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CPP7 - COLLEGE ACCESS AND SUCCESS

The Kentucky Valley Educational Cooperative (KVEC) and the Green River Regional Educational Cooperative (GRREC) are partnering to bring an exciting innovation to 8th to 12th graders in their rural LEA's. This *Career and College Readiness Transformations (C3R) program* will point some of Kentucky's most impoverished students toward realistic and relevant careers. This redirected mindset with its exciting link of high-school with "what lies ahead" will give students the motivation and enthusiasm to plan their pathways to success, including the engagement in and completion of pre-college coursework. Four very clear strategies will increase access to and success in college, whether two-or four-year programs. Beginning in middle school, the proposed *C3R program* will help students gain a greater understanding of where they are going after high school and how they will access college programs that take them there. Strategies include the following:

Early engagement in purpose-driven educational planning: C3R will implement a new Web-based software program, customized for rural KY, which will compile, analyze, and display the most current education, workforce, and economic trend data for industries and jobs, locally, regionally and nationally so that students can plan for careers and college realistically and relevant to current and projected workforce demand.

Help them understand the labor market and their own role in it: Beginning in middle school and continuing through 12th grade, customized career exploration software programs in the school will help students explore job descriptions, review educational and training requirements, and develop Individual Career Pathways to guide their course selection and planning through graduation.

Give them tools for building their foundational and soft skills: Innovative Web-based courseware integrated into the high-school curricula will help students build foundational skills, and learn behavioral and attitudinal skills so critical to workplace and college success.

Give them support services to assure their success: C3R will introduce a series of support services—i.e., staging and co-hosting career-awareness events at schools; presenting

monthly online mentoring programs, and partnering with local businesses and colleges to help students with next steps and financial aid.

Together, these strategies will engage students in their education early on, and help them better understand the relevance of pre-college high-school courses as they discover more about workforce dynamics, and educational and training requirements for careers of interest.

CPP 8–STUDENTS WITH DISABILITIES AND LIMITED ENGLISH PROFICIENCY

KVEC’s service area has an unusually high number of students identified with one or more disabilities—the percent of 5 to 15 year olds with one or more disabilities is as high as 11.5% in Harlan and Breathitt Counties, compared with an average of 6.8% statewide. Both KVEC, the lead applicant, and GRREC, the official partner, have a strong commitment to best practices for students with disabilities. KVEC and GRREC selected the WIN Career Readiness Courseware® for integration into the high-school curriculum to support this commitment to learning for *all* students, including those with disabilities and limited English proficiency (LEP). The Courseware was selected because of its unique use of *tiered learning levels* in Applied Mathematics, Reading for Information, and Locating Information. This tiered design easily accommodates students with disabilities as well as those with LEP by utilizing continuous skill reviews imbedded in the software to determine starting levels for each unique learner in each content area. Because the courseware is tiered and mastery-based, students can take as much time as they need to build skills at their assessed levels, reducing the frustration that sometimes arises when students with disabilities or LEP are asked to perform above their current skill level. The Courseware is also available in Spanish for the growing LEP population across participating LEA’s. For all students who need special help, the WIN Courseware includes: (1) *natural voice audio* to allow full participation of students with visual impairments; and (2) fully descriptive and energetic screen displays describing each learning component for students with hearing impairments. Customized career planning components will identify college and work opportunities with accommodations for college and career choices.

AP 5 – ACHIEVEMENT AND GRADUATION RATES IN RURAL LEA’S

C3R will serve **42,470**, 8th through 12th graders in 112 schools in 33 LEA’s in the KVEC and GRREC service areas. In KVEC, *all* 18 participating LEA’s are designated *rural*—17 are listed in the 2011 Eligibility for Rural Low-Income School (RLIS) Program; and two are listed in the Small Rural Small Achievement (SRSA) Program (Jackson County is in both). In GRREC, ten of the 15 participating LEA’s are RLIS. Both areas have a high percentage of individuals without college degrees, or even high-school diplomas. According to Census Quick Facts (2009), 19.6% of Americans (over 25 years) did not complete high school; In the participating LEA’s, this percentage is much higher—e.g., 57% in Owsley County and 50% in Magoffin County.

C3R’s proposed approach was developed to increase achievement and graduation rates of this rural and very poor student population. Using state-of-the-art WIN eLearning tools, KVEC, GRREC, the participating LEA’s, and the participating schools will blend knowledge of education, the economy, and workforce development to demonstrate concretely for students how education is relevant to their career path (whether directly to the workforce or to college). Schools will help students build foundational skills in core academic areas; and partner with business, industry, and college mentors to keep students on tract. KVEC’s emphasis on career development using proven tools and partnerships will keep students engaged in their learning, college planning, and readiness programs. Students will increasingly understand the relevancy of their education, and appreciate how much they can become goal-oriented. Research cited throughout this proposal suggests C3R’s approach will achieve its desired goals to increase graduation rates by *14% from an average of 76% to 90%*.

With AP 5, this application also meets AP2, as follows:

AP 2 – PROMOTING STEM EDUCATION

C3R directly addresses rural students’ lack of engagement in STEM disciplines. Most educational models for promoting STEM education focus on increasing the number of rigorous classes, thereby shrinking the pool of students qualified to enroll in STEM courses to just those who can successfully compete. **C3R is different, representing a true innovation.** What C3R

does is promote “universal” STEM education in two ways, by: (1) letting students explore real workforce analytics that demonstrate the prevalence of STEM skills across many career levels, requiring different skills, training and education; (2) making students aware of just how relevant science and math are to their own interests, in ways they may not have realized. This is expected to be especially effective for rural students, who have limited exposure to the complexities of the 21st Century workplace they will eventually join. By overtly tying outcomes to dollars and engaging students, and especially non-traditional students early in their high school career, C3R creates heightened student awareness of the relevance in their enhanced STEM education.

Rural STEM Strategy 1: Early Engagement: A recent study in Science Education found that engaging students in relevant learning in high school, is more effective in steering students to STEM careers than higher-level coursework alone. As the authors note, “any correlation between STEM careers and high-school courseware is outweighed by a student’s established interests **well before they take these courses.**” (Tai & Maltese, 2011) With C3R, rising 9th graders already have a preliminary understanding of the world of work, so that in high school, they can choose courses which advance their STEM careers. This “right from the start” approach keeps rural students engaged in school through graduation and beyond.

STEM Strategy 2: Nontraditional Engagement

Some students, especially in rural areas, may not want to enroll in a four-year post-secondary program—preferring training/certification, or a two-year associate degree program. By providing a **continuum** of career options in STEM careers and promoting STEM pathways to get there, C3R will assure the inclusion of students who may traditionally have turned away from STEM careers thinking they may not qualify.

Driver for Strategies 1 and 2: WIN Strategic Compass® includes analytics to **sort occupations by STEM classification**, within broader rural communities. This capability can prove to be valuable when demonstrating for students the *versatility* in STEM careers. For example, as part of project planning, Strategic Compass ran a sampling of 92 STEM jobs across every major, high-demand industry. Findings showed different educational requirements—from

training and/or experience (17%), to post-secondary certifications and associate's degrees (17%), to bachelor's degrees (50%), and to masters or doctorate degrees (16%).

SELECTION CRITERIA A: NEED FOR THE PROJECT

This C3R development grant is supporting a high-potential and relatively untested model, for systematic study. The following sections include evidence of need, research/rationale supporting the approach, and studies on a small scale that suggest extremely promising results.

A.1 HIGH NEED TARGET POPULATIONS

A new report released by the U.S. Census Bureau (2010) identifies Kentucky as one of only five states to have a poverty rate over 17%. Free and Reduced Lunch (FRL) rates are as high as 91% in Owsley County, 86% in Maggofin, and 75% in Owensboro. These rates compare to a national average of 62%. The latest Census Bureau data (Praetorius, 2010) and ABC News (2010) note Southeastern Kentucky has **four of the nation's five poorest counties**. *All of these counties are targeted in this project.*

A.2 EXCEPTIONAL APPROACH AND EVIDENCE TO SUPPORT

A.2 (a): Approach: To Integrate a Career and College Focus into Secondary Education

Although most students will eventually enter the labor force, fewer students are leaving high school prepared to work (Otterman, 2011). Preparing for college and for a career should not be mutually exclusive options for high schools, and should include multiple college options in addition to four-year degree programs. (Litow and Schwartz, 2011). *Pathways to Prosperity* challenges educators to fix the system which leaves many students behind—e.g., those unprepared for work or college, those who drop-out feeling they cannot complete or compete, and those who see no connection between college and work. Harvard, 2011). What is most important is that we send our students to college “with an idea of what they want to do in the future;” (Carnevale and Rose, 2011).

A.2 (b) Approach: To Build Attitudinal/Behavioral Skills for College & Career Success

The *Partnership for 21st Century Skills* (comprising leaders in industry and government) has called for a greater focus on the development of soft skills in high-school for *all* students —

critical thinking, problem solving, creativity, communication, adaptability, attitude, interpersonal skills, integrity, initiative, reliability, dependability, and willingness to learn (Harvard, 2011).

The US DOL includes similar soft skills in its Employment and Training Administration Competency Model (USDOL, 2011). In his book, *Global Achievement Gap*, Wagner laments the exclusion of soft skills from the core curriculum in American schools (Wagner, 2008).

Economist and Nobel Laureate James Heckman, looking to boost the life chances of those starting from a disadvantaged position, believes American education has glossed over soft skills, and that these skills may determine success as much as academic ability. (Britain Blighly, 2011)

A.2 (c) Approach: To Meld Divergent Educational Strategies for Greatest Support

Two camps are emerging in education—one focused on engaging more students in four-year college programs and the other focused on careers, skills, vocational education. The first encourages more rigor in high-school coursework to accelerate the education of the top students. The second strives to meet the needs of more students by directing them toward educational and skills training needed to meet workforce demand. President Obama recently called to students to “commit to at least one year or more of higher education or career training... community college or a four-year school; vocational training or an apprenticeship,” suggesting *these two approaches are not mutually exclusive*. The C3R project melds the best of these two educational approaches by postulating it is time to **remove the distinction between jobseeker and student** since most students will one day be part of the workforce.

A.3 DEMONSTRATIONS OF EFFECTIVENESS

C3R supports a relatively untested set of integrated e-Learning solutions—WIN Strategic Compass, myStrategic Compass, Career Readiness Courseware, and Soft Skills Series—which each have high potential to change the relationship between secondary education and careers and college. Where WIN e-learning has been in use for more than a year, initial results have been outstanding: (1) In the Rock Hill, SC GED Options program, 88% of the students who earned a Career Readiness Certificate as part of WIN Career Readiness Courseware passed the GED exam; (2) Using Career Readiness Courseware improved academic achievement and pass

rates on the TABE in a Flint, MI Genesee Job Corp program; (3) A Syracuse University study found students who spent more time using Career Readiness Courseware scored higher on math certification exams (17 point differential); and increased their skill level scores between 1.3 and 2.0 in math and reading (on a seven point scale); (4) a Florida DOE evaluation of the statewide Florida Ready to Work program found jobseekers *with* the Career Readiness Courseware credential were 15% more likely to be employed and earned 25% more in wages; and (5) GoBuild Alabama—sponsored by the Alabama legislature and construction industry—uses a customized WIN Strategic Compass and myStrategic Compass to link jobseekers with resources. The website has drawn 40,000 users to date, with 3,000 registering for access to community college programs, apprenticeships, and employer recruiting. *Together, these five empirical studies form a sound, rationale, and exceptional approach for the proposed innovation, and one that should have a more formal and systematic study.*

A.4 GAPS AND WEAKNESSES IN OPPORTUNITIES

A.4 (a) Weakness: Low Graduation Rates and College Pursuit in KY

Of Kentucky's four poorest counties, three are in the KVEC service area. Along with this high level of poverty come educational challenges. In KVEC, about 50% of adults have **no** high-school diploma, compared with 20% nationally. Only 9% of adults in the KVEC area have a bachelor's degree, compared with 24% nationally. (Census Quick Facts, 2009; Praetorius, 2010) A Hazard Community and Technical College study found in Lee and Wolfe Counties, just 45% and 49% respectively enrolled in any post-secondary education compared to 62% nationwide.

C3R will increase the percentage of two- and four-year college enrollees by ***transforming*** secondary school curricula to include multiple career pathways along which students will **plan for education and envision their future**. As California Senate President Darrell Steinberg noted (Steinberg Education Bill, 2011): "We need to offer [students] career education that is relevant whether you want to immediately enter into a trade, pursue a technical certificate, or go to a community or four-year college." This is especially true in resource poor rural communities where multiple pathways for career and college readiness are most needed and least available.

A.4 (b) Weaknesses in College and Career Readiness

A recent report by the Kentucky Education Commissioner (Holliday, 2011) shows the lack of readiness across KY, where just 66% of all 12th graders are college or career ready. C3R will assure Kentucky meets the target goals of the State and the Commissioner. While we cannot know for certain which technical skills will be in demand in the future, we can identify the academic skills (i.e., foundational skills) that underpin these jobs, e.g., applied mathematics and reading for information, and assure these skills are strengthened in high school.

A.5 IMPACT OF PROPOSED PROJECT – MAGNITUDE OF EFFECT

Rural Counties/LEA's	# Schools	# Students
KVEC - Breathitt, Floyd, Harlan, Hazard, Jackson, Jenkins, Johnson, Knott, Lee, Leslie, Letcher, Owsley, Magoffin, Perry, Paintsville, Pike, Pikeville, Wolfe.	77	24,390
GRREC – Barren, Campbellsville, Caverna, Edmonson, Grayson, Green, Hancock, Hardin, LaRue, Metcalfe, Russell, Russellville, Simpson, Taylor, Union	35	14,459
TOTAL – 33	112	42,470

Because KVEC and GRREC are state-supported educational cooperatives, C3R strategies will eventually proliferate to impact every middle and high school in KY—raising graduation rates, improving student achievement, and increasing college enrollment.

Decreased drop-out rates and increased graduation rates: A major study of high-school dropouts found most students believe they could have succeeded in school; 81% said learning skills they could apply in the real world may have encouraged them to finish their education (Bridgeland and Dilulio, 2006). Early career exploration will help C3R students develop the connection between school and work, and be engaged in learning thru graduation.

Increased academic achievement, increased college and career readiness, and increased college enrollment: Students who are college or career ready have greater success throughout high school—achieving academically, staying in school, and graduating. A recent report from the Alliance for Excellent Education notes that too many students who graduate from high school are unprepared for post-secondary work, *no matter what path they chose*. Multiple studies show that 34% of students entering college need remediation, and 43% of students beginning two or four-year colleges fail to earn a degree after six years (ACT, 2006; Alliance, 2011). By building students’ foundational skills, C3R will concurrently build their achievement and prepares them for successful enrollment and completion of college.

Increased enrollment in STEM career tracts for all, and especially non-traditional students: A National Public Radio broadcast on the mismatch between jobseekers’ skills and employers’ needs reported a large number of “orphan jobs” across industries. Many are middle-skill jobs for which a range of educational preparation is found, thereby opening them up to more nontraditional STEM participants. If we want more students to turn to STEM careers and fill the workforce gap, we need to revisit the “[four-year] college-is-for-everybody attitude.” (Carnevale and Rose, 2011) The National Governors Association Center for Best Practices urges colleges to assure their students’ academic careers are linked to the realities and needs of the marketplace. (Sparks and Waits, 2011) C3R’s development of relevant and attainable career pathways in STEM careers will help, and must begin before students graduate high school.

SELECTION CRITERIA B: QUALITY OF THE PROJECT DESIGN

B.1 GOALS

C3R creates a five-year career and college readiness initiative *transformative* of middle- and high-school education in rural KY. LEA’s and schools have agreed to “integrate” the C3R project into the current school curricula, thereby assuring all students are part of this innovative initiative. This project postulates that early career exploration (learning about different jobs, the skills and education required, which are in demand) helps students choose high-school courses which advance their future, often STEM careers, and thereby keeps students engaged in school

through graduation. Specific goals for C3R, with measurable targets suggested by the Kentucky Education Commissioner (Holliday, 2011) include: (1) a 14% increase in graduation rates, from 76% to 90% by 2015; (2) a 10% increase in academic achievement; (3) a 33% increase in the percentage of students who are college and career ready, an increase from 34% to 67% by 2015 (as measured by earning Career Readiness and Soft Skills Certificates; (4) a 20% increase in two- or four-year college enrollment; (5) a 20% increase in all students seeking STEM-based careers, and (6) a 30% increase in nontraditional STEM career participants.

The following section outlines design tools to support achievement of these goals.

B.2 DESIGN TOOLS TO SUPPORT GOALS

B.2 (a) WIN Strategic Compass and myStrategic Compass

WIN *Strategic Compass*® will be implemented at the offices of KVEC and GRREC for regional data compilation; at each LEA office for community data compilation; and at each school for student and counselor career exploration and career plan development. This Web-based tool will electronically compile, analyze, and display the most current education, workforce, and economic trend data available; and integrate this information into individual career pathway plans for each high-school student. Strategic Compass profiles job markets, identified skill gaps, high-demand jobs and industrial categories to provide realistic goals for students who want to remain close to home and those who want to move to other areas. WIN myStrategic Compass® will be implemented at the school-level. It is a hands-on exploratory tool to let students put together detailed information about occupations and career options. Below are four C3R applications and usages for Strategic Compass and myStrategic Compass.

- ***Regional econometric study: Collaboration between WIN, KVEC, GRREC, LEA's, and communities to align career development efforts to projected occupational demand**
 - Analytics for education gaps, occupation gaps, career pathways analysis, employer survey, occupational opportunities (from a database of regional on-the-job-training and apprenticeship opportunities), recommendations for eliminating structural unemployment...
- **Ongoing policy research by KVEC, GRREC, and LEA's**

- **Professional development for teachers and counselors** - For career exploration; nontraditional postsecondary career development strategies including apprenticeships; training, industry credentials, stackable credentials-core employability credentials; mapping industry credentials to occupational profiles.
- **Career exploration for students, with teacher guidance** - Interest and work importance profilers (myStrategic Compass); the annual career exploration project using Strategic Compass as a data source; the annual career pathways conference with parents/teachers/counselors developing and revising career portfolio and graduation plans.

A full description of WIN Strategic Compass is included in Appendix J.

B.2 (b) WIN Career Readiness Courseware and Soft Skills Series

WIN Career Readiness Courseware will provide foundational training in Applied Mathematics, Reading for Information, and Locating Information based on assessed skill deficiencies for the workplace. The courseware's direct instruction builds and certifies workplace skills, leading to more than 26 *Career Readiness Certifications*. These portable skills credentials assure employers and college admissions officers that the students have required basic skills they need to move to the next steps. The **WIN Soft Skills Series** models behavioral and attitudinal skills needed for success in school and the workplace—e.g., teamwork, willingness to learn, critical thinking, problem-solving, punctuality, and other success-building skills.

Descriptions of the Courseware and Soft Skills are provided in Appendix J.

B.2 (c) Activity Flow for WIN Tools

Description of Implementation Process Flow: The C3R implementation will begin in Year 1 for every student from 8th to 12th grade. Throughout the school year, students: (1) individually or in groups use Strategic Compass and myStrategic Compass to select a career cluster of study for in-depth exploration, and expand exploration of work-based learning activities; (2) meet with parents, counselors, and/or teachers to apply the career pathways they developed into an academic and career-focused portfolio; and (3) develop graduation plans

within their career pathways and portfolios. Throughout implementation, teachers use grade-specific learning plans relating core academic skills to specific occupations.

By 10th grade, students declare a “major” STEM (or other) focus to help identify courses relevant to their careers. In 11th grade, all students take WIN assessments, built directly into the Career Readiness Courseware for easy and minimally intrusive testing. Students who need to strengthen their skills (for college and career readiness or to meet high-school requirements) work in the Courseware. When students complete the Career Readiness Courseware, they sit for the summative career readiness certification exams. In 12th grade, all students take the Soft Skills Series course and culminating Soft Skills certification exam (a graduation requirement).

B.2 (d) Implementation Models

Three implementation models were developed for this project to meet individual LEA and school requirements.

- 1. New Career Readiness course – a Career Exploration Project;** initial skills reviews in all skill areas; and gaps remediation in core and other skill areas;
- 2. Integration into Existing Class Structures – a Career Exploration Project in Q1 Social Studies/Sciences class;** Applied Mathematics; initial skills review in Q1 math class; Reading for Information and Locating Information; initial skills reviews in Q1 English class; A week dedicated to gaps remediation each quarter; 11th grade career readiness assessment.
- 3. Student Career Readiness Portfolio -** In small-group settings facilitated by counselors/teachers: a Career Exploration project; initial skills reviews in all skill areas; gaps remediation in core and other skill areas.

The **Soft Skills Series** has a single implementation model –as a required course for all 12th graders. For students challenged academically, with disabilities, or LEP, differentiation may be done in group or individual settings, depending upon each school’s implementation plan.

All implementation models include professional development to increase teacher effectiveness in the C3R career and college readiness model. Initial implementation training is a four-hour, hands-on exploration of the system, with printed materials for follow-up practice.

Training includes an introduction to the WIN products with reports and analytics, choices for customized reporting, practical applications, and best practices. Training will be ongoing to assure everyone is on-board and proficient in the project model.

B.3 CAREER AND COLLEGE MENTORING AND SUPPORT

B.3 (a) E-Mentoring Webinars

C3R will establish monthly two-hour synchronous webinars with rotating “businesses” representing high-demand jobs, at different entry levels; and with two- and four-year colleges. These mentors/presenters will be recruited by the Project Advisory Board. All presenters will receive half-day training from the project advisory board. Mentors will talk with students, answer their questions, and generate career enthusiasm from the frontlines of the real world. Business mentors will address issues of job and educational expectations, shadowing and apprenticeship opportunities, and other relevant issues. College mentors will discuss admission requirements, financial aid, campus life, and STEM and other career-related majors. Webinars will be held the first Tuesday of each month, beginning September 2012. Summer Webinars will be accessible to students through home Internet connections, at summer school programs, and in community-based locations where computer rooms can be scheduled.

B.3 (b) Annual Career Awareness Week

Each year in the spring, KVEC, GRREC, and their individual LEA’s will present a Career Awareness **Week** at the middle and high schools. (Long distances in rural districts make on-site, cross-school Career Weeks impossible.) Because this career focus goes further than just the current single-day career event model used in schools nationwide, it will have a greater impact on the culture and attitudes toward bring together career and college readiness. The week-long event will include job fairs, industry booths, and college recruitment booths so students can stop in to visit during the school day. Two evenings will be reserved for a parent open house. Assemblies for 8th through 12th graders will include high-energy, multi-media presentations by KY business and industry leaders about career experiences. After the assemblies, presenters will be available in the guidance offices for the day to meet individually with students. College

assemblies will follow a similar format. Career Week will also include a week-long Career Exploration Project (attached) using myStrategic Compass and Strategic Compass to search careers and their educational requirements. (Scheduling and core integration for this exercise will be at a schools discretion.) During this exercise, students new to the project will select their own personal “**avatar**,” a *motional “friend”* to help keep them on track through career and graduation planning, and overlay a visual continuity to the process.

B.4 ANTICIPATED RESULTS

With a stronger sense of the road ahead, rural students can understand the patterns of study and other experience needed to prepare for careers they may have never even considered or thought possible. Some anticipated results of C3R are: (1) Rural students will have greater awareness of future careers and their relationship to what is being taught and learned in the classroom; (2) School counselors will be able to link education with an accurate profile of today’s local labor market; and link this knowledge with local higher education programs leading to certifications, degrees, and other job-focused training; (3) Academic achievement, interest in STEM careers, school graduation rates, and college enrollments will soar as rural students become “engaged” in education and appreciate how it is helping them succeed; (4) By delineating education and skill requirements along a career continuum, individualized career pathways can serve as a student’s very own “GPS” from education to the workforce, with steps in-between; (5) Rural students will build their career and college skills through Career Readiness Courseware and advanced courses to avoid college course remediation; and (6) By preparing for next steps after graduation, high-school education will have greater relevancy and greater success in educating all students and preparing them for our 21st Century workforce demands.

B.5 ESTIMATES OF COST

To compute the ongoing cost of implementation, we used requested funds for this five-year project (\$2,948,710), less costs associated with evaluation (\$701,000) and travel (\$125,000). Dividing these costs by 42,470 students, the **cost per student is \$49.98 per year for this project.**

	Extended Price @ \$49.98 / \$44.98 / \$40.48 (a 10% scale-up decrease above 100,000 students)
100, 000 students	\$4,998,000
250, 000 students	\$11,245,000
500, 000 students	\$20,240,000

B.6 EXTENT TO WHICH COSTS ARE REASONABLE

The low cost of \$49.98 per student is reasonable, and will *decrease* 10% with scaling due to the use of site (not pupil) licensing to absorb more students. Other costs are expected to remain stable as educators and communities become more proficient in career readiness tools, as mentoring becomes a permanent volunteer opportunity for businesses and colleges, and as full curricular integration are complete. This makes widespread scaling a viable educational choice.

B.7 POTENTIAL FOR INTEGRATION AND SUSTAINABILITY

The C3R project is being proposed by KVEC and GRREC. As educational cooperatives in Kentucky, these LEA's are supported by KDE. This project has full support of Dr. Terry Holliday, Kentucky Education Commissioner (Holliday, 2011). At the recent Kentucky School Boards Association (KSBA) Summer Leadership Institute, Dr. Holliday outlined his vision for education in Kentucky that "every child is proficient and prepared for success." To do this, he stated, we must make our students college and career ready. *College ready—meaning the level of preparation needed to succeed in a credit-bearing course at a post-secondary institution.... and Career Ready—meaning that a high-school graduate has the level of preparation needed to proceed to the next step in a chosen career, whether that is post-secondary coursework, industry certification, or entry into the workforce.* This public commitment by the highest educational level of leadership assures integration and sustainability of this innovation across Kentucky.

SELECTION CRITERIA C: QUALITY OF PROJECT EVALUATION

At a high level, the C3R theory of action is that implementation of C3R will increase student awareness of career options and help them make decisions in secondary school to prepare

for a career which interests them. This, in turn will lead to greater engagement in schooling, with a reduction in dropout and increase in graduation rates and academic preparation, especially in STEM-related disciplines. At a slightly lower level, the Implementation of **C3R** includes a set of tools: (1) WIN Strategic Compass and my Strategic Compass; (2) Career Readiness and Soft Skills Courseware; (3) E-Mentoring Webinars; and (4) Annual Career Weeks. Taken together, these tools yield greater **Career Awareness and Engagement of Rural Students** including (1) greater career awareness, interest, and planning; (2) increased enrollment in STEM courses; and (3) increased engagement in STEM courses. These changed student attitudes then yield multiple **Positive Student Outcomes** including: (1) reduced drop-out rates, (2) increased graduation rates; and (3) improved academic preparation, especially in STEM-related courses.

RAND will conduct a formative and summative evaluation to assess this model, providing periodic feedback to KVEC and its partner, GRREC. The evaluation will address the following research questions (1) **Implementation**. Is the C3R initiative being implemented as designed? To what extent do students engage in career exploration and planning, and participate in training, mentoring, and career awareness activities? What factors enable or hinder the implementation of C3R? (2) **Career awareness, planning, and engagement**. To what extent is C3R associated with changes in student awareness of future careers and their relationship to classroom learning; school engagement as measured by attendance, persistence, and graduation; and career planning? (3) **Student Outcomes**. To what extent is the C3R initiative associated with improvements in student achievement, dropout and graduation rates, overall and within subgroups such as students with disabilities, limited English and economic disadvantages. (4) **Impact on transition**. To what extent is the C3R initiative associated with success in post secondary transition to work, military two or four year college, training or certification program?

C.1 DATA COLLECTION

RAND will address these research questions using a variety of data sources:

Interviews with WIN staff. Prior to the start of data collection each year, we will collect information from the developers to understand their intentions, design choices, and expectations

for implementation. We will use this information to design protocols and analyses that address the evolving evaluation needs of the intervention. We will also conduct annual interviews with WIN staff at the end of the year, focusing on implementation, support, and perceived challenges.

Observations of professional development. In years one, two, and three, we will observe trainings and workshops provided to teachers, principals, guidance counselors and other school staff, and collect training materials from these events. We will track attendance, content, and delivery, and examine the extent to which they reflect the design principles as described herein.

Teacher and counselor surveys. We will administer surveys in years one through four to gather consistent information from all teachers and counselors. Survey questions will probe respondents' perceptions of the usefulness of professional development, and whether and how they use the WIN tools. These surveys will also investigate factors that might enable or hinder the effectiveness of the C3R initiative, such as factors related to students (attendance, expectations, engagement, discipline, etc.), teachers and counselors (attitudes and capacity related to technology and using data, history of trust and collaboration, etc.), and school context (principal support, quality of technology, etc.).

Case studies. In years one through three, we will conduct in-depth case studies of implementation of the C3R initiative. The case studies will involve two days on site to: observe interactions between students and their teachers and counselors related to gaining awareness of career opportunities and skill requirements and the development of individualized career plans; observe e-Mentoring webinars; and interview principals, counselors, and teachers, and conduct student focus groups to gather information on implementation of C3R in their schools.

Student administrative data. For students in the study, we will obtain student-level scores on KY's state assessments, administered to students every year through grade 11. We will also collect information about attendance, dropout, grade promotion, and graduation. For comparative purposes, we will also obtain school-level state assessment scores and graduation rates for all high schools in the state, during each grant year and several years prior.

Student surveys. We will survey high-school seniors on their awareness of career opportunities, college and career goals, what they did during high school to prepare for chosen careers, and perceptions of how well-prepared they are to achieve their career goals. MyStrategic Compass will gather follow-up contact information to track students' post-secondary transition. We will follow students from the class of 2013 and 2014 every six months for two years following graduation. We will follow the class of 2015 for their single post-secondary year.

C.2 ANALYSIS AND REPORTING

We will conduct descriptive analyses of the teacher, counselor, and student surveys, including exploratory factor analysis to develop quantitative indices for measuring key constructs related to the intensity and quality of professional development, teachers' and counselors' engagement with the WIN tools, and enabling and hindering factors. We will use these data to monitor levels of implementation by creating descriptive summaries and comparing with the levels of use prescribed by the developer. We will identify challenges that need to be addressed through descriptive reports of respondents' perceptions on the impact of school, teacher, and school context variables. We will draw on professional development observations and in-depth case studies to triangulate data and write case reports. We will conduct cross-case analyses using qualitative software (Atlas.ti) and an iterative coding process. At the end of years one through four, we will brief KVEC and GRREC on interim findings and recommendations.

In years three through five, we will conduct exploratory analyses of interim and final student outcome data. To assess whether the intervention is associated with students' state achievement scores and graduation rates, we will form a comparison group consisting of schools are not using C3R, matched with the treatment schools in our study on important pretreatment variables using a propensity weighting approach based on school-level data (McCaffrey, Ridgeway, & Morral, 2004). We will conduct an interrupted time series analysis to compare pre-treatment to post-treatment trends in school-level achievement scores and graduation rates between the treatment group and the statewide comparison group. We will analyze students' transitions from high school. We will compare participating students' transitions both to pre-

treatment classes and to each previous year of implementation as well as to the matched comparison schools. We will test how the changing school culture of career and college readiness is increasingly impacting student transitions for two years following graduation.

Analyses of student outcomes will be compiled in the final report. While they will not provide causal evidence, the strength and direction of the measured relationships are important information on whether the C3R model is promising and ready for a more rigorous efficacy trial.

SELECTION CRITERIA D: QUALITY OF MANAGEMENT PLAN/PERSONNEL

D.1 ADEQUACY OF MANAGEMENT PLAN

Kentucky Valley Educational Cooperative (KVEC), the lead applicant, is an educational consortium serving the 18 rural Appalachian school districts in southeastern Kentucky. KVEC focuses attention on teaching and learning, maximizing educational opportunities, and causing a more effective use of resources. KVEC and GRREC have worked together to develop the project, so that the management and communication processes are already in place. Attached memorandum of understanding outlines individual responsibilities of each official partner, with signatures.

D.1 (a) State-supported Educational Cooperatives and Participating LEA's

The 33 LEA's listed in this proposal will collaborate and share implementation strategies through their educational cooperatives (KVEC and GRREC). The 112 schools will be supported and collaborate through their LEA's, who will execute the successful integration of the proposed services into their core curriculum, supplementary services, and physical space. This top-down model of management assures all information is clearly communicated; and that benchmarks and project adjustments are shared at all administrative and programmatic levels.

D.1 (b) WIN, Inc. - Private Partner

WIN, Inc. will provide the e-learning software programs; training and professional services for all project staff, LEA superintendents and staff, and school personnel and teachers; ongoing technical support; and **the 15% required private sector match**. WIN is a national company providing workforce development solutions for front-end economic and education

analysis allowing policymakers, community leaders, and program providers to quickly assess labor supply and demand and align curriculum development, occupational skills training, career readiness, and career pathways with the knowledge and skill requirements for target occupations. WIN products have been used in many areas including K-12 school systems, teacher pre-certification and NCLB compliance. In just 15 years, WIN has become a national leader in career readiness initiatives, with more than 10 million WIN learners worldwide.

D.1 (c) Management Advisory Board

KVEC's *Appalachian Teaching and Leadership Center* will be the management and fiscal arm of the C3R grant. The Center began with the mission to impact poverty through systemic improvement in education. Members include Former Kentucky Governor Paul Patton, President of the University of Pikeville and Chairman of the Kentucky Council on Postsecondary Education; representatives from Morehead State, Asbury, and Eastern Kentucky Universities and area community colleges; representatives from regional healthcare centers, LEA superintendents; area business and industry, business leaders from Kentucky River Coal and the Appalachian Regional Hospital, and current state senators and representatives. Separate working subgroups will address workforce and economic strategies, education strategies, and administration/evaluation. These groups will address customization of the software, mentoring opportunities, curricular integration, design of career pathways, and data collection.

To manage this project in two similarly rural but geographically separated areas of Kentucky, the Center will programmatically interact with GRREC through a GRREC C3R Project Board, comprising senior GRREC management, and superintendents from each participating LEA. The overarching goals guiding management are Kentucky's Senate Bill 1 and the Kentucky Education Commissioner's vision for Career and College Readiness across the state (2011). Monthly meetings between the KVEC and GRREC advisory groups will be virtual due to the great distances of the rural participants, with one in-person meeting annually. Project minutes will be distributed after each meeting with room after each agenda item for comment. This input will be gathered and (not filed) but used in corrected minutes distributed to all.

The project's ability to focus education improvement strategies in a large geographically challenging area, for a broad population, in a results driven approach, is an innovative model driven by necessity.

D.2 PAST PERFORMANCE OF LEAD APPLICANT

Throughout its 34 years of service to the schools and districts, KVEC has demonstrated the ability to manage various local, state, and federal programs. For example, (1) A USDOE Middle School Drug and Violence Prevention funded for more than \$1.5 million; (2) USDOE Grants to Reduce Alcohol Abuse among Secondary School Students funded for more than \$736,000. KVEC also develops policy for and approves individual budgets for several recurring blended programs including a comprehensive special education support system serving 15 counties for \$850,000 annually; an Adult Education Program serving 8 counties with annual grant funding of \$1.5 million; and Reading Recovery Program, with \$245,000 annually. All of KVEC grant funded programs have met/surpassed GPRA measures and program objectives.

A four-year tracking of student academic achievement in the Kentucky Performance Report (June 2011) of the KVEC service area of academic performance reflects steady and sustained decreases in the number of students who are scoring in the novice range and a marked increase in the percentage of students who are scoring proficient and distinguished. In 2007, 67% of middle grade and 59% of high school students scored proficient/distinguished in reading. In 2010, those numbers rose to 72% and 60% respectively. In that same time period, middle-school math increased from 52% proficient and distinguished; and high schools mathematics scores rose from 31% to 39% proficient and distinguished. All grades decreased more than 6% in the number of students scoring in the novice range. Over the past five years KVEC has taken an active role in equipping teachers and administrators to provide quality programs that meet the need of every student. For example, (1) assistance in implementation of new common core standards in English/Language Arts and Mathematics; (2) KVEC-sponsored English/Language Arts and Math Specialists who visit schools to work directly with teachers, modeling strategies

and techniques; (3) Reading Recovery Experts who recruit and train area teachers to become Recovery Specialists.

GRREC, an official partner, also reports increased student achievement: 2007-2009 increases (TAH II) of 6%, increased gains in low performing schools of 8.5%, and increases of more than 10% as measured against matched schools (which lost 4%).

D.3 QUALIFICATIONS OF KEY PERSONNEL AND EVALUATION TEAM

Resumes for all key personnel are included in the attachments. Following are brief bios.

KVEC: Dr. Dessie Bowling, KVEC Associate Director, will serve as the Project Director. Dr. Bowling has 22 years' experience in Kentucky public education. **Jeff Hawkins, KVEC Executive Director,** has 23 years' experience in Kentucky public education. He is currently completing Doctoral Degree in Education Leadership at Morehead State University. **Abbie Combs, KVEC Leadership Training Director,** has 31 years' experience in Kentucky public education. **Eddy Wilder, KVEC Special Education Director,** has 20 years' experience in Kentucky public education, and as a miner in the coal industry. He is currently enrolled in a Doctoral Program at Eastern Kentucky University.

GRREC: George Wilson, Executive Director, GRREC, has 23 years' experience as an educator and former superintendent. (In 2000, when Mr. Wilson became superintendent in rural Monroe County, the district ranked 94th of 175 districts statewide academically. Under his leadership, the district ranked 3rd overall in the state.) **Sandra Baker, Associate Director for Learning Support Services, GRREC,** has 25 years' experience in education as a former high-school curriculum coordinator and math teacher. **She will serve as the Project Coordinator for the GRREC service area of this grant. Dr. Jana Kirchner, Social Studies Consultant/Teaching American History Grant Consultant, GRREC,** is working with teachers on the new State Core Content Standards. **Stacey Owen, Secondary and Transition Consultant, GRREC,** has research and teaching experience, with focus on school leadership and transition to teaching initiatives. She is getting her Ph.D. at the Western Kentucky University/Louisville University collaborative program.

WIN: Joseph Goins, WIN Executive Vice President, will oversee the full implementation of WIN e-Learning tools. **Trevor Stokes, WIN Project Manager**, oversees customization of Strategic Compass and serves as the training specialist for WIN's Career Readiness Courseware. He will conduct the live training sessions for C3R and lead the professional development workshops. He will also manage the **WIN Technical Support Team which** will provide all hosting, maintenance, and data updates for the project.

John F. Pane Ph.D. is a Senior Scientist, RAND Education Unit, will lead the RAND i3 evaluation team. His expertise includes the application of experimental and rigorous quasi-experimental methods in education settings, value-added analysis, and assessing impact of new technologies on individuals and organizations. **Laura Hamilton, Ph.D.**, is a Senior Behavioral Scientist at the RAND Corporation and Adjunct Associate Professor at the University of Pittsburgh. She has served on a number of national panels, including chair data-driven decision making for the What Works Clearinghouse. **Anna Saavedra** specializes in research relevant to educational policy in underserved schools including impact of enrollment on disadvantaged high school students' academic achievement, and probability of graduation and college enrollment.

D.4 MANAGEMENT COMMUNICATIONS, TIMELINES, AND MILESTONES

Working directly with the LEA's and school principals, the KVEC model, which has been successfully followed in other educational service areas in Kentucky, will be utilized. The model includes monthly virtual meetings before which KVEC distributes the latest program information affecting schools from the KDE and the latest research information on school improvement; training on issues of education. *Because of the large number of participating schools and districts, a monthly newsletter will be prepared with vignettes and project information.*

Year 1: January – August 2012: *The C3R management team and evaluator will flush out the processes for implementing and evaluating enhanced college and career services and their impacts on students. *All subcommittees will be fully operational, addressing their stated responsibilities. *WIN will work with the education subcommittee and school sites for courseware integration, and customization of Strategic Compass and myStrategic Compass.

*Extensive professional development and implementation training will be conducted. *C3R will be introduced to all school administrative, counseling, and teaching in a series of workshops.

Years 2 - 4: August 2012 to July 2015: *WIN will work directly with the LEA's to facilitate staff and student access to courseware. *Students will meet, follow and redirect as necessary their career planning avatars and work on building foundational and soft skills. *Each spring, C3R will sponsor Career Awareness Weeks in each district. *RAND will observe students on use of the career planning and skill-building software, and counselors, students, families and community members' use of career planning tools. *Counselors and curriculum specialists will convene by Web-Ex in May to share best practices. *The education subcommittee will monitor students' evolving career plans and work on skill development; impact on achievement; STEM career engagement; and transition to college. *Quarterly/annual reporting will help all partners effectively monitor benchmarks and work toward scalability

Year 5: August 2015 – July 2016: *RAND evaluators will deliver their full impact assessment of C3R to the board, the management team, the KDE, and USED. *Planning for sustainability and scaling across the State will begin.

D.6 SUSTAINABILITY AND SCALABILITY

D.6 (a) In-State Sustainability

The Kentucky College and Career Readiness High School Feedback Report is collaboratively produced by Kentucky's Council on Postsecondary Education, the Kentucky Department of Education, the Kentucky Higher Education Assistance Authority, and the P-20 Data Collaborative. Its purpose is to provide information about *each high school in the state's high-school seniors including the number who graduated and subsequently enrolled in postsecondary institutions and their level of college and career readiness as compared to peer from the district and the state as a whole*. The data included in these reports will be used as baseline data for all success measures and progress toward goals including graduation rate, overall college-going rate, average high-school GPA, and number of outcome of AP tests; the number of students who started college full-time, the degree's sought (including bachelor's, associate, certificate or

diploma, or undeclared or non-degree). Helping to guide the need for the Career Readiness software and strengthening of foundational skills, the report for each high school also shows the percentage not ready for college by subject (with English and Mathematics the highest areas where skill development is needed). **Appendix J includes a sample of a five-page report for Jackson County High School.** Similar data compilations are available for **every high school** in Kentucky. This information **demonstrates Kentucky’s commitment to career and college readiness, and sustainability of this i3 innovation.**

D.6 (b) Scalability

KVEC and GRREC are members of the **Association for Educational Service Agencies (AESA)**. AESA’s members include 553 Education Service Agencies in 45 states—reaching more than 80% of the public school districts, 83% of all private schools, 80% of all certified teachers, and 80% of public and private school students (NCES, 2010). AESA has begun work in this area of career and college readiness. **With this enormous national impact, this innovative career and college readiness model has the potential to change the face of education forever.** A recent paper for the US Department of Education identifies state-based ESAs (KVEC and GRREC) as the “vital link in state and national efforts” to improve student achievement and the “critical drivers of educational change.” (Baldwin, Carmody, & Talbott, 2010) The report further notes that although many school districts are in the best position to identify and implement successful school-reform strategies, they often lack the internal capacity to conduct long-term needs assessments and access knowledge necessary to support critical changes. With the proposed design approach, including WIN e-learning tools and mentoring support, this can indeed happen. C3R is an innovation for every middle and high school in the country and eventually could change the face of education in America.

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