



UNIVERSITY *of*
DENVER

MORGRIDGE COLLEGE OF EDUCATION
Gifted Education

I-REECCH

Impacting Rural Education through

Expanding Culturally responsive curriculum,

Computer science training and

Higher order thinking skill development.

Jacob K. Javits Gifted and Talented Students Education Program

Part 4

Project Narrative

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I-REECCH Introduction

A first-grade age little boy, speaking only Spanish, just started school in the fall. By January he was reading in English at the third-grade level! Clearly an example of talent and high potential, this extraordinary little boy did not fit the local district gifted identification process and subsequently was denied services. A fifth-grade little girl wants to grow up to be a doctor and “help people get well” as she and her extended family have no access to medical care in the rural under-resourced setting in which they live. While she gets perfect scores on all her math homework, there are no provisions for her to do more, move faster, or increase her skills commensurately with her interest and ability. Location should not determine the quality of identification practices, programming or access to services.

Project I-REECCH (Impacting Rural Education through Expanding Culturally responsive curriculum, Computer science training and Higher order thinking skill development) will accomplish the Jacob K. Javits Gifted and Talented Students Education Program Application Requirements (1), (2), (3), (4)(c) and (4)(d) and all three Competitive Preference Priorities.

Project Design: Need for Project (addressing Selection Criteria (A)(2))

Eighty-four percent of Colorado districts are rural and frontier regions comprising twenty percent of the state pupil enrollment (CDE, 2014). The need for support of rural students and the development of talent in rural settings is well documented (Fox & VanSant, 2011; Hafenstein, Hesbol & Taylor, 2018). Rural Colorado diversity encompasses vast disparities of economy between thriving ranches and desolate range, rich productive farms, craggy lands, and mountain communities. The rural areas along the southern third of the state, in particular, and the eastern plains have a high degree of poverty, English language learners, Hispanic and Native American

students (CDE, 2017). Factors related to expectations for post-secondary outcomes vary widely in these communities.

In rural Colorado, gifted services are administered at the “administrative unit” (AU) level. This unit may be a district or a Board of Cooperative Education Services (BOCES) with multiple districts. All too frequently, rural achievement data lags behind that of the state and national norms and too frequently assessments are administered only in English (CDE, 2017). Cognitively challenging, high-level content courses, such as those in computational thinking and computer science, are limited in offerings or are not available at all in most rural communities including those in the southern and eastern part of the state (CDE, 2017).

Currently, professional development for teachers and administrators that improves student learning outcomes and educator practice is mainly focused on students who perform at the lowest levels of achievement (Hafenstein, Hesbol & Taylor, 2018). Access to high-quality professional development, particularly using local data to inform instructional decisions, is lacking (Clarke & Stevens, 2006; Hite, Reynolds, & Hite, 2010). The unique needs of gifted and talented students and the recognition of characteristics of giftedness as an “at-risk” population may be unnoticed and masked by the focus on other underachieving learners. The Colorado Department of Education observed during state monitoring visits that consistent utilization of evidence-based practices is not being implemented in over 80% of the rural sites (CDE, 2017). The need for high quality professional development to support educators in areas related to culturally responsive practices and higher-level thinking skill development, delivered effectively and systemically is clear.

Rural AUs in Colorado have low numbers of identified gifted and talented students and even lower numbers of traditionally underrepresented gifted students (CDE, 2017). Racial, linguistic, and

socioeconomic disproportionality exists in Colorado's identified gifted population and is of particular note in rural areas (CDE, 2014, 2017). Children with exceptional potential, especially from underrepresented populations, are not yet recognized for appropriately advanced services and coursework. If a student is not identified, targeted programming and talent development will not occur, and thereby, students are not identified, services are not provided, growth is not demonstrated, and students do not achieve at the level of their potential. This pattern is even more significant in economically disadvantaged students, those who are culturally and linguistically diverse identify as Hispanic, English language learners, and Native American students. For comparison purposes, the Colorado average for identified gifted students is 7.7%.

According to the Colorado Department of Education (2017), Example Administrative Unit A has identified 4.26% gifted students in their overall unit. This includes individual sites with literally no gifted students. Identification at this site ranges between 0.00%-6.34%, all percentages falling below the state expectation of 7.7%. A second Administrative Unit has identified 0.98% of their student population as gifted. This area includes multiple districts with 0.0% students identified. The highest percentage in this area of students identified is 2.37%, demonstrating discrepant expectations between the local identified percentage and the state expectation of 7.7%. This suggests the need for Administrative Units to implement strategies that are both culturally responsive and effective in identifying rural talent and giftedness in traditionally underrepresented populations. To be successful in these efforts, I-REECCH project leaders will co-construct plans with local school leaders and deliver services to reflect local needs as well as strengths. While the Colorado Department of Education Office of Gifted Education has robust and innovative identification guidance, specific strategies utilizing place-based strengths and local data will expand the effectiveness of the state-designed identification models in rural contexts.

The chart below (Table A) shows the racial, linguistic, and socioeconomic disproportionality in rural Colorado creating necessity for improvement in rural giftedness and talent identification among students who are eligible for free or reduced lunch, as proxy for poverty, who identify as Hispanic, and/or who are English language learners.

Table A: Percentage of Ethnicity and FRL in Total vs. Gifted Enrollment in AU

Percentage of Ethnicity/FRL in Total vs. Gifted Enrollment in AU (CDE, 2015-16)				
Administrative Units		Santa Fe Trail n=3501	Morgan n=3142	Southeastern n=3251
Free Reduced Lunch	Total Enrollment	70.3%	67.7%	60.5%
Free Reduced Lunch	% Gifted Enrollment	41.0%	27.6%	25.5%
Hispanic	Total Enrollment	54.0%	60.8%	40.6%
Hispanic	% Gifted Enrollment	45.9%	25.4%	21.3%
English Learners	Total Enrollment	2.5%	28.6%	8.5%
English Learners	% Gifted Enrollment	0.0%	1.5%	0.0%
The above table was prepared with the most recent public data on identification from CDE (2015-16). Since the publication of this data CDE has significantly restricted access to data based on privacy concerns.				

This importance of the I-REECCH project is its exceptional approach (Selection Criteria (A)(3)) to facilitate increased identification of traditionally underrepresented gifted and talented rural students, to provide appropriate and advanced services to students in rural areas, to increase rural educators' professional skill in implementing critical thinking skills with their students and implementing culturally responsive practices for culturally and linguistically diverse learners and to evaluate the effectiveness of these services (Competitive Priority 3).

As a result of this grant, rural elementary school students will be engaged in computational thinking and exploring careers in computer science applying modules developed by the project's

professional team (Competitive Priority 2). Rural educators will use critical thinking skills in everyday classroom practice and will become adept at applying culturally responsive practices in their instruction for serving the culturally and linguistically diverse learners in their schools and classrooms. Rural talented and gifted students, specifically those who have been underrepresented, will be identified commensurately with state expectations and served through talent pool services. This interdisciplinary investment in rural Colorado will develop new knowledge and information about the identification and provision of services to students who are not served through currently traditional methods in Colorado schools (Competitive Priority 1). This new information will be shared through our dissemination strategies and serve as an exemplar for educators in other rural and remote contexts across the country (Competitive Priority 1).

Project Design: Goal and Objectives (addressing Selection Criteria (A)(1))

The goal of Impacting Rural Education through Expanding Culturally Responsive Curriculum, Computer Science Training, and Higher Order Thinking Skill Development (I-REECCH) is to significantly increase identification of and service to traditionally underrepresented gifted and talented student populations in rural Colorado. Participating schools have percentages of identified gifted students (demographically disaggregated to include English language learners (ELLs), students who identify as Hispanic or Native American, and students eligible for free and reduced lunch (as a proxy for poverty), that are less than those of the percentages of identified students in the state.

The long-term goal is designed around four key objectives. Each objective has a clearly specified and measurable goals that can be evaluated (Application Requirement (2), Selection Criteria (A)(1)).

1. Significantly increase identification of talent and giftedness in traditionally underrepresented populations in rural settings including English language learners (ELLs), students who identify as Hispanic or Native American, and students eligible for free and reduced lunch (as a proxy for poverty) by raising academic achievement and expanding screening opportunities (Vanderslice, 1999). All participating AU identification rates for students from under-represented groups will reach state average for all groups of 7.7%;
2. Develop and implement direct service to underrepresented rural students in STEM areas, specifically computer programming and computational thinking (Johnston, 2018; Leonard et al., 2018). All students in participating elementary schools/classrooms will receive instruction in a computation thinking module by the end of fifth grade;
3. Improve classroom practices through significantly increasing rural faculty implementation of critical thinking skill development and talent and giftedness recognition. Ninety percent of teachers will report implementing critical thinking skill development practices and all schools will develop a talent pool of potential students for gifted and talented recognition that is reflective of local demographics, including under-represented students (Thornbury, 2010);
4. Improve classroom practices through significantly increasing rural faculty and principal ability to implement culturally responsive teacher and leadership supports for culturally and linguistically diverse learners (De Leon & Argus-Calvo, 1997; Vanderslice, 1999). Ninety percent of teachers will report implementing culturally responsive practice for culturally and linguistically diverse learners.

Design thinking will be used as an iterative process through which we will seek to understand the user (school) and challenge assumptions in order to collaboratively identify innovative solutions

to their complex and persistent problem of practice. Project personnel will develop workshops, materials, protocols for interactions with School Leadership Teams (SLT), workshop facilitation outlines, and will co-construct the site-based problem of practice with the team. An SLT is comprised of a principal, teacher(s), a Building Lead (coach), a parent/community member, and a Board of Education member. Using Design Thinking, the School Leadership and Project Research Teams will collaboratively identify a complex and persistent problem of practice; understand it better through empathy interviews; review contemporary research to generate an innovative solution approach; collaborate with community and school/district partners to implement the proposed solution; collect and analyze data relative to the impact of the innovative solution; generate recommendations for improved practice; and report to the District Improvement Team and Board of Education about the results.

For professional development (PD), members of the SLT will receive high quality PD tailored to reframe their gifted program (including identification), and training on best instructional practices to address unique local needs. PD will be provided via video and web-based technology (ECHO Model), on-site workshops, and professional learning community models.

This project will carry out an aligned and coordinated program of evidence-based research, innovative strategies, and similar activities designed to build and enhance the ability of rural elementary school students in the state of Colorado to identify traditionally underrepresented gifted and talented students and meet their special educational needs. Newly-created knowledge will be disseminated using several methods, including local and national professional presentations, publication of practitioner and scholarly articles, and a website that will be co-created by the project research team and members of the SLTs. These services and this research will contribute to the knowledge base regarding underrepresented gifted learners in rural contexts and is

designed to reduce the significant gap in achievement among demographically diverse groups of students at the highest levels of achievement.

Project Design: Major Activities (addressing Selection Criteria (A)(2)(3)(4))

The key activities are designed to successfully address the needs of rural elementary student populations (Selection Criteria (A)(2)) and represents an exceptional approach (Selection Criteria (A)(3)). Key activities and processes include:

1. Training rural School Leadership Teams (SLTs) on the use of data to inform instructional decisions to increase their ability to use data to make effective and culturally responsive instructional choices in support of gifted identification and talent development (Fuchs, Deno & Mirkin, 1984).;
2. Training rural SLTs on the appropriate use of the Colorado Department of Education Gifted and Talented Pathways (Brown et. al, 2005);
3. Training rural SLTs on computational thinking; developing and implementing an online computational thinking/computer science curriculum for elementary school students (Schmidt, 2016);
4. Training rural SLTs about Culturally Responsive teaching and leadership practices (Starker, 2008);
5. Training rural SLTs about depth and complexity framework (D & C) (Dodds, 2010; Kaplan, 2013);
6. Developing a comprehensive and innovative system of professional development and technical assistance using ECHO technology designed to help educators identify learning potential and serve traditionally marginalized rural students who are underrepresented as gifted and talented students (Hodges, Tay, Maeda & Gentry, 2018);

7. Facilitating online ECHO training for rural SLTs annually (each training runs for 12-16 weeks, one hour/week) to integrate content to generate solutions to their identified problem of practice (Zurawski et. al, 2016);
8. Using Design Thinking and iterative PDSA cycles to gain a deeper understanding of the user's identified problem, to prototype interventions, to collect data and revise the intervention to improve rural student learning outcomes (Wilkerson, Shannon, Styers & Grant, 2012);
9. Preparing a cadre of rural teachers, principals, and coaches to provide best practice instruction and rural student support through evidence-based, high quality professional development (Clements, Sarama, Spitler & Wolfe, 2011; Ebbeler, Poortman, Schildkamp & Pieters, 2017);
10. Identifying appropriate gifted and talented assessment instruments that are culturally sensitive and account for language differences (Geissman, Gambrell & Stebbins, 2013, p. 105);
11. Connecting rural students electronically with students in high-performing schools to collaborate on solving common problems (Bernard et. al, 2009);
12. Develop and maintain an I-REECCH website, which will serve as a free repository for all materials used in the project, including but not limited to ECHO links, training PowerPoints, curriculum modules, culturally responsive assessment instruments. This site will be available to all rural educators globally, providing new knowledge for the field.

The associated research cited for each activity provide promising evidence in support of this project (Selection Criteria (A)(4)). This promising evidence indicates that this project is likely to have an impact on the rural students served by participating AU (Selection Criteria (D)). The

activities described, particularly activities 4, 5, 7, 8, 9 and 12 provide technical assistance and disseminate information on gifted and talented programs that can be adapted for use for all students (Application Requirement (4) (C)). Activities 1, 2, 3, 4, 5, 10 and 11, all include training of personnel in identification and education of gifted and talented students and the use, where appropriate, of gifted and talented services for all students (Application Requirement (4) (D)).

SLT members from participating rural schools, selected from across the state, will be invited to participate monthly in the national Rural Innovative School Leadership Networked Improvement Community (RISL-NIC) webinars at no cost. Rural/remote principals and rural researchers in this NIC share strategies that are effective at improving learning outcomes for all students, thereby deepening evidence-based leadership skills that have been shown to be effective at improving student learning.

The project will provide professional learning to SLTs to identify and serve more underrepresented gifted and talented students; a professional development coaching model will be implemented. SLT members will participate in professional learning to enhance their understanding of gifted and talented behaviors, including culturally diverse characteristics of gifted and talented learners. Training will focus on using data to inform instructional decisions, instructional methods to differentiate instruction, depth and complexity resources to meet the needs of gifted and talented students, culturally responsive teaching and leadership to support culturally and linguistically diverse students, and computational thinking and computer science. Participants are eligible to earn Culturally and Linguistically Diverse (CLD) endorsements from the Colorado Department of Education. The project will teach school leadership teams to analyze formative and summative student data for disproportionality, as well as culturally responsive teaching and leadership practices. Additionally, SLTs will collaborate with a community partner to identify community-

based assets. They will collaboratively develop and submit a grant proposal that focuses on a common problem of practice with a proposed innovative solution that benefits the school and the community. The goal is to help all rural school learners become computational thinkers who can harness the power of computing to innovate and solve problems. These competencies are intended to help educators build those skills by integrating computational thinking (CT) across all disciplines. Each site will join the International Society of Technical Education (ISTE), the global hub for instructional technology professional learning. ISTE's Professional Learning Networks (PLNs) offer opportunities to connect with other innovative educators with shared interests, including the Computer Science Network, the Education Leaders Network, the Inclusive Learning Network, STEM Network, and the Teacher Education Network. Each SLT will develop a digital portfolio, documenting growth in ISTE Computational Thinking (CT) (ISTE, 2019).

Educators in each selected rural school will receive high quality professional development to increase gifted and talented identification of traditionally underrepresented rural students, support implementation of evidence-based, best practice curriculum, and build capacity for long-term sustainability. The external evaluator and feedback team for I-REECCH is Augenblick, Palaich and Associates (APA), an integral component of this project (Selection Criteria (A)(5)). They will employ both qualitative and quantitative methods to collect evidence of project progress and provide formative as well as summative feedback. They will conduct the external evaluation and feedback, gathering relevant and actionable quantitative and qualitative data to guide implementation, focused on the extent to which project goals and objectives are met, and to document promising practices. They will partner in the development of presentations, reports, and publications.

Rural school principals face unique contextual challenges; the need to attract and retain highly

qualified teachers is especially challenging for rural school principals. Training a Building Lead in each school develops and supports a human capital pipeline of increased leadership capacity to significantly improve outcomes for all students who attend rural schools. Considering the significant link between teacher quality and student achievement, and therefore school improvement (Darling-Hammond, 2010), the need for specific and unique professional development for rural school principals becomes more pronounced. In the largest educational leadership study ever conducted, Leithwood, Louis, Wahlstrom, and Anderson (2010) found consistent evidence that leadership is second only to classroom instruction as an influence on student learning. The district will release the Building Lead from classroom assignments two days each quarter to coach teachers, engage Leadership Team members in design thinking, collaborate in data analysis, and co-create training materials. Building Leads will develop a digital product, along with their School Leadership Team colleagues, to share annually with the Board of Education, District Leadership Team, and potentially at a state-wide leadership conference.

The I-REECCH project design will be implemented as detailed in the Timelines, Responsibilities and Milestones Chart (Table D).

Project Design: Evaluation, Feedback and Continuous Improvement Plan (addressing Selection Criteria (A)(5))

The purpose of this evaluation and feedback plan is to provide performance feedback to support continuous improvement of the project and at the end of the project, identify evidence of success and opportunities to improve future projects (Selection Criterial (A)(2)(5) and (C)(2)). To implement this type of feedback, the evaluation team will be an integral part of the project team and engage in the process of continuous improvement throughout the project.

Throughout the project, the evaluation and feedback team will support use of traditional feedback loops through a Design Thinking model: Plan, Do Study, Act (Deming, 1986). This continuous improvement cycle will be applied to each stage of implementation as identified by the National Implementation Research Network (NIRN) (Fixsen, Naoom, Blasé, & Friedman, 2005). The NIRN implementation stages model is used to capture the project’s theory of action as illustrated in Table B.

Table B: Theory of Action

Inputs	Exploration	Activities: Installation	Initial Implement: Short Term Outcomes	Full Implement: Medium term Outcomes	Long Term Outcomes
<ul style="list-style-type: none"> •Existing GT staff and admin. •DU Team Capacity •Javits Grant Resources 	<ul style="list-style-type: none"> •Secure participation •Identify Project teams •Develop communication protocols •Finalize needs assessment •Implement plan including support of organizational and leadership change 	<ul style="list-style-type: none"> •SLT Training on: <ul style="list-style-type: none"> -Data informed instruction -CDE Gifted Pathways -Computational Thinking -Culturally responsive teaching -D & C •PDSA cycle to address user problems •ID appropriate assessments •Connect students electronically 	<ul style="list-style-type: none"> •Increased skills on: <ul style="list-style-type: none"> -Data informed instruction -CLD strategies - Computational thinking -Culturally responsive teaching -D & C •Comprehensive PD and TA system •Capacity to use multiple talent identification pathways 	<ul style="list-style-type: none"> •Teachers implement: <ul style="list-style-type: none"> -Data informed instruction -CLD strategies -Computational thinking -Culturally responsive teaching -D & C •STEM services to underrepresented students •Identification through multiple pathways •Cadre of staff providing best practice instruction • Use of assessments •Connected Students •Provide organizational and leadership supports 	<ul style="list-style-type: none"> •Increased identification under-represented students •Improved STEM outcomes •ID of talent pool that reflect local demographics •Implement culturally responsive practice

There are a few key components of this model to be highlighted. First, success of this project is

built around developing capacity in all three of the NIRN implementation drivers: staff competencies, leadership, and organizational systems. The exploration stage involves identifying the key changes that will need to be made to build capacity for each of these drivers. The installation stage focuses on developing staff competencies. The development of these competencies will occur throughout the project as initial teams of teachers are trained and then additional teachers gain these competencies either through collaboration with their peers or participating in project training. During this stage leadership will receive on-going coaching and support as they work build their own competencies and to develop the organizational drivers needed to support implementation.

The evaluation and feedback team will be an integral part of the project team. In that role the evaluation team will participate in the project planning to identify benchmarks and measures for each component of the project model. At the same time, the evaluation team will provide feedback on a quarterly basis to the implementation team to support the installation activities and annual feedback to support progress towards the short-term and medium-term outcome goals. The evaluation team will use multiple measurement tools to measure each component of the theory of action and to develop feedback for the project team as detailed in Table C.

Table C: Measurement Tools Aligned with Theory of Action

Measurement tools:	Component of the theory of action
Document review	All exploration components
Post-training survey	All installation components
Interviews with selected leaders	Exploration components; organizational and leadership supports for full implementation
Annual surveys of teachers, leaders	Initial and full implementation
Teacher case study	Installation, initial and full implementation
Enrollment data	Long term outcomes: change in identification
Student data from STEM computational thinking and Computer Science activities	Medium- and long-term STEM implementation
Statewide annual assessment data	Long-term outcomes for STEM, complex thinking

Project Personnel (addressing Selection Criteria (B)(1)(2))

The success of project I-REECCH is directly connected to the expertise and creativity of the project's personnel. The project brings together experts in gifted education, rural education, measurement and statistics, STEM education, program evaluation, talent development and professional development for regular classroom educators and principals, which ensure a powerful collaboration. The time commitments of the project personnel and partners are appropriate and adequate to meet the objectives and are funded at levels consistent with positions of similar qualifications. The project will be administered by the University of Denver. The project will engage one Primary Investigator, a Co-PI, and an evaluation consultant who will be responsible for the daily administration of the project to ensure all project objectives are met in a timely fashion. The University of Denver will provide administrative support to complete the objectives. The project staff and faculty were selected based on their unique expertise for the role and responsibilities associated with his/her program position. Key staff have experience working in and with rural educations and in the following areas: 1) grant management and administration of large awards with subcontracts and multiple stakeholders, 2) teaching, 3) development and delivery of professional development for educators, 4) developing and maintaining national, state and community relations, 5) evaluating and documenting innovative programs, 6) measurement and statistics, 7) developing, leading and hosting meetings and events, 8) writing and dissemination of policy briefs, research reports, and peer-reviewed publications, 9) professional presentations, and 10) hosting of webinars. Critically, the thoughtful combination of experts and personnel affiliated with this project are fully committed to support rural schools working to increase their identification of and services to underrepresented gifted and talented students.

Primary Investigator: Dr. Norma Hafenstein, University of Denver

Gifted Education and Management Expert: Dr. Hafenstein is the Daniel L. Ritchie Endowed Chair in Gifted Education in the Department of Teaching and Learning Sciences, Morgridge College of Education at the University of Denver. Hafenstein has conducted research and professional development in multiple school districts and Boards of Cooperating Educational Services (BOCES) throughout rural Colorado since 2014 to better understand identification and service barriers for marginalized populations. Dr. Hafenstein is eager to implement the I-REECCH project to assist rural school districts in overcoming barriers to gifted identification to better meet the needs of students in Colorado's rural communities.

Hafenstein has extensive experience coordinating the work of multiple partners. She has secured over \$10 million in grants, gifts and contracts toward Gifted Education at the University of Denver including support through the Jacob K. Javits Gifted and Talented Students Education Act Grant of the US Department of Education and other private foundations. A former teacher and school administrator, Hafenstein brings 39 years of experience and expertise in graduate level and K-12 teaching, program development and evaluation, supervision and research. For 29 years, she supervised a staff of 45 associate directors, faculty of gifted learners, graduate assistants and staff and administered an annual budget of over \$3.45 million and helped coordinate professional development for faculty.

Dr. Hafenstein is a nationally recognized expert in program development and evaluation, gifted education, gifted identification and teacher training. Her research interests include identification of giftedness in underrepresented populations, information-processing styles, social and emotional development, and program effectiveness. (Please see Biosketch in other attachments).

Co-Primary Investigator: Dr. Kristina Hesbol, University of Denver

Rural Education Equity and Leadership Expert: Dr. Hesbol is an assistant professor in the Educational Leadership and Policy Studies Department at the University of Denver's Morgridge College of Education, where she teaches doctoral leadership and research methodology. Her teaching, research, presentations, publications and service converge on the impact of school and district leadership as praxis in guiding inclusive systems of learners in rural contexts, with social and organizational contexts as centralized focus. Her professional work is filtered through the intersection of equity and social justice, systems thinking and leading sustainable improvement.

More than 40 years of experience and training in roles such as teacher, principal, District Coordinator of School Improvement, and Assistant Superintendent have prepared Hesbol to serve on the I-REECCH project. Raised in a rural community, Dr. Hesbol understands both the challenges and the assets inherent in rural contexts. Hesbol brings extensive experience coordinating large projects with multiple stakeholders and collaborating with school districts across rural and metro Colorado.

Hesbol is the Founding Designer of the Rural Innovative School Leadership Networked Improvement Community (RISL_NIC), a consortium of rural/remote principals and university rural researcher partners. Nodes of this NIC are currently located in twenty-six (26) states and two countries. Hesbol has a successful record of dissemination through peer-reviewed presentations and publications. As part of the I-REECCH staffing plan, Hesbol will serve as the primary liaison to the partners and stakeholders. Hesbol maintains close connections to the state department of education, Boards of Educational Cooperative Services (BOCES) and currently works on community-based research projects in several rural districts in Colorado and across the country. (Please see Biosketch in other attachments).

Dr. Hafenstein and Dr. Hesbol will jointly oversee the I-REECCH project. Hafenstein and Hesbol were investigators and leaders for the 2014-2018 Right4Rural Project, one of 11 Javits-funded initiatives in that round to identify and serve giftedness in rural Colorado communities. Right4Rural sought to increase the identification of and service to traditionally underrepresented gifted students in rural Colorado, including students eligible for free and reduced lunch, English language learners who are culturally and linguistically diverse, and students who identify as Hispanic or Native American. As a Right4Rural Leadership Director, Hesbol designed and facilitated professional development to foster culturally responsive leadership, appropriate gifted identification, and data literacy in rural school districts throughout the state.

Evaluator: Dr. Robert Reichardt, Augenblick, Palaich and Associates, Inc.

Feedback and Continuous Improvement Expert: The methodology and evaluation of I-REECCH will be led by Dr. Robert Reichardt. Reichardt is Senior Associate at Augenblick, Palaich and Associates, Inc. in Denver, Colorado where he leads education related evaluation, research and analysis projects and is also President of R-Squared Research, LLC, Littleton, Colorado where he provides evaluation, research, and analysis to improve education outcomes. He has worked as an education program evaluator for the past 20 years. He has conducted many highly rigorous evaluations including random control trials (RTC) as well as quasi-experimental designs (QED) using propensity score matching. He has led the Center for Education Policy Research at the University of Colorado Denver, and The Alliance for Quality Teaching which was a non-profit organization working to improve teacher quality.

Dr. Reichardt has extensive research and evaluation experience including a previous role as Director of the Center for Education Policy Analysis in the Buechner Institute for Governance at the University of Colorado in Denver where he supervised and led teams of researchers in the

development, implementation and completion of research and evaluation projects, and as a Senior Researcher at the Mid-Continent Research for Education and Learning Center in Aurora, Colorado. (Please see Biosketch in other attachments).

Additional I-REECCH Positions

The I-REECCH project will be conducted by teams comprised of the PIs, Consultants, a Post-Doc, and a graduate research assistant (GRA). Pre-selected team members have collaborated successfully in the past and bring complementary skills and a diversity of approaches to share with additional team members. Additional I-REECCH team members (two Faculty Consultants with expertise in Computer Science and Culturally Linguistically Diverse learners, one Post-Doctoral Fellow and one Graduate Research Assistant) will be extensively involved in research activities which, in addition to explicit project goals, will foster their development as contributing members of the gifted education, rural education and data literacy communities.

Advisory Board

Content experts in several disciplinary areas will be invited to serve as members of the project's Advisory Board. All advisory board members will provide content expertise, recommendations for services and training feedback on evaluation data, and strategic and directional advice. They will meet annually to advise and guide the project, and will consult about the development of training modules, as well. Members include: Dr. Rebecca McKinney, Director of Gifted Education (as of July 1, 2019), Colorado Department of Education (Gifted Identification, Programming, and Depth and Complexity Framework); Dr. Muhammad Khalifa, Associate Professor of Organizational Leadership, Policy, and Development at the University of Minnesota (Culturally Responsive Teaching and Leadership); Deagan Andrews, Director of Curriculum and

Personalized Learning, Greeley-Evans (CO) School District 6 (Technology, Computer Science, and Computational Thinking).

Management Plan (addressing Selection Criteria (C)(1))

This section describes how the management plan is adequate to achieve the objectives of the project on time and within budget (Selection Criteria (C)(1)).

Project I-REECCH will be managed by an interdisciplinary team of faculty, professional staff, consultants, educator practitioners and an Advisory Board with complementary expertise to collaboratively implement the research and development projects and build sustainability. Weekly project team meetings and monthly video conferences will facilitate coordination. The detailed budget (please see budget and budget narrative) provides for the project goal and objectives to be efficiently and effectively completed.

Principal Investigator Dr. Norma Hafenstein will oversee project activities and project consultants, lead research efforts, manage budget and coordinate Advisory Board meetings. She brings considerable management experience, gifted education expertise and rural collaboration experience to the project.

The Co-PI is Dr. Kristina Hesbol who brings extensive experience coordinating large projects with multiple stakeholders and collaborating with school districts. Hesbol will collaborate with the Primary Investigator in all aspects of the I-REECCH project, bringing leadership and rural education expertise.

Project feedback, evaluation and continuous improvement will be led by Dr. Robert Reichardt of Augenblick, Palaich and Associates. Dr. Reichardt will be a member of the project leadership team. The development of data collection instruments and data collection activities will be jointly

conducted by APA and the DU team. APA will prepare quarterly feedback on activities and yearly feedback on outcomes and will support the development of the Annual Performance Reports (APR).

Institutional Resources: The available resources at the partnering institutions (i.e., University of Denver, school districts and BOCES) are sufficient to support all project activities including research, development, and dissemination. Partners will provide all necessary facilities, equipment, and supplies to the proposed project, space, office equipment, and use of district computers, repair services, library, and information research facilities. School administrators and BOCES are fully committed to the mission and goals of the proposed project. They are prepared to work collaboratively with the team to accomplish project activities, including identifying schools, securing parental and student consent if and when required, scheduling of activities, and providing access to pertinent data regarding student performance. The multi-faceted approach to assessment of the project ensures the necessary capacity to continue beyond the initial 60-month award period, building capacity and sustainability for continuous improvement in the project sites.

I-REECCH will build on existing AU partnerships and expand services and impacts. The Right 4 Rural project was a three-year Javits funded project in five rural Colorado AUs. DU provided leadership training and support to the project and APA was the outside evaluator. The project successfully increasing gifted identification of underrepresented students in four of the five participating districts. All AU increased their use of Colorado's expanded identification pathways. The project successfully scaled up professional learning for classroom instruction toward identification and built leadership capacity to support gifted programs and identification. Leadership engagement and infrastructure critically impacted project implementation and outcomes.

Two qualifying Colorado Administrative Units, Morgan County School District Re-3 (1,757 K-6 students), Fort Morgan, Colorado, and Santa Fe Trail Board of Cooperative Educational Services (BOCES), (1,943 K-6 students) with five individual school districts have already committed to project I-REECCH (please see letters of support in other attachments) (CDE, 2018). Rural local education agencies (LEA) are identified in the Rural Education Achievement Program (REAP) Master Eligibility Spreadsheet that can be accessed through the US Department of Education Rural and Low-Income School Program web page (USED, 2019). I-REECCH expects to serve 5,346 elementary students, 300 teacher and 25 administrator participants, positively impacting education in rural Colorado (CDE, 2018). Fort Morgan Re-3 is eligible because it is defined as rural by the state. Santa Fe Trail BOCES has member districts which are all eligible because they are defined as rural by the state or have rural locale codes (Competitive Priority 3). One additional rural, high-poverty qualifying Colorado Administrative Unit will be selected through an application process which will include a call to apply, demonstration of need, demonstration of commitment to the work of the project and leadership commitment to continuous improvement. When considering schools and districts for inclusion, the project team will consider the participation of students and teachers in private non-profit schools when appropriate (Application Requirement (3)). To achieve a true research-practice partnership, activities will be built and informed by the Partnering Cycle (Marriott and Goyder, 2009) which is a consensus-based process designed to ensure all stakeholders have a role in setting and delivering the project's objectives. Prior to any specific activity, the partner institutions will establish a working MOU that emphasizes the partnership aspect of the project, including open communication, data sharing, and shared decision-making. The "scoping" component of the cycle will include a basic needs assessment/inventory of activities currently used by the AUs, from which the AUs' needs will be identified and integrated into the

overall research.

Together, the university, consultants and AUs will plan the specific activities so that they are structured and delivered in ways that are meaningful to all partners. The key will be open communication, such that all parties feel invested in the data collection process, revision and continuous improvement of operations, and will have a voice in the scaling up of the activities.

University of Denver (DU): DU is a student-centered research facility, developing knowledge to tackle challenges worldwide. DU strives to advance diversity, equity, and inclusive excellence through its long-term commitment to build a more diverse and inclusive environment for both students and faculty through its strategic plan. In 2017, DU collected over \$118 million in grant and contract funds, with the **DU Morgridge College of Education (MCE)** collecting over \$12.6 million. The University of Denver practices sound fiscal management and will complete all required progress reports. Research and innovation are at the center of the MCE which has over 60 tenured, tenure-track, and clinical faculty actively engaged in research, teaching, and service. Many faculty members have established partnerships with community school districts throughout the state to develop and investigate new methods of learning and teaching. MCE classrooms, offices, labs, and public areas are totally wireless. MCE and its supportive structures including state of the art technologies, collaborative work spaces, and resources will be available to all personnel affiliated with project I-REECCH for meetings, trainings, or other project-related activities. Over 35 professional and scientific staff support the MCE's faculty and initiatives. MCE is home to five world-class research centers that focus on early learning and literacy, educational success, rural school health and education, positive early learning experiences, and counseling and educational services. Project I-REECH staff will have access to all of the resources and support of DU as well as the Morgridge College of Education.

The **Office of the Daniel L. Ritchie Endowed Chair in Gifted Education** promotes professional development and graduate student programs to fulfill its mission to serve gifted education in both urban and rural areas. DU has been a leader in education of the gifted for over four decades. Teacher and administrator training, research, professional development, and direct service to children provide both depth and breadth of community impact. The University based ECE through 8th grade primary school, Ricks Center, has an annual budget of over \$4.2 million and provides over \$600,000 annually in scholarships and reduced tuition.

Within the Morgridge College of Education is the nationally recognized Center for Rural School Health and Education or CRSHE (pronounced “crush”). CRSHE will serve as an informal partner in Project I-REECCH, providing advice and counsel related to rural processes and projects. ECHO-DU is housed in the MCE’s CRSHE Project.

Extension for Community Healthcare Outcomes (**ECHO**) is an international movement designed to address complex challenges by bringing those working toward a common goal together to democratize knowledge and scale best practice solutions. ECHO is committed to addressing issues that impact our most vulnerable populations by equipping communities with the right knowledge, at the right place, at the right time. ECHO principles include: 1) Use technology to leverage scarce resources; 2) Share “best practice” solutions to reduce disparities; 3) Apply case-based learning to master complexity and 4) Evaluate and monitor outcomes. ECHO recognizes that experience is as valuable a teacher as academic training, which is why the approach invites active discussion and expands the knowledge of every person who is involved with an ECHO. Thus, the learning moves bi-directionally between the Host and the Partners as well as between the various Partners creating a virtual Networked Improvement Community. The ECHO Model has extensively tested and evaluated a session structure that is demonstrated to be effective in providing training in

complex issues (Arora, 2018). Each ECHO consists of 12- 16 weekly sessions of one hours each. During each session an interdisciplinary team of experts and thought leaders present information on the topic and participants then present related “cases” for the other participants and experts to learn from and provide guidance on. An ideal ECHO is comprised of an interdisciplinary group of 2-5 thought leaders engaging with 20-30 participants – large enough to facilitate variety in perspective but small enough to ensure meaningful conversation.

Project I-REECCH professional development content will be delivered through the ECHO Model (Root-Elledge & Hardesty, 2015) of intervention in rural settings via phone and/or Zoom videoconferencing technology. This approach is utilized effectively in education (Root-Elledge, Hardesty, Warren, & Moody, 2017). Users report increased professional satisfaction and decreased professional isolation (Root-Elledge & Hardesty, 2015). Our educational application of the model uses video/audio conferencing technology to leverage scarce resources for rural/remote educational professionals to expand educator capacity around common problems of rural practice (Root-Elledge, Hardesty, Warren, & Moody, 2017). ECHO professional development will occur locally in schools, eliminating expense to travel for a traditional professional development session. Educators receiving professional development will participate in 12-16 one-hour online sessions per academic year. Outcomes will be monitored and evaluated, formatively informing Zoom sessions. The resulting networks of rural educator teams and experts create capacity for collaborative learning and innovative solution development through case-based learning to understand complex diverse rural school scenarios. This model breaks down isolation which characterizes rural education and communities. The ECHO process provides expert current and effective information in real time and incorporates continuous improvement thorough ongoing evaluation of content. See Table D: Timelines, Responsibilities and Milestones Chart below.

I-REECCH **Milestones** (addressing Selection Criteria (C)(1)) are articulated to serve as guidance and accomplishment of grant activities.

Year 1 Fall: IRB approval received; Post Doc and GRA hired; Third BOCES site recruited; Initial in-person site visits conducted and MOU's signed detailing responsibilities and data sharing; Grant Leadership Team* meeting (PI, Co-PI, Evaluator, Leader from each site) to agree on steps and processes; School Leadership Teams* established and short term and long term goals determined based on identified Problem of Practice; Formative data collection* completed including baselines of educator attitudes, knowledge and expectations, baseline identification and talent pool processes and demographic percentages, student coursework in computational thinking, and computer science baselines established and educator baseline skill in utilizing culturally responsive practices and critical thinking skill practices determined; Initial Advisory Board meeting* to advise and provide direction; Co-construct final ECHO content plan; Website* established; CAGT*, NAGC*, NREA*.

Year 1 Winter: ECHO content delivered*: Introduction to Problem of Practice, Colorado Identification Pathways, Depth and Complexity Framework, Culturally Responsive teaching and leading practices; Computational Thinking and Computer Science module planning; SLT webinar*conducted; Culturally sensitive identification measures identified*; Website updated*; Grant Leadership Team quarterly meetings* to review progress and refine next steps.

Year 1 Spring: ECHO content delivery continued*: Ongoing evaluation of implementation and content, plans for Year 2 articulated*, Computation Thinking and Computer Science module content and delivery* finalized for Year 2; SLT Webinar* conducted to support leadership; AERA*; Presentation proposals submitted* to conferences; Year 1 Summative data collected*; Website updated*.

Year 1 Summer: Data analysis*; Year 1 Summative data analyzed to inform Year 2 activities*; Continuous Improvement process on-going*; Website updated*.

Year 2: Grant activities move from planning, knowledge development and system establishment to engaged improvement**. ECHO content is more advanced and includes application to individual sites**; SLTs are effective and engaged in implementing change**; data collection and analysis is efficient and effective**; conference proposals and journal articles are developed simultaneously**; website content is updated and utilized**. Year 1 “*” activities continue.

Year 3: Grant activities function as systematic engaged continuous improvement; ECHO content has moved to analysis and application for sites and situations; SLTs are integrated into project; Grant Leadership Team and Advisory board function efficiently and effectively; Dissemination continues; Year 1 “*” activities continue; Year 2 “**” activities continue.

Year 4: Grant activities function as ongoing systematic engaged continuous improvement; ECHO is advanced in both content and application; SLTs, Grant Leadership Team and Advisory Board function efficiently and effectively; Dissemination continues; Year 1 “*” and Year 2 “**” activities continue.

Year 5: All I-REECCH objectives accomplished for participating AUs: 1) Identification rates for under-represented groups are at state all-group average of 7.7%; 2) All elementary students received computational thinking instruction; 3) Ninety percent of teachers implemented critical thinking skill development practices, and culturally responsive practices for diverse learners; 4) All schools developed a gifted and talented recognition pool that is reflective of local demographics. Information is disseminated throughout the state and country.

Continuous Improvement Process: Dr. Reichardt and the APA team will lead the feedback and continuous improvement processes within the project (Selection Criteria (C) (2)). This process will begin with the co-development of a detailed implementation plan, data collection instruments, data sharing agreements, and data collection timeline, roles and responsibilities. This plan will include detailed milestones for all activities and will be updated no less than annually. The APA feedback team the DU team will jointly secure IRB approval from the DU IRB. The instruments will provide information on project activities (post-training feedback) and on project outcomes (annual surveys, interviews, teacher case studies, review of documents, and analysis of administrative data). The APA feedback team is responsible ensuring the completion of surveys, interviews and observations. However, much of this work will be done jointly. The feedback team will observe selected training sessions and visit at least one site annually.

As described in the Timeline, Responsibilities and Milestones Chart (please see Table D below) the feedback team will be responsible for analyzing and reporting pre-project and formative data, analyzing and reporting on summative data, and providing quarterly impact and feedback reports to the project team on the implementation of activities. The quarterly reports will describe whether activities occurred as expected, barriers and supports. The feedback team will also provide annual reports on progress towards project outcomes (short, medium and long term). The reports will include both quantitative and qualitative data an occur during planning meetings so that feedback can be used as part of continuous improvement. These quarterly and annual reports will be integrated into the annual performance report (APR) and at least one annual lesson's learned report on the project website. The APA feedback team will support the development of publications, reports and presentations.

Table D: Timelines, Responsibilities and Milestones

Project Work (Responsibility)		Year 1 08/01/2019 – 07/31/2020				Year 2 08/01/2020 – 07/31/2021				Year 3 08/01/2021 – 07/31/2022				Year 4 08/01/2022 – 07/31/2023				Year 5 08/01/2023 – 07/31/2024			
		F	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S
Data Collection and Project Activities	Secure IRB approval (DU, APA)	x																			
	Identify project sites, SLTs (DU)	x																			
	Identify content experts for each specific ECHO training (DU)	x			x				x				x	x			x	x			
	Grant leadership team meetings (DU, APA, Sites)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Establish, plan & facilitate annual Advisory Board meetings (DU)		x				x				x				x				x		
	Project team conducts site visit – training*/data collection (DU/APA)	x		x		x		x		x		x		x		x		x		x	
	Identify/administer culturally sensitive ident. assessmts (DU, Sites)					x	x				x	x			x	x			x	x	
	Student CS modules (DU, Sites)					x	x	x			x	x	x			x	x	x			
	Conduct surveys, interviews, observations (APA, DU)	x		x		x		x			x		x			x		x			
	Conduct & participate in ECHO workshops (DU, Sites)		x	x		x	x	x			x	x	x			x	x	x			
Analysis & Reporting	Analyze pre-project and formative data (APA)	*	*	*		*	*	*		*	*	*		*	*	*		*	*	*	
	Analyze summative data (APA)			*	*			*	*			*	*			*	*			*	*
	Establish and maintain website (DU)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Publications, Reports, Presentations (DU, APA)		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Impact Analysis and report (APA)														x	x	x	x	x	x	

*Workshops: design thinking, CDE gifted and talented Pathways identification process, data, culturally responsive teaching and leading, depth and complexity, computational thinking, sustainability

Project Services (addressing Selection Criteria (D))

This section describes how the services in the I-REECCH project provides quality and sufficient services to ensure equal access and treatment for eligible project participants who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability. This section also describes why these services will have the intended impact (as described in the project objectives) on these students (Selection Criteria (D)).

I-REECCH is designed to apply a multidisciplinary comprehensive approach to support increased gifted identification of traditionally marginalized students. The Principal Investigators will work collaboratively with rural school leaders to co-construct plans and trainings to increase expectations as well as support to serve local needs. The Extension for Community Healthcare Outcomes (ECHO) model of professional development delivery is effective in reaching rural and remote areas and deconstructing limitations on knowledge acquisition (Root-Elledge & Hardesty, 2015). This professional development delivery model in which school Leadership Teams will participate creates an exceptional approach for meeting the statutory requirement of building and enhancing the ability of schools to identify gifted and talented students and meet their special educational needs (Selection Criteria (A)(3)). The Project Evaluator, an integral partner in this project, will guide methodology and accountability practices to assure alignment and effectiveness of grant activities; they will provide formative feedback quarterly and annual summative reports informed by local data analysis (Selection Criteria (A)(4)). The impact of I-REECCH will reach beyond the participating educators to influence the lives of rural students. Information utilized, and lessons learned will be shared to provide content and knowledge to the field at large.

Key services and associated research effect sizes are articulated in Table E below.

Table E: Key Services and Associated Research Effect Sizes

Key services:	Effect Sizes in Other Research
1. <u>Training rural School Leadership Teams (SLTs) on the use of data</u> to inform instructional decisions to increase their' ability to use data to make effective and culturally responsive instructional choices in support of gifted identification and talent development;	When providing teachers with professional development of teaching strategies and data-based program modifications, student achievement showed significant improvement ($r = .37, p < .02$) (Fuchs, Deno & Mirkin, 1984).
2. <u>Training rural School Leadership Teams (SLTs) on the appropriate use of the CDE Gifted and Talented Pathways;</u>	Gifted education teachers had significantly greater support for ongoing assessments, multiple criteria, and context-bound identification factors compared to regular classroom teachers ($p < .05$, Cohen's $d = .43$; $p < .05$, Cohen's $d = .46$; $p < .05$, Cohen's $d = .51$) and school administrators ($p < .05$, Cohen's $d = .29$; $p < .05$, Cohen's $d = .27$; $p < .05$, Cohen's $d = .37$) (Brown et. al, 2005).
3. <u>Training rural School Leadership Teams (SLTs) on computational thinking;</u> developing and implementing an online computational thinking/computer science curriculum for elementary and middle school students;	In a metaanalysis of instructional technology, instructional methodology, and pedagogical constructs interventions on student achievement, for the instructional technology group, the mean effect size was 0.45 and for the instructional methodology grouping the mean effect size was 0.40. For the pedagogical construct group, the mean effect size was 0.81 (Schmidt, 2016).
4. <u>Training rural School Leadership Teams about culturally responsive teaching and leadership practices;</u>	On a culturally responsive teaching competency assessment, pre-service teachers exposed to video training modules scored significantly better than pre-service teachers only exposed to text modules ($p = .007, d = .61$) (Starker, 2008).
5. Developing a comprehensive and innovative system of professional development and technical assistance designed to <u>help educators identify learning potential and serve traditionally marginalized rural</u> students who are underrepresented as gifted and talented students.	A Native, Black, or Hispanic student is one-third as likely to be appropriately identified and receive gifted services than Asian or White students with a risk ratio and overall effect size of .34 with a standard error of 0.01 (Hodges, Tay, Maeda & Gentry, 2018).
6. <u>Facilitating online ECHO training for rural SLTs</u> twice annually to generate solutions to their identified problem of practice;	By connecting members from rural communities, Project ECHO has shown moderate effect sizes of content knowledge

	when instructing health workers (Zurawski et. al, 2016).
7. <u>Using Design Thinking and iterative PDSA cycles</u> to gain a deeper understanding of the user’s identified problem, to prototype interventions, to collect data and revise the intervention to improve rural student learning outcomes;	A comprehensive, targeted school improvement program has shown effect sizes of .20 on impact on primary student achievement outcomes and .30 on impact of secondary student achievement outcomes (Wilkerson, Shannon, Styers & Grant, 2012).
8. <u>Preparing a cadre of rural teachers, principals, and coaches to provide best practice instruction and rural student support</u> through evidence-based, high quality professional development;	When provided with professional development on mathematical instruction, teachers who followed through had students whose achievement demonstrated an effect size of .47 compared to teachers that did not follow through whose students only showed an effect size of .26 (Clements, Sarama, Spitler & Wolfe, 2011). Targeted professional development had a statistically significant, moderate effect size on teacher’s data literacy and attitudes toward data literacy (Ebbeler, Poortman, Schildkamp & Pieters, 2017).
9. <u>Identifying appropriate gifted and talented assessment</u> instruments that are culturally sensitive and account for language differences;	In a study comparing the use of a verbal, quantitative and nonverbal standard age score assessment (VQUNSAS) or the Naglieri Ability Index (NAI) on the impact of gifted identification of English Language Learners (ELL), “ELL students scored 10.8 points lower than non-ELL students on VQNSAS ($p < .001$), but only 4.3 points lower on NAI ($p < .001$)” (Geissman, Gambrell & Stebbins, 2013, p. 105).
10. <u>Training rural School Leadership Teams about depth and complexity;</u>	Kaplan (2013) and Dodds (2010) describe depth and complexity as a series of strategies with which to differentiate curriculum for gifted and talented students. It is discussed in the scholarship as far back as the early 1960’s and has been used in multiple Javits grants.
11. <u>Connecting rural students electronically with students in high-performing schools</u> to collaborate on solving common problems.	Student-student interactions ($g = .49$) and student-content interactions (.46) were moderately more effective at increasing student outcomes compared to student-teacher interactions (.32) in a distance learning meta-analysis (Bernard et. al, 2009).

Ensuring Equal Access: The accomplishment of these objectives directly impacts traditionally underrepresented populations. This section reviews the services (activities) to be provided through this grant and describes the quality and sufficiency of these strategies for ensuring equal access and treatment for members of underrepresented groups. This section will also describe why these services are expected to have an impact on the target audiences for these services. As established in the project goals, the intended audience for the services of this grant are rural elementary students, particularly students from underrepresented populations.

The ten project services can be organized by their focus serving students from underrepresented groups: strategies that are directly focused on identification of underrepresented student needs of; build skills and capacity to serve underrepresented students; and build skills and capacity to serve all students including those from underrepresented groups.

Table F below shows how these services are associated with meeting the needs of students from underrepresented groups. This provides evidence that this quality and sufficiency of services provided will reach underrepresented participants (Selection Criteria (D)).

The I-REECCH PI's and evaluator are skilled and experienced in the delivery of content and evaluation of effectiveness. This team has effectively collaborated together as well as with external partners. Hafenstein and Hesbol will work within the University of Denver's IRB process through which Reichardt will also conduct research activities. This team within this institution, in collaboration with local AU partnerships, will impact rural educators and students and share information to further influence the field – both rural practitioners and researchers.

Table F: Service to meet needs of Student from Underrepresented Groups

Service	Identification of underrepresented student needs	Service underrepresented students	Service to serve all students
1. Train rural SLTs on the use of data	x		
2. Train rural SLTs on the CDE Gifted and Talented Pathways		x	
3. Train rural SLTs on computational thinking			x
4. Train rural SLTs on culturally responsive teaching and leadership		x	
5. Train rural SLTs on depth and complexity	x		
6. Help educators identify learning potential and serve traditionally marginalized students	x		
7. Facilitate online ECHO training for SLT on problems of practice			x
8. Using Design Thinking and PDSA cycles to develop interventions			x
9. Prepare a cadre of rural teachers, principals, and coaches to provide best practice instruction and rural student support			x
10. Identify culturally sensitive assessments		x	
11. Connect rural students with students in high performing schools			x

Dissemination of information leading to the accomplishment of the project objectives will be shared with others interested in creating similar impact. Dissemination will occur through multiple platforms including a website, conference presentations, publications and web-based meetings. An I-REECCH website will be established which will serve as a repository for all training materials, all webinar content, all developed instruments to measure educator effectiveness including interview protocols, surveys and observation protocols, all conference presentations, all white papers, and all journal articles. These resources will create opportunity for even further impact in rural settings not directly served by this grant. Dissemination will occur through presentations at state and national conferences, including but not limited to the Colorado Association for Gifted

and Talented Annual State Conference, the Colorado Association for School Executives annual meeting, the National Association for Gifted Children Annual Conference, the National Rural Education Association Annual Conference, and the American Educational Research Association annual meeting. Publication submissions will occur to journals such as the following: *Gifted Child Quarterly*, *The Journal of School Leadership*, *The Rural Educator*, *The Journal of Research in Rural Education*, *The Journal of Professional Capital & Community*, *Planning and Changing*, and *Gifted Child Today*. A monograph of collected articles, experiences, lessons learned and recommendations for further research and practice improvements will be a final grant publication in Year 5.

Closing Remarks

Project I-REECCH team and constituent rural districts, BOCES, and schools are ready to implement positive change in identification of and service to underrepresented gifted and talented students. Through the impact of I-REECCH, students acquiring literacy in English, much like the little boy in our introduction, are recognized for their talent and potential and receive services to foster their personal skill. The aspiring doctor is now in AP courses with hopes of a University scholarship as she pursues her dream. Innovative educator practices among rural and remote educators will be shared nationwide. Through this work, systems of rural educators will be impacted as the influence of this project expands across the country.