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Cabarrus County Schools: EMPOWER

Full Application Narrative

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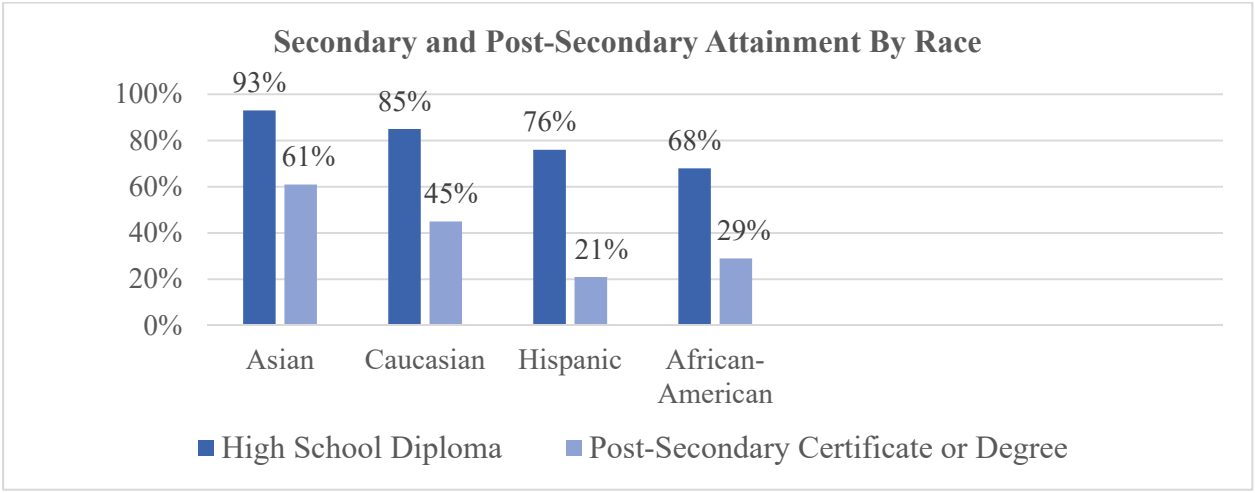
A. SIGNIFICANCE

1) Magnitude or Severity of the Problem to be Addressed. Over the past 15 years the population of Cabarrus County, located in the south-central region of North Carolina, near Charlotte, has increased by 50%, earning our county a spot on the US Census Bureau's list of the fastest growing communities in the nation.[1] This population influx has had a dramatic impact on our school system, Cabarrus County Schools (CCS), which is now one of the largest school districts in our state, serving more than 31,300 students in 39 schools. Currently, our student demographics are 56% Caucasian, 20% African-American, 16% Hispanic, 4% multi-racial, and 4% Asian[2], with our students speaking over 80 different home languages. The changing face of the increased diversity of students in CCS has run parallel to that of the US as a whole: since 1968, American public schools have seen a 28% decline in enrollment of Caucasian students, a 19% increase in African-American students, and an astounding 495% increase in Hispanic students.[3] By 2060, nearly 60% of the US population will be a minority, creating a minority-as-majority population.[4] Historically, minority students have lagged behind their more affluent Caucasian and Asian counterparts in a number of key academic indicators. These subgroup gaps begin as early as kindergarten and typically persist throughout a student's academic trajectory, negatively impacting their long-term educational attainment, at both the secondary and post-secondary levels, as seen below in *Figure 1*.[5,6]



Finding ways to increase educational achievement and attainment for this new, widely diverse minority-as-majority student population of the 21st Century is critically important to our nation's long-term economic security in which 60% of all job openings by 2025 will require some type of post-secondary degree or certification.[7,8]

Some American school districts are now more segregated than they were in the late 1960s and this segregation occurs across both racial and socioeconomic divides, leading to what the Civil Rights Project termed "double segregation".[9] Poverty and student racial composition disparities have been confirmed to be the strongest correlates of academic achievement gaps and educational attainment.[10,11] When a school's free and reduced price lunch rate exceeds 50%, it becomes increasingly difficult for schools to retain middle-class families; and at 75% student academic achievement is significantly impacted for all students.[12,13] But for students living in high-poverty, racially-isolated neighborhoods, attending low-performing, racially and socioeconomically segregated schools are often their only choice. Nationally, more than one-third of all black and Hispanic students attend schools that are more than 90% non-Caucasian but more than a third of all Caucasian students in the US attend schools that are at least 90% white.[14]

As seen in *Table 1*, below, students attending our district's lowest performing elementary and middle schools have a minority enrollment approaching 60%, compared to our district average of 44% overall.[15] These students are significantly more likely to come from an economically disadvantaged home with an average free and reduced price lunch rate in these schools of 61% compared to the district average of 47%.[16]

Table 1. Cabarrus County Schools' Student Demographic Profile

	Amer. Indian	Asian	Hispanic	Black	White	Multi-Racial	Pacific Islander
Districtwide	0.5%	3.8%	15.6%	19.9%	56.0%	4.0%	0.2%
Lowest Performing Schools	**0.4%**	**2.2%**	**21.6%**	**26.4%**	**44.1%**	**5.1%**	**0.2%**

Such segregation presents significant barriers, both academically and socially, to students in these schools leaving them ill-equipped to succeed academically or in the ever-increasingly diverse workplace of the 21st Century.[17] Thanks to technological advances, the ways in which

people interact, access knowledge, and work, have changed drastically in the last two decades, bringing those of different social, cultural, and racial differences into more intense contact, placing an imperative on schools to more fully prepare students to live and work in an ever increasingly diverse society.[18] To succeed in the global economy of the 21st Century, students need to develop cultural sensitivity and to communicate, live, and work with disparate people, places, and processes.[19] Creating schools with more diverse school populations can assist all student groups in better learning how to navigate and succeed in the 21st Century workplace.[20] Diverse educational environments have been shown to promote greater academic achievement, and cognitive and social gains in minority and high-poverty students than for their peers attending segregated schools, which include higher test scores and increased post-secondary college enrollment and attainment.[21,22,23] When schools contain students from multiple racial and socioeconomic groups, it helps prevent lifelong biases as it counters stereotypes, reducing prejudices and decreasing discriminatory attitudes and practices.[24] Attendance in diverse school environments has been linked to increases in students' cognitive and problem-solving skills and reductions in prejudice including increasing the likelihood of living in integrated neighborhoods and working in integrated workplaces as adults.[25] Creating more diverse school environments will assist CCS' students in developing critical cross-cultural competencies which in turn will make them better prepared to enter the globalized workforce of the 21st Century workplace.[26]

Relationships with peers (and school personnel) also play an important role in the long-term academic trajectory of these students as they serve as valuable sources of information and provide the support that minority and economically disadvantaged students need to achieve the same levels of academic success and attainment of more resourced students.[27] This social capital includes developing memberships and connections to networks of influence which can provide these students with valuable support which promotes and facilitates post-secondary enrollment and employment opportunities.[28] These benefits accrue for *all* students, not just minorities or those who are economically disadvantaged.[29] Identifying and implementing strategies designed

to reduce the differential exposure of students to highly racially and socioeconomically segregated school environments can serve as a catalyst to achieving meaningful gains in academic achievement and educational attainment for all student subgroups in the US.[30]

2) Extent project builds upon promising strategies. Research has shown creation of magnet schools to be effective in increasing socioeconomic integration as they attract a diverse group of students and families, ultimately creating a more racially and socioeconomically integrated student body.[31] In 2007, in collaboration with Communities in Schools, CCS launched our first magnet school, the Performance Learning Center, a small, non-traditional high school geared towards students not succeeding in a large, traditional high school environment. In 2011, to better address increased demand from parents to offer more school choices and unique curricula options for their children, we opened our first elementary and middle STEM schools, and by 2012-13, CCS became the first district in North Carolina to offer a K-12 STEM pipeline for students. These STEM schools have won recognition from the NC Department of Public Instruction as Distinguished Model STEM schools. In 2013, our district began piloting an approach targeting our lowest-performing schools, which typically have the highest poverty and ELL or minority student enrollments, for transformation into high-quality magnet schools. In 2013, CCS launched a Spanish dual immersion magnet program at a high-poverty elementary school with a significant ELL population. CCS's open enrollment policy in this magnet school has helped increase both the socioeconomic and racial diversity. Additionally, despite initial concerns that this approach would hurt both Spanish and English speaking students, these students are now outperforming similar students in *all* academic areas across *all* subgroups.[32]

In 2014, CCS launched an International Baccalaureate (IB) magnet program at Weddington Hills Elementary, which in a single school year reduced the free and reduced price lunch rate from 65% to 59% without displacing any neighborhood, low-income, minority students. Demand for our school choice programs has continued to increase, with over 350 students currently on the STEM waiting list and 150 on the IB waiting list. In response, our district has phased in more

choice options to meet the diverse needs of our growing community, as displayed below.

STEM	International Baccalaureate	Language Immersion	Other
• 4 Elementary • 1 Middle • 1 High	• 1 Elementary • 1 Middle • 1 High	• 2 Elementary (Spanish) • 1 Elementary (Mandarin)	• 5 Career Academies • 2 Early Colleges • 1 Performance Learning Center

These magnet programs have also been a contributing element in increasing our district's graduation rate from 72.9% in 2007-08 to 90.0% by 2014-15, and decreasing subgroup performance gaps, as seen in *Table 2*, below.[33]

Table 2. Cabarrus County Schools' Cohort Graduation Rate by Subgroup [34]

Year	Asian	Caucasian	Hispanic	African-American	Multi-Racial	ELL	SWD	Econ. Disadv.
2007-08	75.8	79.1	48.2	63.4	70.7	41.4	63.3	56.0
2014-15	95.0	92.7	79.5	86.3	90.4	44.7	69.2	83.7
Gain	**19.2**	**13.6**	**31.3**	**22.9**	**19.7**	**3.3**	**5.9**	**27.7**

Our results are consistent with research that more balanced racial and socioeconomic student populations lead to increased academic achievement and attainment for student subgroups.[35]

3) Extent project addresses the absolute priority. Our proposed i3 development project, **EMPOWER: E**xpanding **M**agnet **P**rogram **O**ptions, **W**idening **E**ducational **R**each, addresses **Absolute Priority 1** (*Promoting Diversity*) and will serve an estimated 10,008 students, 32% of our district's 31,300 students. **Our strong theory**, detailed in our program logic model in *Appendix D,* is that establishing a continuum of high-quality K-12 magnet programs intentionally placed in high-need areas, combined with the layering of innovative non-cognitive, socio-emotional, and academic supports and services **(Invitational Priority)**, will increase academic achievement and educational attainment outcomes while decreasing the racial, ethnic, and socioeconomic isolation of students attending our lowest-performing schools. This will ensure equity of curricula and instructional access for students attending our district's lowest-achieving, highest-poverty schools including those that have significant minority-as-majority student populations. Our four over-arching goals and our strategies to address each goal follow.

Goal 1: ***Revise policies to promote magnet school expansion and pipeline persistence.***

► **Magnet School Plan:** CCS will transform our lowest-performing, mostly minority, high-poverty schools into magnet schools to ensure equity of curricula and instructional access to our low-income and minority-as-majority students by instituting a districtwide policy using a two-prong approach: 1) intentionally place magnet programs in *all* schools with a greater than 50% free and reduced price lunch rate; and 2) implement dual language immersion magnet programs in *any* school with a greater than 25% ELL Hispanic population. EMPOWER's K-12 magnet school pipeline plan is detailed in *Table 3*, below:

Table 3. Cabarrus County Schools' EMPOWER Magnet School Rollout	
2017-18	• IB to existing Spanish Immersion at WM Irvin Elementary • Spanish Immersion at Winecoff Elementary • STEM Neighborhood at Northwest Cabarrus, CC Griffin Middles (all grades) • STEM at JN Fries Middle (all grades) • IB at Concord and Harold Winkler Middles (all grades) • STEM Academy at Northwest Cabarrus High
2018-19	• Spanish Immersion to existing IB at Weddington Hills Elementary • Spanish Immersion at Wolf Meadow Elementary • STEM to existing Spanish Immersion at Winecoff Elementary (all grades) • A+ Fine Arts (interdisciplinary teaching plus arts) at Royal Oaks Elementary • Mandarin Immersion at Harrisburg Elementary • STEM Academy at Northwest Cabarrus High
2019-20	• IB Academy at new high school (all grades) • National Academy Foundation (NAF) Career Academy added at Central Cabarrus High
2020-Beyond	• Add additional STEM, Visual and Performing Arts Academies to our district's high schools to meet pipeline demand as middle school students reach 9th grade

►**District Policy Revisions:** CCS will utilize a variety of school and district-level policies to support implementation and expansion of our magnet school approach to increase diversity for all students in our district.[36] This will include waiving current school attendance zones for students living outside of each magnet school's neighborhood zone. This approach will promote enrollment by more racially and socioeconomically diverse students within these newly created magnet schools. While it is our intent to retain all neighborhood students within their neighborhood schools as they transition into new magnet schools, if a child is interested in

attending a school outside of their current neighborhood zone, they will be allowed to submit a transfer request. To retain these students however, EMPOWER plans to put into place a comprehensive set of support structures for students remaining in their neighborhood school, described in greater detail in *Goals 2-4,* below. When interest in a magnet school exceeds available slots for students living outside of the neighborhood zone, we will use a randomized lottery. Students not chosen by lottery will then be placed on a waiting list, also using a randomized lottery for positioning on the waiting list, with students admitted from the list as space becomes available up to the first day of school. In the event of program openings and no waiting list slots remaining, the application process will be reopened and seats filled in the order applications are received. ►**Transportation**: The majority of our middle-to-affluent and predominately Caucasian neighborhood schools are located close to the Cabarrus County border with Charlotte-Mecklenburg County, where many Cabarrus County residents are employed. The majority of our EMPOWER schools, however, are located in the more outlying areas of our county, farthest away from these commuter zones. This makes transportation an identified barrier to achieving more diverse student representation in our target magnet schools. CCS will address this barrier by providing transportation to students living outside the neighborhood attendance zones of our new magnet programs through the use of hub bus stops in our non-magnet elementary and middle schools. Students can either take a bus or have their parents or guardians drop them off at their local neighborhood school where they will be transferred by bus to and from their chosen magnet program. This will further help increase the percentage of middle-to-upper class and non-minority students within our target magnet programs. ►**On-Ramps:** The strongest predictor of post-secondary success is a rigorous course of study in middle and high school, but African-American, Hispanic, and low-income students lag behind Caucasian, Asian, and middle-class students in advanced course enrollment such as IB or Advanced Placement (AP).[37] We will create more "on-ramps" into our AP/IB and STEM programs by automatically enrolling students attending their neighborhood school in the new magnet program, changing

magnet school enrollment from "opt-in" to "opt-out". Students outside the neighborhood zone will have to meet basic proficiency requirements to transfer to these schools which will include scoring a level two or higher (on a five-point scale) on the previous year's end-of-grade math, reading, and science assessments, or qualifying as an exception based upon teacher recommendation or course grades. We will also eliminate current participation requirements at the middle and high school levels: if a student has not attended an IB or STEM elementary or middle school, they can still enroll in a middle or high school IB or STEM program. CCS will also cover fees for related IB and AP exams for low-income students at the secondary level so their cost does not present an unnecessary participation barrier.

Goal 2: ***Deliver professional learning to increase rigor and cultural responsiveness.***

►**Increasing Academic Rigor:** Research shows that black, Hispanic, and economically disadvantaged students are underrepresented in International Baccalaureate, Advanced Placement, and STEM programs of study.[38] EMPOWER will provide our magnet school teachers with comprehensive professional learning opportunities designed to build rigor and relevance across the curriculum and identify ways in which to best support under-resourced students in accessing and succeeding in more challenging curricula work in our planned IB, STEM, and Language Immersion magnet programs.[39] This will include: ►**Culturally Responsive Teaching (CRT):** Teachers and administrators often lack concrete professional learning to understand racially, culturally, or linguistically diverse students' unique learning needs which hinders them in providing appropriate instruction or interventions.[40] This can negatively impact racially, culturally, or linguistically diverse (RCLD) students' academic achievement and eventual attainment.[41] In 2015, to better bridge the gap between our teachers, who are 89% Caucasian,[42] and our diverse student body, which is 44% minority[43] and nearly 50% economically disadvantaged,[44] CCS contracted with a nationally known expert in diversity and equity issues, Gary R. Howard, to provide ongoing professional learning, capacity building, and technical assistance in each of our district's schools to create more inclusive school learning environments

and close the achievement gap between student subgroups in our district. *Table 4*, below, outlines specific CRT instructional strategies.

Table 4. Culturally Responsive Teaching Practices
Instructional Engagement includes practices in which teachers weave engagement approaches with skills-based practice that draw explicit connections between students' cultural and linguistic knowledge to better assist them in learning and retaining new information.[45]
Challenging Materials provides students with standards driven instructional strategies and curricula for rigorous, but engaging learning experiences that reference students' cultural and linguistic backgrounds while promoting critical inquiry and higher order thinking skills.[46]
Responsive Feedback provides students with ongoing feedback that is delivered in a manner sensitive to students' individual and cultural preferences.[47] Includes teacher use of affective and cognitive feedback to clarify and expand upon students' responses and creates multiple opportunities for students to respond and construct new understandings regarding what they are learning.[48] It is also a recognized strategy for students experiencing academic difficulties.[49]
Differentiated Instruction provides a variety of support to RCLD students including explicit instruction, instructional scaffolding, modeling, and problem-based learning experiences to promote academic achievement growth.[50]

►**School Equity Teams:** A key part of our work has been establishing School Equity Teams. These four-member teams are comprised of teachers and administrators from each of our schools who meet four times a year to work on their school's implementation plan and to receive, plan, and provide professional learning for school staff using a train-the-trainer model which includes a multi-step process to ensure that our schools serve as equity models. Our district is currently in Stage 1 of the five-step process, which is described below in *Table 5*.

Table 5. Cabarrus County Schools' Five-Step Equity Model
1) Tone and Trust: Forming a community of learners among participants; modeling activities that can be used in classrooms and meetings with parents or community leaders; building a climate of collaboration; and transcending rhetoric.
2) Personal Culture and Journey: Acknowledging each person's unique cultural narrative; deepening understanding of cross-cultural dynamics; providing a functional definition of cultural competence; and the process of personal growth toward cultural competence.
3) Social Dominance to Social Justice: Exploring privilege, power, and difference; describing the dynamics of social dominance; linking issues of dominance to educational challenges; and providing a working model for moving from dominance to social justice.
4) Classroom and Job-Specific Implications and Applications: Sharing classroom and workplace successes and challenges; working with key principles for Culturally Responsive Practice; and implementing an action-research process for self-reflection and growth.
5) Systemic Transformation and Planning for Change: Identifying institutional barriers to equity and social justice; institutional transformation; action-planning for systemic change; and assessing strategic outcomes related to equity and excellence.

Our School Equity Teams will use of a comprehensive checklist which will be reviewed quarterly to ascertain how well our schools are proceeding in this multi-stage process and where we are in terms of meeting the needs of diverse student groups through implementation of equitable practices and culturally responsive instructional practices. Such approaches have been found to be an effective means of closing the subgroup achievement gap and addressing the disproportionate representation of RCLD students in special needs programs and school disciplinary infractions.[51] It has also been recognized as a powerful tool in building the capacity of RCLD students to take on and succeed in more rigorous academic work.[52] The use of CRT has also been shown to better prepare *all* student groups to live and learn in a multicultural world.[53]

►**Problem-Based Learning:** In collaboration with UNC-Charlotte, CCS will develop an online certificate course on Problem-Based Learning (PBL) Instruction to help magnet school teachers implement PBL across the curriculum. Our approach will center on the use of a multi-disciplinary curriculum and provision of hands-on learning experiences grounded in real-world contexts. PBL has been shown to be effective in a wide variety of school types (e.g., urban, suburban, rural) and student populations (e.g., gifted, average, low-income).[54] Our students will be given the opportunitiy to investigate real, open-ended problems; formulate questions; and develop solutions to genuine challenging situations.[55] Engaging students in such meaningful problem-solving builds higher order thinking skills and increases their motivation to learn.[56] Compared to traditional instructional approaches, PBL raises long-term retention of content and helps students perform as well or better than traditional learners in high-stakes tests.[57] It has also been shown to promote a range of skills highly valued by employers in the global economy of the 21st Century including communication, critical thinking, collaboration, and research skills while building students' ability for self-directed learning, self-perception, and confidence.[58,59]

►**STEM:** Research confirms that early exposure to STEM supports the overall academic growth in diverse learning populations, including promotion of critical thinking and reasoning skills.[60] It

also enhances later interest in STEM studies and careers, particularly for female and minority students, who are severely underrepresented in STEM career fields in the US currently.[61] The single most important factor in ensuring excellence in STEM programs is teachers with deep content knowledge in STEM subject areas combined with pedagogical skills necessary to teach these subjects well.[62] In 2016, the NC Science, Mathematics, and Technology (SMT) Education Center recognized seven schools in our state as "STEM Schools of Distinction"—four of these seven schools were Cabarrus County STEM magnet schools. Teachers from our current STEM Schools of Distinction will provide professional development for teachers in our newly launched STEM schools through our existing Professional Learning Communities (PLCs) that will help transform traditional classrooms with teacher-centered instruction into student-centered, inquiry-based, problem-solving classrooms using PBL.[63] CCS will also contract with STEM education professionals, including those from Discovery Place Education Studio to provide professional development to teachers in whole group workshops, small-group PLCs, and through individual coaching including custom-made STEM classroom education kits for our STEM magnet schools. Discovery Place has also agreed to provide match for our i3 grant through family outreach programming, field trip experiences for students, and other parental involvement activities.

►**Dual Immersion:** Our immersion programs are designed to foster student development as self-confident learners, creative thinkers, problem solvers, and most importantly, productive citizens in the 21st Century global economy, achieving proficiency in both English and Spanish, or Mandarin Chinese, and becoming bilingual, bicultural, and biliterate. Our rigorous immersion curriculum integrates multicultural learning principles to better prepare our students for future success in the 21st Century global economy. This approach has been found to boost student's cognitive development and broaden their post-secondary education and career opportunities.[64] Teachers in our dual-language immersion programs will receive comprehensive professional learning to ensure their inclusion of project-based inquiry and global themes into their daily instruction. EMPOWER partner, VIF International Education, will provide match for staff

professional learning through its Global Gateway program. This will include a series of progressive modules which allow instructional staff to complete digital portfolios and earn a portable badging credential recognized by schools, districts, and state and national institutions. Professional learning modules are tailored by grade level and academic specialty, and designed to incrementally build global competencies in teachers and students. Additional resources include project-based global-themed curricula, lesson plans, and classroom resources.

►**Summer Professional Learning Institute:** Each summer, our magnet school teachers and administrators will attend an intensive three-day summer institute where they will take part in professional learning experiences that will assist them in magnet school curriculum implementation, student interventions, and lesson planning.

Goal 3: ***Provide students with socio-emotional, academic, and non-cognitive supports.*** ELL, minority, and low-income students are far more likely to experience academic and behavioral problems including suspension, expulsion, or dropping out of school.[65] EMPOWER will provide our magnet school students with wraparound supports grounded in the evidenced-based Multi-Tiered System of Supports (MTSS) to ensure fairness, equity, and the provision of timely interventions for students. Driven by data-based decision making, interventions will address students' behavioral and academic needs as academic performance and socio-emotional behaviors have a reciprocal influence on one another.[66,67] MTSS recognizes that student needs exist across a continuum and uses a tiered framework to deliver comprehensive wrap-around interventions and supports. Our district is currently piloting MTSS in several of our highest-need schools which has shown promising results in decreasing disciplinary issues and boosting academic achievement, echoing research that MTSS reduces suspensions, expulsions, and referrals, and increases subgroup achievement.[68,69] MTSS also has the potential benefit of impacting disproportionate suspension and referral rates.[70] It also helps reduce the influence of existing risk factors in a student's life by promoting development of protective factors, resulting in more positive student behaviors and school climates and ultimately positive impacts on

student achievement.[71,72] We will expand MTSS to all of our target magnet schools using school-level MTSS Teams to identify issues and implement needed interventions. These teams will meet at least monthly to study student progress in Tier 1 and 2 interventions and to re-evaluate data to determine if the intervention was successful or if a student needs to move to a higher tier. EMPOWER will use Student Empowerment Counselors (SEC) to deliver a non-cognitive curriculum, *Second Step,* in all magnet elementary and middle schools to boost non-cognitive factors such as empathy, problem-solving, communication, and building cooperative relationships with others, valuable to both long-term academic and career success. Second Step has been shown to produce significant improvements in socio-emotional development and reductions in behavioral issues.[73] Our target EMPOWER High schools will also identify a scientifically-based non-cognitive curriculum designed to promote similar outcomes. SECs, in conjunction with our schools' existing Guidance Counselors, will meet with students at least twice per year, those who are low-performing or taking advanced coursework, to develop individualized student plans to identify and align any needed academic and socio-emotional resources to further ensure student success.

Goal 4: ***Engage families early and throughout their child's academic career.*** While family engagement often starts out strong in the early years, it tends to decline over time, so that by the time students are in high school, family engagement is usually minimal.[74] Low-income and minority families, in particular, often face multiple barriers to engagement including perceived cultural or socioeconomic differences or language differences which prevent them from taking a more proactive approach on issues related to their child's education.[75,76] Developing partnerships with parents and the community at large can have a systemic and sustained effect on improving student outcomes and on whole-school reform efforts including increased student achievement, attendance, and college readiness regardless of students' socioeconomic background or ethnicity.[77,78] To more effectively engage parents and families, each magnet school will form Family Outreach Committees comprised of faculty, administrators, ESL Coordinators, and

Guidance Counselors to lead their school's professional learning and build staff capacity in family engagement strategies through their existing PLC structures. This will center on use of the Harvard Family Research Project's Family Involvement modules which were designed to build opportunities for authentic partnerships between families, schools, and communities centered on improving student learning outcomes.[79] This framework recognizes that both schools and families need collective capacity building to engage in effective partnerships.[80] Our dual-capacity approach will include professional learning for school staff on building their knowledge of available community assets and resources, plus skill-development in cultural competency, building trusting relationships with families, and the use of an asset model, allowing educators to work with families through the lens of their existing strengths and potential. Families will also receive ongoing workshops and presentations on how students learn and how best to support this process, as well as practical information on school and district processes and community resources to build their own self-efficacy and advocacy in working to bridge cross-cultural differences.[81] Presentations for families will cover assessments, uses of technology, and school policies, as we work to build trust and promote regular two-way communication between our school staff and parents. This approach is supported by research which shows that families and school staff are more motivated to participate in school events and programs that focus on enhancing their ability to work as partners and in achieving overall school improvement goals.[82] Each magnet school will identify a Family Outreach Liaison, who will be paid a stipend to conduct outreach and recruitment within our target magnet school communities. ESL Coordinators will take the lead in joining with other educators from our target schools to conduct home visits and attend community events. Each Liaison will also work with our Family Outreach Committees to plan an annual Open House at each school so family members can visit our schools, meet our staff and administrators, and learn more about the school and their child's progress. We will also conduct an annual School Choice Fair so families can meet with magnet school faculty and staff from each of our district's magnet schools and learn more about the

curriculum, registration, and transportation options for these schools. Our public events will include translators for our Hispanic and other non-native English language community members, including translation of information materials as needed. We will also continuously seek parent input via the use of community surveys and forums on key issues.

B. Quality of the Project Design and Management Plan

1) Extent goals, objectives, and outcomes are clear and measurable. We believe that creating more diverse learning communities and providing rigorous, relevant, career-focused curricula, coupled with the academic and socio-emotional supports to help students succeed, will increase students' academic achievement and boost their odds for post-secondary success in the ever-increasingly diverse global economy of the 21st Century.[83] Lessons learned from our previous magnet school launches have shown that our district needs to be more intentional in retaining students in the neighborhood zone surrounding a magnet school while also increasing enrollment of more affluent, non-ELL or non-minority students. We have used these lessons learned to design our four over-arching project goals and their aligned strategies, which were fully detailed in *Section A-3,* on pages 5-15. *Table 6* shows our intended outcomes for each of our identified goals, while our strong theory is documented in our program's logic model in *Appendix D.*

Table 6. EMPOWER Performance Measures with Targets

Goal 1: Revise policies to promote magnet school (MS) expansion and persistence.

- **1A:** Beginning in Year 1, the Advisory Council will meet twice annually to review and revise policies that hinder MS pipeline participation. **Measure**: Administrative records.
- **1B:** Beginning in Year 2, reduce the average free and reduced price lunch (FRPL) rate in MS enrollment by 10% over baseline or until the average FRPL rate in each MS does not exceed 50%. **Measure:** Enrollment records. **Baseline:** Established in Year 1.*
- **1C:** Beginning in Year 2, at least 70% of minority students will be retained in the MS pipeline year to year, increasing by 2% per year, or until 80% of all students are retained in the pipeline, per year. **Measure:** Enrollment records. **Baseline:** Established in Year 1.

Goal 2: Deliver professional learning to increase rigor and cultural responsiveness.

- **2A:** At least 80% of targeted MS teachers will participate in at least 3 trainings on increased academic rigor and cultural responsiveness and/or complete the online UNC-C PBL Instruction certificate course each school year. **Measure:** Attendance records.
- **2B:** Beginning in Year 2, increase 2nd grade MS students' Discovery Education's Reading

scores by an average of 2 points per year. **Measure**: Discovery Education Reading, 2nd grade. **Baseline:** Established in Year 1.

- **2C:** Beginning in Year 2, increase the percentage of 8th grade MS students who qualify for FRPL who enroll and pass the Math 1 course by 10%, increasing by 5% per year, or until students qualifying for FRPL are no longer underrepresented in comparison to school enrollment. **Measure:** FRPL Rates, NC EOC Math 1. **Baseline:** Established in Year 1.
- **2D:** Beginning in Year 2, increase the percentage of FRPL MS students who enroll in and pass honors or AP classes by 10%, increasing by 5% per year, or until students who qualify for FRPL are no longer underrepresented in comparison to the overall school enrollment. **Measure:** Administrative records. **Baseline:** Established in Year 1.

Goal 3: Provide students socio-emotional, academic, and non-cognitive supports.

- **3A:** In Year 1, 60% of targeted MS students will meet with a SEC or Guidance Counselor at least twice per year, increasing by 5% in each of Years 2-4, or until 75% of all targeted students meet with a SEC or Guidance Counselor. **Measure:** Administrative records.
- **3B:** Beginning in Year 1, each target school will achieve a score of at least 2 out of 3 on at least 60% of all items of the Self-Assessment of Multi-Tiered System of Supports Implementation (SAM).[84] **Measure:** SAM. **Baseline:** Established in Year 1.
- **3C:** Reduce the rate of office discipline referrals per 100 minority students in target schools by 10% by Year 2; 15% by Year 3; 20% by Year 4. **Measure:** Rate per 100 students, annually. **Baseline:** Established in Year 1.

Goal 4: Engage families early and throughout their child's academic career.

- **4A:** Beginning in Year 1, EMPOWER will host at least two annual districtwide parent education events (Open House, School Choice Fair) in each feeder pattern. **Measure:** Administrative records.
- **4B:** Beginning in Year 2, increase targeted parent participation in parent education events by 5% over Year 1 baseline. **Measure:** Evaluator-developed participation tracking tool.
- **4C:** Improve average daily attendance rate in target schools by 0.2% from baseline in each of Years 1-4. **Measure:** Rate reported monthly, compiled annually. **Baseline:** Established in Year 1.

Implementation Fidelity: Beginning in Year 2, EMPOWER schools will implement key program components with 75% fidelity or more increasing to 80% fidelity or more in Years 3-4. **Measure/Timeline:** Evaluator-developed fidelity index (measuring reach, dosage, quality, and responsiveness), assessed annually. **Baseline:** Established in Year 1. ***** *Please refer to Appendix C for current demographic composition of target schools. Because EMPOWER aims to significantly change the composition of school enrollment in target schools, Year 1 baseline will supply the most accurate benchmark to measure program impacts***.**

2) <u>Adequacy of management plan to achieve project objectives.</u> Cabarrus County Schools has a strong track record in managing large initiatives including U.S. Department of Education Investing in Innovation and School Climate Transformation Grants. Our Deputy Superintendent of Operations, Lynn Rhymer, is responsible for supervising and directing all CCS school

principals and overseeing our district's administrative, auxiliary, and student services; facilities; and district construction projects and will serve as Senior Project Advisor for EMPOWER. Bridget Jones, our School Choice-Career Services Coordinator has prior experience as our district's K-12 STEM Coordinator and will serve as Project Advisor. Together, Ms. Rhymer and Ms. Jones will provide overall project direction, operations management, and fiscal accountability (estimated at 0.05 FTE each) and co-chair the EMPOWER Advisory Council. Meeting on a quarterly basis, the Advisory Council will work to coordinate and align community and district resources to support our program efforts. Day-to-day program operations will be led by the EMPOWER Project Director who will assume responsibility of launching our new magnet programs districtwide, leading professional development, coordinating projectwide family outreach efforts, and collaborating with our independent evaluators and program partners. Our Project Advisors and Project Director will meet weekly as the EMPOWER Management Team. Other key staff will include our team of Student Empowerment Counselors (SEC) who will be assigned to two-three schools each. These SECs will meet with students to develop a plan to ensure that they have the appropriate academic and socio-emotional supports to succeed in rigorous magnet school environments. They will also deliver a non-cognitive curriculum in all target schools designed to boost students' non-cognitive factors such as self-efficacy, tenacity, and perseverance, as well as students' aspirations and beliefs about themselves as learners; skills essential to learning and 21st Century career success.[85,86] Resumes of key personnel and job descriptions of project staff can be found in *Appendix F*. *Table 7*, below, outlines our project's management plan and timeline.

Table 7. Project Management Timeline

Milestone/Activity	Responsibility	Timeframe
Year 1 Foundational Activity Period: Spring and Summer 2017		
Launch project administration and oversight processes and procedures	Project Advisors	By 2/17
Finalize independent evaluation firm's contract to conduct evaluation services	Project Advisors, Advisory Council	By 2/17
Compile baseline data for objectives	Independent Evaluator	By 3/17
Confirm partnerships with UNC-C, Discovery Place, and VIF	Project Advisors	By 3/17

Begin required Institutional Review Board approval process for project evaluation, as needed, repeat annually	Independent Evaluator	By 3/17
Complete required Comprehensive Evaluation Plan, update annually	Independent Evaluator, Project Advisors	By 3/17
Complete required Comprehensive Management Plan, update annually	Project Advisors	By 3/17
Confirm private sector match	Project Advisors	By 3/17
Begin providing quarterly evaluation updates to Advisory Council	Independent Evaluator	By 4/17
Hire Project Director and SECs	Project Advisors, CCS	By 3/17
Convene Management Team, weekly	Project Advisors	By 3/17
Convene Advisory Council, quarterly	Project Advisors	By 4/17
Develop hub stop and transportation plan for magnet schools	Project Advisors	By 6/17
Plan Summer Professional Learning Institute for magnet teachers, annually	Project Director	By 6/17
Plan School Choice Institutes for dissemination of key strategies, annually	Project Advisors, PD	By 6/17
Begin process to add PBL Instruction teacher certification	Project Director, UNC-Charlotte	By 6/17
Identify MTSS Teams	Magnet School Principals	By 6/17
Identify Family Outreach Committees at each magnet school	Magnet School Principals	By 6/17
Identify a Family Outreach Liaison at each school	Magnet School Principals	By 7/17
Begin work on project sustainability and dissemination plan, revisit quarterly	Project Advisors, Project Director, Advisory Council	By 7/17
Develop fall and spring professional learning schedules, annually	Project Director	By 7/17
School Equity Teams meet, quarterly; Develop CRT professional learning plan, annually	School Equity Teams	By 7/17
Year 1 Implementation: January 1, 2017 – December 31, 2017		
Begin curriculum redesign and replication process to implement rigorous STEM, IB, Spanish Immersion programs at target schools	CCS Curriculum and Instruction Department	By 4/17
Begin professional learning for magnet school teachers	Project Director, Professional Learning Communities	By 4/17
Conduct districtwide School Choice Fair, annually	Project Advisors, Project Director, Magnet Schools	By 5/17
Conduct Open House at each EMPOWER magnet school, annually	Project Advisors, Project Director, Magnet Schools	By 8/17
Add Spanish Immersion to IB magnet at WM Irvin Elementary	CCS, Project Advisors, Project Director	By 8/17

Launch Spanish Immersion at Winecoff Elementary	CCS, Project Advisors, Project Director	By 8/17
Launch STEM neighborhood schools at NW Cabarrus and CC Griffin Middle Schools	CCS, Project Advisors, Project Director	By 8/17
Launch STEM magnet at JN Fries Middle	CCS, Project Advisors, Project Director	By 8/17
Launch IB magnet at Concord and Harold Winkler Middle Schools	CCS, Project Director	By 8/17
Add freshman STEM Academy at NW Cabarrus High	CCS, Project Advisors, Project Director	By 8/17
Begin meeting with students to complete Individualized Student Academic Plans	Student Empowerment Counselors	By 8/17
Family Outreach Committees begin meeting, monthly	Family Outreach Liaisons	By 8/17
Provide non-cognitive curriculum for magnet school students	Student Empowerment Counselors	By 8/17
MTSS Teams begin meeting, monthly	MTSS Teams	By 8/17
Disseminate program evaluation findings to key stakeholders, quarterly	Advisory Council	By 10/17
Year 2: January 1, 2018-December 31, 2018		
Repeat/refine Year 1 activities	Project Advisors, Project Director	By 1/18
Add Spanish Immersion to IB at Weddington Hills Elementary	CCS, Project Advisors, Project Director	By 8/18
Launch Spanish Immersion at Wolf Meadow Elementary	CCS, Project Advisors, Project Director	By 8/18
Launch STEM magnet at Winecoff Elementary	CCS, Project Advisors, Project Director	By 8/18
Launch A+ Fine Arts at Royal Oaks Elementary	CCS, Project Advisors, Project Director	By 8/18
Launch Mandarin Immersion at Harrisburg Elementary	CCS, Project Advisors, Project Director	By 8/18
Present program results at regional and national conferences, ongoing	Independent Evaluator, Management Team	By 6/18
Years 3-4: January 1, 2019 – December 31, 2020		
Repeat/refine Years 1-2 activities	Project Advisors, Project Director	By 1/19, 1/20
Launch IB Academy at new high school	CCS, Project Advisors, Project Director	By 8/19
Launch NAF Career Academy at Central Cabarrus High	CCS, Project Advisors, Project Director	By 8/19
Launch STEM, Visual, and Performing Arts Academies at district high schools to meet pipeline demand as EMPOWER students reach 9th grade		By 8/20

3) Adequacy of procedures for ensuring feedback and continuous improvement. Timely, useful feedback provided through a structured formative evaluation is critical if we are to make informed decisions that will ultimately improve our program and produce the desired outcomes. To ensure feedback and continuous improvement in project operations, we will use the following procedures. ►**Management Structures**: The Advisory Council will meet quarterly to review project implementation, study evaluation findings, identify any corrective adjustments needed, and plan for long-term sustainability and future replication. The Council will be guided in their decision-making by our logic model (*Appendix D*), goals and objectives (*Table 6*), project management plan (*Table 7*), and findings from our independent evaluation firm, assuming responsibility for identifying any program corrections, adjustments, or refinements necessary to achieve our key program goals and objectives. Our Management Team, consisting of the Project Director and our two Project Advisors will meet weekly. At the school level, teachers and administrations will also meet weekly as part of their Professional Learning Communities. ►**Utilization-Focused Evaluation**: A participatory approach to evaluation will ensure that data is strategically used on a regular basis to provide feedback in an effort to refine implementation and make programmatic changes as needed. Through continuous monitoring, the evaluation team will provide ongoing feedback to each site and will triangulate the data to provide a synthesis of programwide, evidence-based data. Additionally, the external evaluation team will provide an unbiased assessment of our program and allow for continuous feedback and improvement, effectively communicating results using interim and end-of-year reports, survey briefs, snapshots, and in-person briefings. ►**Logic Model**: The EMPOWER logic model (*Appendix D*) ensures that both continuous quality improvements and program enhancements are guided by evaluation. The model has a built-in feedback loop to provide timely and useful information to stakeholders for informed decision-making on needed changes in program activities. Short-term performance indicators will assess progress toward long-term outcomes. Annual benchmarks are established and embedded in outcomes listed in *Table 6* and will be used to graphically chart

actual progress against targeted benchmarks. Identification of barriers/facilitators to implementation will inform suggestions for overcoming barriers and serve as the basis of recommendations for making timely program adjustments. Cabarrus County Schools has also institutionalized use of the four-step Plan-Do-Check-Act Cycle (PDCA) districtwide. Recommended for use by the NC Department of Public Instruction, PDCA develops plans based on data analysis (Plan), to implement solutions (Do), to understand the results or impact (Check), and to make adjustments based on the outcomes of the strategy implementation (Act).[87] PDCA examines existing practices and identifies strategies to ensure student, school, or districtwide improvements, including student achievement, assessment, instruction, intervention, and professional development, as well as provide a platform to develop annual school improvement plans and implement similar school improvement models, described in detail in *Table 8*, below.

Table 8. Cabarrus County Schools' Continuous Improvement Cycle
Plan: Addresses goal alignment by conducting a structured needs assessment or establishing baseline, including identifying data sources to validate and analyze results. Key questions are "What are the weakest and strongest areas?" "Are there patterns across grades, content areas, within academic subgroups?" These answers serve as the basis for selecting research-based strategies to meet identified needs.
Do: Addresses data-driven decision-making, distributed leadership, professional development alignment, and calendar alignment as a test pilot is developed and implemented.
Check: Considers guiding principles, data-driven decision-making, and district-level participation to measure how effective the test pilot was, including whether it could be improved, and serves as a basis for how best to proceed.
Act: Renews the continuous improvement process, as new ideas and strategies are integrated with the proven strategies from the Check phase, with results reviewed, confirmed, or refuted to serve as a basis for implementation of agreed-upon adjustments.

4) Mechanisms to disseminate information to support further development or replication.

►**School Choice Institute:** We will conduct an annual School Choice Institute to share successes, challenges, and lessons learned by teachers and school and district administrators with attendance open to other districts across the nation wanting to implement similar programs. We have benefited from lessons learned in prior implementation of several successful large-scale federal grant initiatives, which are integrated into the EMPOWER project design. Our Project Director, program staff, and evaluation team will also make presentations at regional and

national conferences on magnet school implementation and increasing diversity. We will also engage in a sustainability planning process that culminates in a written plan by Year 3 to ensure key components are embedded in our schools and district. *Table 9* outlines how our project design will build capacity to support long-term sustainability.

Table 9. Plan for Building Capacity and Ensuring Program Sustainability
Utilize data-based decision-making: EMPOWER's Advisory Council will review results quarterly from a variety of data sources plus aggregate data on GPRA and key program measures that will better identify student need, assess progress, and inform the need for timely program refinements to strengthen project implementation and ensure long-term project success. Accessibility and use of accurate, multi-sourced data has been shown to be essential to successful implementation and sustainability of school reform models.[88]
Provide professional learning and coaching: EMPOWER will conduct comprehensive professional learning for the instructional staff in our magnet schools, primarily using our PLC's and a train-the-trainer approach to build long-term sustainability in each school as our staff gain capacity to conduct professional learning sessions after grant funding has ended. Similar approaches have improved program outcomes and sustainability of school and district-level reforms while increasing teacher skills and capacity.[89]
Foster community and parent collaboration and involvement: CCS will use a dual-capacity building approach to family outreach educating both school staff and family members and the community-at-large. Such partnerships have led to strengthened school-community and school-parent connections and improved project outcomes.[90]

Additionally, our district has already gained significant commitments for program match and support from a variety of community-based organizations including The Cannon Foundation, The Mariam and Robert Hayes Charitable Trust, Discovery Place Education Studio, UNC-Charlotte, and VIF International Education ($100,000).

C. Quality of Project Evaluation

1) Clarity and importance of key questions and appropriateness of methods. We will address two key confirmatory evaluation questions: 1) What is the impact of EMPOWER's language immersion model on 2nd grade reading achievement after three program years; and 2) What is the impact of EMPOWER's STEM and IB middle grades model on 8th grade math achievement after three program years? We propose two impact studies that use a longitudinal individual-level single-cohort quasi-experimental design (QED) with matched comparison groups. Analyses by subgroups (low-income, minority, ELL) will be conducted to test our theory

that establishing magnet programs in our highest-poverty, highest minority schools will improve academic achievement for all. We will also pursue a key exploratory question: What is the impact of EMPOWER on low-income and minority students' IB and STEM pipeline persistence after one, two, three, and four years of programming? Finally, we will address a fourth question: To what extent is EMPOWER implemented with fidelity? Using a fidelity implementation index, we will track the implementation of the project so that we are able to inform and guide replication efforts. The results of the EMPOWER evaluation will build on and extend our existing study (concluding in school year 2016-17) designed to understand the impact of our innovative model for STEM instructional redesign and personalized, tech-enabled instructional practice on students' STEM achievement and engagement in four Cabarrus County STEM schools. Using a different analytic sample of newly designated magnet schools (see *Table 10*), the EMPOWER evaluation will extend the existing study by examining the contribution of policy reform changes aimed at reducing barriers to pipeline persistence over and above curriculum reform.

2) Extent evaluation will produce evidence meeting WWC Standards with reservations.

EMPOWER will employ two rigorous longitudinal evaluation studies that meet What Works Clearinghouse evidence standards with reservations to assess the effectiveness of our innovative project model. We will assess the treatment and comparison groups for differences in academic achievement using standardized assessments (Discovery Education's Common Core Reading assessment and NC End-of-Grade Math 1 assessment). Target school participants will be matched with students from non-participating schools within the district (who had exposure to "business-as-usual" instruction) using key background and demographic variables including a baseline pre-test measure of achievement. Each study will follow an intent-to-treat analysis model on a stable sample of students (no in-movers) and assumes fixed-effects. We will use 1:1 propensity score matching to minimize selection bias and establish baseline equivalence between treatment and comparison students. Using ordinary least squares regression, impacts will be estimated at the student-level. Between-school variation in the outcome variable will be assessed

to determine if hierarchical linear modeling is warranted. The study designs provide confidence in reaching Minimal Detectable Effect Size estimates and to avoid a Type II error. *Table 10* presents a summary of design parameters for the two confirmatory studies.

Table 10. Summary of Design Parameters for Confirmatory Studies		
Parameters	**Study 1: QED**	**Study 2: QED**
School Level	Elementary	Middle
Cohorts, Year, Grade at Entry	1 Cohort, 2017-18 School Year, Kindergarten	1 Cohort, 2017-18 School Year, 6th Grade
Target Schools in Analytic Sample	IB or STEM with Spanish Immersion: Winecoff and W.M. Irvin Elementary	IB or STEM: CC Griffin, Concord, H.E. Winkler, and Northwest Cabarrus Middle
Sample Size	474	1,987
Confirmatory Outcome	Discovery Education's 2nd Grade Reading Test Scores	NC End-of-Grade 8th Grade Math Test Scores
Baseline Pre-test Measure	First Quarter Kindergarten Reading Score	Pre-treatment NC End-of-Grade 5th Grade Math Score
Covariates	Individual: age, gender, free/reduced price lunch status, ethnicity, and baseline pre-test measure	
MDES*	0.250	0.123
**Each MDES assumes a Type 1 error rate of .05 at a power of 80% and accounts for unbiased sample attrition and unbalanced groups. See Appendix J for description of the power analysis.*		

To complement the impact study, we will use a mixed-methods approach that combines qualitative and quantitative techniques (seen in *Table 6*) to triangulate multiple sources of data thereby significantly enhancing the validity of the evaluation and documenting our processes which will contribute to dissemination and replication of our model. The sources of quantitative data include: student and teacher surveys; a fidelity implementation index (discussed below); and administrative data. We will analyze quantitative data using descriptive statistics (means, standard deviations, frequencies, and percentages) and parametric and non-parametric inferential statistics (chi square, t-tests, ANOVA); effect sizes will be computed between the two groups and broken out by subgroup (i.e. minority, economically disadvantaged, ELL). The sources of qualitative data used to assess the implementation fidelity of the project include: interviews, focus groups, open-ended survey questions, and observations. Alongside our logic model which

will guide the design, development, and evaluation from beginning to end (*Appendix D*), a Fidelity Implementation Index will be designed in partnership with key program staff and provide a sound theoretical foundation from which to conduct the program evaluation and interpret the evaluation findings.[91,92,93] The logic model and the Fidelity Implementation Index will be revisited periodically to assess the adequacy of implementation and avoid program drift. We will collect, analyze, and disseminate data to project personnel (via quarterly progress reports) and the US Department of Education (via the Annual Performance Report) to ensure that timely and informed decisions about implementation are made throughout the grant's life cycle.

3) Extent project includes sufficient resources to carry out project evaluation effectively.

The Evaluation Group (TEG) will serve as our independent evaluator. TEG has over 25 years of experience conducting large-scale evaluations in the southeast, including eight i3 initiatives. With a commitment to utilization-focused evaluation,[94] TEG has expertise in creating project-specific, quantitatively based instruments which include surveys, checklists, and observational protocols and qualitatively based data collection techniques such as key informant interviews, focus groups, and group interviews. TEG's mixed-methods utilization-focused approach combines qualitative and quantitative data to triangulate results, increase the validity of findings, and ensure the results are useful for continuous quality improvement. TEG has extensive expertise with fidelity indices and has participated in invited panel discussions nationally. This highly-trained team will include two lead evaluators, and two data architects, supported by the Director of Evaluation. Both lead evaluators, Dr. Askew and Dr. Dowell, have in-depth evaluation and research experience with i3 development grants focused on K-12 STEM education (see *Appendix F*) and sustaining productive partnerships with the US Department of Education and other technical assistance providers to support national evaluation efforts. The TEG team has demonstrated capacity to support both the rigor and scope of an i3 evaluation. TEG will be commissioned to provide a comprehensive assessment of EMPOWER effects to further support creation of a sustainable and replicable model once grant funding has ended.