAR to understand students’ social, emotional, physical and mental health, and academic needs, in light of historical educational inequities and the COVID-19 pandemic. This approach will re-engage

students, as YPAR has demonstrated an ability to strengthen relationships between educators and students, create equitable and inclusive learning environments, and act as a trauma-informed practice that is culturally responsive and supportive of social and emotional skills.

Our proposal will also address Competitive Preference Priority 3 as implementing YPAR with students in high-needs districts and schools will promote equity and adequacy in student access to educational resources and opportunities. Specifically, YPAR will involve students and other diverse stakeholders in local education decisions, including those concerning the disproportionate use of exclusionary discipline. YPAR itself is a recognized approach to a well-rounded education that affords students research, analytic, critical thinking, and social and emotional skills conducive to college and career success.

1.1. Strategy Development and Extension of Existing Strategies

In this section, we describe how the proposed project involves the development and demonstration of a promising new strategy that builds on existing strategies. The issue SchYPAR will address is persistently low academic performance and social, behavioral, and civic outcomes among high-needs high students. High-needs students have long had lower levels of academic performance compared to their counterparts (Duncan & Murnane, 2011) perceive their schools to be less safe and supportive (O'Malley, Voight, Renshaw, & Eklund, 2015; Voight, Hanson, O'Malley, & Adekanye, 2015), and have lower levels of civic engagement (Voight & Torney-Purta, 2013). The proposed project will take place in high schools in 17 school districts in Northeast Ohio and 12 in Central Ohio (Table 1.1 in Appendix J). These districts include a range of demographic compositions, including many with high proportions of high-needs students.

1.1.1. Existing strategies. There are many programmatic school-based strategies for addressing academic performance and social and behavioral context among high-needs students.

Three major prongs of current programmatic innovation are problem-based learning (PBL), culturally relevant teaching (CRT), and multi-tiered behavioral frameworks (MTBF; the most well-known of which is Positive Behavioral Interventions and Supports or PBIS).

PBL presents students with a problem that requires them to combine existing knowledge and new information to generate a solution. Proponents of PBL theorize that it is effective as an instructional strategy because it motivates students with the goal of solving a problem (versus learning an abstract concept); activates their prior knowledge; requires students to make associations with and inferences about new knowledge to solve the problem (which, in a derivative of PBL, project-based learning, involves creating a project); and encodes and stores new information in students' memories given their experience in applying it. Further, PBL often requires that students work in small groups to solve problems, and thus there are opportunities for student to learn and practice social skills like collaboration and communication. There is evidence that PBL is more effective than traditional lecture-discussion pedagogies in increasing high-needs high school students' comprehension and application of concepts (Wirkala & Kuhn, 2011) and academic achievement (Parker et al., 2013).

CRT is a student-centered instructional method that supports students—students of color, in particular—in maintaining their language and cultural practices, which are often marginalized in schools in favor of dominant culture norms (Ladson-Billings, 1995). CRT increases the relevance of curriculum and instruction by connecting it to students' everyday lives and encouraging them to consider how they would like their lives to look in the future (Gutierrez, 2008). According to Ladson-Billings (1995), the three goals of CRT are to produce students who can achieve academically, demonstrate cultural competence, and critique the social order. Paris (2012) more recently proposed the term “culturally sustaining pedagogy” to describe a more

active approach to perpetuating and fostering (rather than simply making connections to) cultural pluralism in schools. CRT is not a program or curriculum, per se, but rather a framework for considering ways to acknowledge, respect, and connect with the cultural backgrounds and practices of students in the course of any type of instruction.

MTBFs include school-wide interventions that target all students (i.e., tier 1), small group interventions that target students who demonstrate greater need for behavioral intervention (i.e., tier 2), and individualized interventions for students with the greatest need (i.e., tier 3; Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008). Taken as a whole, these tiered interventions are meant to prevent problem behavior and promote prosocial and pro-academic behavior by teaching students social, emotional, and civic skills, reinforcing them as needed, and incentivizing their use. There is limited evidence for the effectiveness of MTBFs in improving the social and behavioral context of high schools (Voight & Nation, 2016). There is stronger evidence for the effectiveness of SEL, in particular, in improving students' social, behavioral, civic, and academic outcomes. Durlak and colleagues' (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) meta-analysis of SEL, which included 99 studies conducted in geographically urban (but not necessarily high-poverty or predominantly-students-of-color) schools, showed that SEL had a positive impact on these outcomes.

1.1.2. New strategy that will be developed. The proposed intervention is YPAR modified for use in high schools. YPAR is conceptually rooted in the critical pedagogy of Paulo Freire, wherein groups of people who suffer from political, economic, social, and other forms of oppression work to better understand the causes and contexts of their oppression and subsequently take action to mitigate it. Its applications may have particular relevance for high-needs youth, since the problems in these youths' communities and schools are often more

systematic and obstructive of positive outcomes. Indeed, most examples of YPAR documented in the scholarly literature involve low-income youth of color (e.g., Duncan-Andrade & Morrell, 2008; Ginwright, Noguera, & Cammarota, 2006). Research on YPAR (summarized in section 2.1) suggests that it may be effective in improving the academic, social, behavioral, and civic outcomes of youth, in general, and high-needs youth, in particular (Absolute Priority 1 and 4).

Procedurally, YPAR engages groups of young people in a process of identifying a practical problem in their communities or schools that they wish to ameliorate, collecting data to better understand the problem, analyzing the data, and using the results as the basis for action (Cammarota & Fine, 2008; Foster-Fishman, Law, Lichty, & Aoun, 2010; McIntyre, 2000). This process is often recursive, with problem identification beginning anew upon completion of an action (please see Figure 1.1.2). YPAR is most commonly implemented in the context of out-of-school programs and activities for youth, but there are more and more instances of YPAR methodologies being implemented in schools, typically as an extracurricular program (e.g., Buckley-Marudas & Soltis, 2020; Ozer et al., 2008; Voight, 2015; Voight & Velez, 2018).

As noted above, YPAR is a cyclical process that includes four main stages (Figure 1.1.2 in Appendix J; Kornbluh, Ozer, Allen, & Kirshner, 2015). First, students identify a problem that affects them personally. Thus, like PBL, YPAR is problem-based. In the proposed project, the problem will be restricted to those issues that concern the school in which the YPAR takes place with an emphasis on the social, emotional, physical and mental health, and academic needs of students in light of historical educational inequities and the COVID-19 pandemic (Competitive Preference Priority 2). Second, students learn concepts related to data collection (e.g., validity and reliability) and collect data to better understand the selected problem. These data may help better understand the nature of the problem or whether a certain intervention is effective in

addressing the problem. These data may derive from surveys created and administered by the YPAR participants, interviews with peers or other stakeholders, or existing data. Third, students analyze their collected data to elaborate their knowledge of the problem. Fourth, students apply their knowledge of the problem, derived in part from their research, to enact a solution. The action step of YPAR can take a variety of forms, but it always involves the dissemination and communication of research findings to relevant stakeholder groups. This may involve presenting research findings to the school administration and developing a policy brief for school staff, parents, and students. Alternatively, students may choose to enact a strategy themselves. Regardless of the action, students learn skills in identifying relevant stakeholder groups and communicating research results. Per the cyclical nature of YPAR, the process begins anew after students take action. In the second cycle, the problem may be the effectiveness of the action itself. For example, students may evaluate the effectiveness of their peer mediation program in reducing the incidence of bullying in their school. In the proposed project, students will have opportunities to apply their learning of research design and data analysis to evaluate the effectiveness of their actions and recommendations.

1.1.3. How YPAR builds off existing approaches. We view YPAR as a culturally relevant form of PBL and MTBF. One reason that instructional practices like PBL may not be as effective as they could be in high-needs contexts is inadequate attention to the social, political, and cultural context. An important element to the success of PBL highlighted by Wirkala and Kuhn (2011) is that problems be *authentic*. Students must recognize them as important and applicable to their lives outside of school. PBL has its roots in tertiary education settings-- notably medical school--where students are presented with a problem related to their professional training (Dochy, Segers, Van den Bossche, & Gijbels, 2003). But for high school students who

have not self-selected into a particular area of study, academic problems may be less engaging. Further, in K-12 applications, the problem in PBL is typically presented to students by teachers rather than chosen by students. The examples of high school PBL problems given by Hmelo-Silver (2004) are fairly representative: building artificial lungs and determining the cause of a chemical spill. Predetermining the problem in PBL risks making it irrelevant to students, particularly students who have little exposure to careers in science and medical fields.

As an academic intervention, YPAR theoretically combines the elements of PBL and CRT that should be most beneficial for high-needs high school students: students name the problem, ensuring that it has personal relevance. Instead of the problem being abstract or content-standard-driven, rather it is a problem in living in students' schools or communities. YPAR is a direct means of making PBL culturally relevant. Indeed, the impetus for CRT was a lack of perceived relevance of traditional curriculum and pedagogy on the part of students who do not identify with the dominant culture (Gay, 2010). In YPAR, students direct the process, which affords them ample opportunity to validate their experiences by using their language and cultural practices to name problems, conduct research, and apply its results. YPAR is a tangible practice for bringing the principles of CRT to life.

MTBFs and SEL are employed to improve student social and behavioral outcomes, but, like PBL, they are subject to critique for their inadequacy in addressing context (Hoffman, 2009). As noted above, myriad precipitants at multiple ecological levels contribute to the problems of high-needs students, but MTBFs and SEL focus disproportionately on individual-student-level factors. MTBFs teach and reinforce rules and positive behaviors, and SEL teaches skills like self-awareness, self-management, and social awareness (Osher, Bear, Sprague, & Doyle, 2010). The implied problem in these frameworks is a deficiency in students' social and

emotional competence or a lack of appropriate reward and punishment structures in the school to incentivize desired behavior (Hoffman, 2009). Intervention at the level of individual student behaviors may play an important role, but alone it fails to recognize the many contextual factors that explain individual student behavior (Bronfenbrenner, 1979). For example, when high-needs students are chronically tardy, MTBF and SEL interventions may attempt to teach them the importance of responsible decision-making and reward students who arrive to class on time. This approach ignores myriad potential environmental influences such as inadequate bus routes, fear of violence on routes to school, or demands on students who may be responsible for getting younger siblings to preschool or primary school.

Another potential pitfall of MTBFs and SEL when used with high-needs students is that the skills and behaviors that are taught may not resonate culturally with them. For example, the social skills typically emphasized in MTBFs and SEL emphasize personal responsibility (e.g., empathy, respect, perspective taking) rather than an ability to understand and intervene in the social world. CRT, rather, emphasizes cultivating students' understanding and critique of the existing social order (Ladson-Billings, 1995), which is manifest in YPAR's emphasis on discussing, identifying, researching, and taking action on a social problem. These latter skills may be particularly important for high-needs students who often experience marginalization due to the existing social order (Diemer, Rapa, Voight, & McWhirter, 2016).

As a social and behavioral intervention, YPAR theoretically combines beneficial elements of MTBFs and CRT while intervening at both the individual-student level and the setting level. As discussed in section 2.1 below, there is evidence that participating in YPAR leads to improvements in students' social and emotional outcomes, namely their social relationships, sense of community, confidence, ability to understand political issues and power,

and motivation toward civic engagement (Giraldo-Garcia & Galletta, 2015; Ozer & Douglas, 2013; Ozer & Wright, 2012; Voight, 2015). These skills overlap with those promoted in MTBFs and SEL, while moving further to include the sociopolitical skills often deemphasized in MTBFs.

1.2. Dissemination

In this section we describe how the results of the proposed project will be disseminated in ways that will enable others to use the information or strategies. The end result of the project will be an online resource that includes YPAR activities aligned with academic standards (e.g., Common Core State Standards, relevant content area standards) and considerations for implementation in high schools (e.g., potential variations, influence of contextual factors, how to incorporate into core content area curricula or as an elective). On the one hand, YPAR does not easily lend itself to manualization. There are many features of implementation and context that may interact with implications for YPAR's effectiveness. For example, there are questions about optimal group size for YPAR projects (e.g., whole class versus small group), whether restrictions should be placed on problems students choose (e.g., what happens if students identify a particular staff person as the problem?), and the frequency and timing of YPAR activities in a course. On the other hand, there is evidence that good PBL instruction requires complex, carefully designed instructional protocols and scaffolding during each stage of the process (Davies, 2000; Hmelo-Silver, Duncan, & Chinn, 2007). Schwartz and Bransford (1998) and Schwartz and Martin (2004), in fact, advocate a method that begins with one or more problems but integrates segments of direct instruction. In the proposed project, we will strike a balance by developing a resource that is sensitive to context and process of implementing YPAR in schools.

We will disseminate our product and our research findings through traditional academic outlets (e.g., AERA Annual Meeting, peer-reviewed journals) but more importantly through practitioner outlets. We will share our product and findings and offer a webinar to Ohio schools through an weekly email on education updates hosted by the Ohio Department of Education. In terms of national applied audiences, we will present our findings and resources at the annual meetings of the Council for Great City Schools (CGCS) and the National Network of Education Research-Practice Partnerships (NNERPP).

2. Project Design

The project will employ a mixed-methods, design-based research (DBR) approach (Sandoval & Bell, 2004), which employs continuous cycles of design, enactment, analysis, and redesign and accounts for how interventions function in authentic educational settings. The goal of DBR is to understand how outcomes are achieved in such settings and to generate and refine theories and models of learning and change. Being situated in an authentic educational setting enhances the validity of the research and ensures that the results can be effectively used to assess, inform, and improve practice in context (Anderson & Shattuck, 2012).

The proposed YPAR intervention grows out of a deep collaboration between researchers and practitioners in the Cleveland and Columbus, Ohio areas and is informed by an assessment of the local context and with the aim of improving local practice to overcome the problem of student disengagement and academic failure. Drawing on relevant literature, theory, and practice from other contexts, the CSU team has worked for three years with the ESCNEO, ESCCO, and local teachers, administrators, and students to facilitate YPAR in out-of-school settings. This project would bring it into schools to maximize its potential impact.

In the first year of the project, a design team of CSU project personnel and high school teachers and students from participating districts will be assembled to adapt existing YPAR resources to high school settings and create a “draft” version of an online YPAR-in-high-school resource. Our existing out-of-school YPAR programs in Northeast and Central Ohio include teams of about 10 high school students and one teacher from each participating district that meet approximately once per month with ESC and CSU facilitators during the school year. We have completed two annual cycles of this program with the 17 districts in Northeast Ohio and one annual cycle with the 12 Central Ohio districts. Our program has strong buy-in from district leaders and the county education offices have taken ownership it (see Appendix C for letters of support). We will recruit approximately 10 teacher participants and 10 student participants from these existing collaborations to serve on our SchYPAR design team. A full-day kickoff meeting in September 2022 with the design team will involve an overview of the project and background and theoretical presentations to the design team. Thereafter, the design team will convene every month for a half-day weekend workshop. Teachers and students will be paid stipends for their participation. The first iteration of the SchYPAR intervention will draw largely from existing YPAR materials such as the YPAR Hub (2015) and the Youth Engaged in Leadership and Learning curriculum of the John W. Gardner Center (2007) at Stanford University. The work of the design team will involve conducting a crosswalk of YPAR activities and state learning standards to determine where in existing curricula YPAR activities may be embedded and adapting the existing activities to suit the unique contexts of their schools. These existing materials have not been evaluated in schools for their effect on students’ education outcomes.

The next phase of SchYPAR development will run from beginning of the 2023-24 school year through the 2025-26 school year and involve the implementation of YPAR in participating

district high schools. In line with DBR principals, this phase will adhere to five core “implementation drivers”: (a) staff selection, (b) pre-service training, (c) ongoing coaching and consultation, (d) staff evaluation, and (e) decision support data systems (Fixsen, Blase, Naoom, & Wallace, 2009). Working with our partners from the ESCs, we will recruit at least one high school teacher in each of the participating 29 districts (with the goal of 30 total) who has taken part in our out-of-school program to implement YPAR activities in school. These teachers will have already received considerable YPAR training through their participation in our out-of-school program and will receive an additional half-day orientation to the SchYPAR resources at the beginning of the school year. We will hire two YPAR coaches, each to focus on one of the two Ohio regions (i.e., Northeast and Central), to provide ongoing coaching and consultation to participating teachers, with support from the larger CSU project team. AIR will provide formative evaluation data to inform continuous improvement to the project during its course.

2.1. Conceptual Framework

In this section we describe the conceptual framework underlying the proposed research and demonstration activities and the quality of that framework. YPAR has emerged in recent decades as a promising strategy for improving youths’ academic, social, behavioral, and civic outcomes. Theoretically, when students are given a voice in influencing the process and content of their learning, the implicit expectations for students as thinkers and learners are elevated, which results in higher levels of school engagement (Carbonaro & Gamoran, 2002). Martin and Dowson (2009) further argue that when students make personal connections to their learning (i.e., to content, to teachers, to instruction), they are more engaged and motivated, which leads to greater achievement. These connections may be particularly important to adolescents, who are exploring and cultivating applications for their unique identities (Cooper, 2013). Personal

connections to learning may also be of particular importance to high-needs, as they may not identify with dominant cultural practices often expressed in schools (Duncan-Andrade & Morrell, 2008; Paris, 2012). YPAR empowers students to name problems and choose practices, which creates spaces for the application of students' indigenous knowledge and experience.

2.2. How the Project Will Address Needs of the Target Population

In this section, we describe how the design of the proposed project is appropriate to, and will successfully address, the needs of the target population. In addition to the abovementioned conceptual connections, empirical evidence speaks to the outcomes of YPAR for schools and high-needs students. Research has shown that privileging students' voices and engaging them in school decision-making—key components of YPAR—may improve school climate through students' action projects (Voight & Nation, 2016). Qualitative studies of YPAR initiatives in high schools showed that YPAR programs improved teacher–student relationships (Giraldo-Garcia & Galletta, 2015; Ozer & Wright, 2012), resulted in changes to school discipline policies and practices (Christens & Kirshner, 2011), and improved school social norms of empathy, trust, and cooperation (Voight, 2015). Given the well-documented connection between school climate and student education outcomes (Berkowitz, Moore, Astor, & Benbenishty, 2017), YPAR projects that improve school climate stand to drive schoolwide academic improvements, as well.

Although changing settings and social structures is a central goal of YPAR, a growing body of empirical evidence documents benefits to individual youth who participate in YPAR. Youth who engage in YPAR have been shown to enjoy higher levels of mental health, psychological empowerment, civic behaviors, and academic engagement. Qualitative studies have found that participants develop a greater sense of ownership over their school (Voight, 2015), more agency and power in school decision-making (Giraldo-Garcia & Galletta, 2015;

Ozer & Wright, 2012), connectedness to school and confidence as scholars (Taines, 2012), and critical consciousness, empathy, trust, and cooperation (Ozer & Douglas, 2013). The few studies of YPAR that have employed quasi-experimental research methods further support its promise in improving student education outcomes. Dr. Voight (Voight & Velez, 2018) conducted a quasi-experimental study of YPAR as an elective course in a mid-sized district in California, finding strong evidence for YPAR's beneficial impact on student attendance and mixed evidence for its impact on student achievement. A study of a series of Mexican American studies elective courses in four high schools in the Tucson Unified School District employed a nonequivalent control group design with controls and found that the courses increased the likelihood that participating students passed the Arizona state standardized test and graduated from high school (Cabrera et al., 2014). The intervention examined in this study included many components, some of which aligned with the elements of YPAR (qualitative research of the same program has corroborated these findings; Romero, Arce, & Cammarota, 2009). A cluster-randomized experimental study of a similar elective course in five California high schools had a significant effect on participating students' psychological empowerment, including social and political skills, motivation to influence their schools and communities, and civic behavior (Ozer & Douglas, 2013). One study using a regression approach that did not account for selection bias (Holden, Crankshaw, Nimsch, Hinnant, & Hund, 2004) and another study using qualitative methods (Morsillo & Prilleltensky, 2007) corroborated this latter finding in other samples.

2.3. Project Goals, Objectives, and Outcomes

In this section, we articulate the goals, objectives, and outcomes to be achieved by the proposed project (a discussion of how they will be measured is in section 4). The overarching goal of the project—or the impacts we hope to realize—is to improve the academic outcomes,

academic behaviors, of high-needs students and their schools and prepare students to be informed, thoughtful, and productive individuals and citizens (Absolute Priority 4). Our objectives, which will be realized through our project activities, include (1) the creation of online school-based YPAR resources; (2) training teachers and students in school-based YPAR; and (3) providing ongoing coaching and support of teachers in YPAR implementation. Our intended outcomes, and outputs, are to (1) increase teacher expectations for students participating in YPAR, (2) improve academic behaviors (e.g., attendance, discipline behavior, engagement) of YPAR students, (3) improve social and civic skills of YPAR students, and (4) improve school climate in schools where YPAR occurs. We also intend to (5) improve teachers' attitudes toward, understanding of, and efficacy facilitating YPAR as well as the (6) implementation of YPAR in schools, including the student research and action components (Figure 2.3 in Appendix G).

3. Resources and Management Plan

In this section we describe how our management plan will ensure that we achieve the project objectives, the qualifications of key personnel, the project costs, and how feedback and continuous improvement will be built into the project.

3.1. How Management Plan Will Achieve Project Objectives

Here we describe how we will achieve the objectives of the proposed project on time and within budget, including responsibilities, timelines, and milestones.

3.1.1. Responsibilities. [REDACTED] will lead the proposed project and will have authority and responsibility for the overall management of the project, including the proper conduct of research, the appropriate use of federal funds, and the submission of required scientific progress reports. [REDACTED] will commit 35% time to the proposed project. [REDACTED]

[REDACTED] will assume executive leadership for training and program development and

refinement activities. [REDACTED] will commit 17% time to the proposed project. [REDACTED] is a senior researcher at AIR and will serve as the evaluation lead on the proposed project. [REDACTED] will commit 20% time to the proposed project. Our two YPAR coaches will be responsible for coaching teachers implementing YPAR and assisting with training and program development activities. Our two CSU graduate research assistants will support all aspects of the project, including project management, communication, training, coaching, program development, data collection, and reporting.

3.1.2. Timeline and milestones for accomplishing project tasks. The proposed project will begin in July, 2022 and conclude in June, 2027, thus spanning five years (see Figure 3.1.2 in Appendix J). Project development activities are described in section 2, above, and evaluation activities in section 4, below. The creation of the initial version of the online school-based YPAR resources will occur during the first year, aided by the hiring of our two YPAR coaches and CSU graduate research assistants and the recruitment of a design team of teachers and students that will meet monthly to inform the design. During the first year, AIR will develop necessary data collection instruments and collect baseline survey data and negotiate access to administrative data. At the end of Year 1, we will begin recruiting teachers for school-based YPAR implementation in Years 2-4 of the project. In the fall semester of each of these years, the implementing teachers will receive training from the CSU team on SchYPAR and ongoing coaching throughout the year, including the use of the YPAR Process Template. AIR will collect teacher and student survey data and conduct teacher interviews in the spring of each of these years and conduct the progress assessment and effectiveness evaluation thereafter to provide performance feedback to CSU and participating schools through the subsequent year. Throughout implementation period, the CSU team will refine the online SchYPAR resource

based on feedback and finalize it during Year 5. Also during Year 5, CSU and AIR will complete reporting on the project and disseminate findings to target stakeholders.

3.2. Qualifications of Key Personnel

██████████ has a Ph.D. in Community Research and Action from the Peabody College of Education and Human Development at Vanderbilt University. He is director of the Center for Urban Education and Associate Professor of Curriculum and Foundations at CSU and previously worked as a research associate with the Regional Educational Laboratory (REL) West at WestEd. ██████████ has authored over two dozen peer-reviewed articles on the social and behavioral context of high schools and is a nationally recognized expert on YPAR, student engagement, and school climate. His expertise and scholarship uniquely position him to lead the proposed study—the latter of which include the only quasi-experimental study of YPAR (Voight & Velez, 2018). ██████████ led an IES-funded partnership grant that has helped establish CAER and is currently PI on an IES-funded research grant that involves the development of a curricular YPAR intervention in several Cleveland schools. ██████████ has ample experience disseminating research in practitioner and policymaker outlets.

██████████ has a Ph.D. in Language & Literacy from the University of Pennsylvania and an MA in Educational Policy, Organization and Leadership Studies at Stanford University. She is an Associate Professor of Adolescent and Young Adult English Education in the Department of Teacher Education at Cleveland State University. ██████████ has over 30 peer-reviewed publications and research presentations on topics related to YPAR, adolescent literacy, youth agency, and teacher education. ██████████ has presented her YPAR work at various local and national conferences. She brings expertise in teacher education

and curriculum development which will be particularly important in facilitating this project, particularly in relation to recruiting and supporting teachers to implement YPAR with fidelity.

██████████ has extensive experience leading various research, evaluation, and coaching projects, including REL projects led and supported by AIR and evaluations of IES-funded EIR projects. He also has extensive experience working in and on behalf of school districts, conducting rigorous program evaluations, and examining the impacts and outcomes of state and district education policies. Previously, ██████████ was the Executive Director of Research and Evaluation at the Cleveland Metropolitan School District. He was a Strategic Data Fellow at the Center for Education Policy Research at the Graduate School of Education at Harvard University, a Forum Fellow at the Forum on the Future of Public Education at the University of Illinois, and the Richard E. and Ann M. O’Leary Fellow at the University of Illinois.

3.3. Costs

The project costs are detailed in the budget justification. They include salary and benefits to support the project commitments of the lead investigators and the two YPAR coaches and two research assistants who will assist with the design of the intervention, coaching and support of school implementation, and data collection. Cost also include stipends for design team participants in the first year of the project. AIR will receive a subaward for leading the project evaluation (section 4). There are minor costs associated with supplies, equipment, and travel.

3.4. Feedback and Continuous Improvement

Through the project evaluation (section 4), AIR will provide CSU and participating schools with timely and actionable formative feedback that is essential for ongoing monitoring and improvement of program implementation during the implementation phase of the intervention. Anderson and Shattuck (2011) describe DBR as “research through mistakes” in that

interventions are rarely designed and implemented perfectly and thus able to be improved. Self-reflection on the design and implementation of the SchYPAR intervention will begin immediately upon the implementation of the first YPAR activities in schools. Data from the YPAR Process Template and AIR surveys and interviews will be reviewed as available and used as a basis for decision making surrounding refinement and adaptation. The goal, especially during the early phases of the project is not to have a rigid expectation for how YPAR is implemented in classrooms—indeed, we will encourage variation in implementation (e.g., small group versus whole class projects, quick turn-around YPAR projects versus semester- or year-long projects). Further, effectiveness analyses (section 4.1) will be conducted annually starting in Year 2, and these results will be reviewed and discussed during project team meetings to consider the impact of the YPAR work during the relevant period of implementation. This will address the decision support data systems driver of implementation.

4. Project Evaluation

The American Institutes for Research (AIR) will work with CSU to conduct a rigorous evaluation of SchYPAR. AIR will conduct a multiple methods effectiveness evaluation and progress assessment that draw on multiple data sources (i.e., surveys, interviews, and administrative data) to determine whether the project goals are being met (Table 4 in Appendix J). The progress assessment will yield performance feedback to continuously improve project activities during the life of the grant. The effectiveness evaluation will measure progress toward the project goals described in section 2.3.

4.1. Effectiveness Evaluation

AIR will conduct an effectiveness evaluation using quasi-experimental methods that meet WWC standards with reservations. The outcomes evaluation will produce a quantitative estimate

of the effect of SchYPAR on student outcomes, including academic achievement in math, reading and science, academic behaviors, including attendance and discipline, social and civic skills, and perceptions of teacher expectations and support. AIR will report to CSU and participating schools the effects for the specific contexts in which the program was executed. In addition, AIR also will seek to extrapolate the findings for a general audience to inform a broader audience of education researchers and practitioners about the effect of SchYPAR on outcomes.

4.1.1. Data sources. AIR will request student administrative data from the Education Management Information System (EMIS) of the Ohio Department of Education. The data requested will include attendance, discipline referrals, state standardized test scores in math, reading, and science, and student and teacher demographics (e.g., race/ethnicity, disability). Additionally, a student survey will be administered in participating school in the spring of each project year to measure student academic behaviors, social and civic skills, and teacher expectation using validated scales of those concepts from the Panorama Social and Emotional Learning Survey (n.d.). Data will be collected for school years 2022–23 (baseline year) through 2026–27 (grant Year 5) for all students and teachers in participating schools regardless of whether students or teachers participate in SchYPAR. AIR will use multilevel modeling and a quasi-experimental matching design to account for the nesting of students in classrooms and to establish baseline equivalence. This will ensure the outcomes study will meet WWC standards.

4.1.2. Analytic approach. AIR will measure the impact of SchYPAR by conducting a quasi-experimental two-stage matching design. A matched comparison group of students in the same school with baseline equivalence across student characteristics (including outcome measures) will allow this study to meet WWC standards with reservations under the WWC

Group Design Standards Version 4.1. To execute the matching design, AIR researchers will first block-match teachers participating in SchYPAR to nonparticipating teachers in the same school. Second, AIR will match students assigned to participating teachers with students assigned to nonparticipating teachers using the following propensity score matching algorithm:

$$SchYPAR_i = \beta_0 + \beta_1 X_i + \varepsilon_i$$

where $SchYPAR_i$ measures the likelihood a student is a participant in SchYPAR, X_i is a matrix of student covariates, and ε_i measures the student residual. AIR will seek to reduce the bias in naïve analyses by matching treatment students to statistically similar comparison students (Rosenbaum & Rueben, 1983) and generate a score between 0.0 and 1.0 that predicts a student's probability of participating in SchYPAR based on student characteristics.

AIR will construct the matched samples using one-to-one matching, without replacement, and nearest neighbor matching with a caliper. This approach will minimize differences between the treatment and comparison groups and increase the likelihood that any differences between the groups do not exceed an effect size of 0.25, as required by *WWC Group Design Standards Version 4.1*. There are several acceptable matching options (Taylor, 2013), such as matching exactly or to nearest neighbor, matching one treatment student to one comparison student or many comparison students, and replacing matched comparison students into the matching pool or allowing students to be matched only one time. If, following the receipt of data and initial analyses, it becomes apparent that the planned matching approach is not viable, then AIR will explore alternative matching approaches that will still allow the analyses to meet WWC standards with reservations. Students will be matched on a broad set of measures that include demographics, prior achievement, and baseline data on the outcomes of interest. The analytic sample will include only students who have pre- and posttest data and demographic data. After

constructing the matched groups, the research team will measure the effect of SchYPAR using a multilevel model that incorporates student-level (as Level 1) and teacher-level (as Level 2) covariates:

$$Y_{ij} = \gamma_{00} + \gamma_{10}SchYPAR_{ij} + \gamma_{20}X_{ij} + \gamma_{01}Z_{0j} + U_{0j} + R_{ij}$$

where Y_{ij} measures the outcome of interest; $SchYPAR_{ij}$ is an indicator whether student i , assigned to teacher j , participated in SchYPAR; X_{ij} is a matrix of student covariates; Z_{0j} is a matrix of teacher covariates; U_{0j} measures the level two residual; and R_{ij} measures the level one residual. Interaction terms will be added in subsequent models to test for heterogeneous treatment effects based on various high-needs student identities (e.g., race/ethnicity, disability).

AIR will assess changes in school-level outcomes (e.g., average achievement, attendance, and discipline, school-aggregated student survey responses) using descriptive methods that do not meet WWC standards but will provide helpful exploratory data for potential follow-up studies. Using academic performance, attendance, discipline, aggregated student survey responses (e.g., as a measure of “school climate”) and student and teacher demographic data from all schools in Ohio, AIR will estimate regression models where the outcome variable is alternately school academic performance, school attendance rate, and school suspension rate, the primary predictor variable is whether or not the school participated in SchYPAR, and other control variables to account for potential alternative explanations for differences in outcomes between SchYPAR and non-project schools (e.g., student demographics, region, etc.). A power analysis for the effectiveness evaluation is in Appendix J.

4.2. Performance Feedback and Progress Assessment

AIR will conduct progress assessment and implementation analysis using replicable methods, enabling CSU and project districts to efficiently use and adapt these methods to

measure fidelity and to monitor implementation throughout and beyond the grant period. The implementation evaluation will provide a rich description of the SchYPAR intervention that can be used to (a) facilitate future expansion of YPAR activities in participating and nonparticipating schools and (b) contextualize the findings of the outcome evaluation. AIR and CSU project leadership will use the findings from the implementation study to provide ongoing guidance to the implementing teachers, support participating districts and schools, and drive the continuous improvement of SchYPAR through its DBR cycles.

4.2.1. Data sources and analysis. AIR will administer implementation surveys to the 30 participating teachers to measure teachers' attitudes toward, understanding of, and efficacy facilitating YPAR and their experience implementing YPAR in their schools. These surveys will help identify challenges, strengths, and alignment of SchYPAR to schools' goals. AIR will administer this survey annually in the spring of the first four program years (spring 2023–spring 2026) in schools in which teachers are participating in SchYPAR. AIR will develop the survey, which will include primarily fixed-response items with Likert-type response scales (e.g., agreement scales, frequency scales) to facilitate aggregating results within and across participating districts. existing validated items will be used (e.g., teacher efficacy). The structure of the response items will allow us to calculate attitude, knowledge, efficacy, and fidelity of implementation scores based on benchmarks for each school; the benchmarks will be determined in partnership with CSU during the initial planning phase of the project and prior to the collection of data. Where existing validated items are not available, AIR will work with CSU to create applicable implementation constructs (e.g., teacher understanding of YPAR). AIR will establish face validity of the measures with input from CSU and will conduct additional validity

testing using psychometric methods (i.e., confirmatory factor analysis, overall model fit indices, and factor loadings) after the first wave of data collection.

To supplement the data collected through the survey, we will conduct 60-minute virtual interviews with participating teachers who are implementing SchYPAR. AIR will interview participating teachers about SchYPAR implementation in late spring of school years 2022–23, 2023–24, and 2024–25 using a virtual meeting platform, following survey administration in each of those years. Interviews will provide more nuanced responses than the fixed-response survey and will enable us to probe for more detailed accounts of implementation challenges and successes and teachers’ perceptions of program effectiveness. To ensure that diverse perspectives are captured, we will interview all 30 participating teachers. With interviewees’ permission, we will record and transcribe interviews to ensure accuracy. AIR research staff will employ a rigorous qualitative coding process to analyze the transcripts of interviews. Rigor in qualitative analysis requires a structured process to ensure that the summary of the data is defensible (i.e., employs the best methods given the study parameters) and transparent (can be demonstrated to others and is replicable) (Thomas, 2006). Before analyzing the data, AIR and CSU will work together to identify an *a priori* coding structure that is based on the implementation constructs of interest. The coding structure will provide the basis for the analysis in NVivo 10. This approach will help to ensure systematic coding and consistency over time and across analysts.

The *a priori* coding structure may not capture or accommodate unexpected themes. To ensure that important, unanticipated themes are not overlooked, emergent codes also will be added to the existing coding structure during the coding process. Analysts will look for patterns, themes, and categories across the data sources to determine the most important findings related to fidelity of implementation. These procedures will produce a set of categories and related

themes that clearly and meaningfully reflect a diverse set of teachers' experiences and perceptions. In addition to summarizing the most frequently occurring patterns and themes, our approach will encourage sensitivity to any contrasts or irregularities in and across sites.

Finally, CSU and YPAR coaches will administer the YPAR Process Template (YPT; Ozer & Douglas, 2015) to measure the extent to which SchYPAR is being implemented as intended. The YPT is a validated tool that uses classroom observation (either live or videotaped) to assess the extent to which YPAR is being implemented with fidelity along seven dimensions: training and practice of research skills, promoting strategic thinking, group work, opportunities for networking, communication skills, power sharing over major decisions, and power sharing over class structure. The YPT emphasizes students' experiences in the course of participating in a YPAR project to monitor the degree to which they are engaged and accessing the experiences understood to generate the participant-level benefits of YPAR. YPAR coaches and research assistants will administer the YPT at least once in each participating classroom per semester to monitor implementation and give formative feedback and coaching to participating teachers.

4.3. Contribution to the Field

An important scholarly frontier is how YPAR can be implemented in schools (rather than out-of-school programs where it is typically implemented), its effect on student academic achievement and school climate when YPAR is intertwined in the academic curriculum, and what design features drive improvements in student outcomes. The proposed study will directly address these gaps in knowledge. Additionally, the proposed study will employ a quasi-experimental design to test the effect of YPAR on participant outcomes in a way that addresses issues of selection bias and adequate comparison groups—one of the most prominent limitations of existing YPAR research.

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