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Narrative

a. Need for the project: i. The magnitude of the need for the services to be provided: The Program for International Student Assessment (PISA) is a study of 15-year-old students' performance in reading, mathematics, and science literacy conducted every 3 years. Approximately 540,000 students completed the PISA assessment in 2015, representing about 29 million 15-year-olds in the schools of the 72 participating countries and economies. [i] For science, the average was one-point **lower** from the last round of PISA in 2012 (497 to 496). [ii]*Not the direction the country should be heading*. The United States, despite our many resources, ranked 26th in science behind countries including Singapore, Japan, Estonia, Chinese, Taipei, Finland, Macao (China), Canada, Viet Nam, Hong Kong (China) B-S-J-G (China), Korea, New Zealand, Slovenia, and Australia. At a time when science literacy is increasingly linked to economic growth and is necessary for finding solutions to complex social and environmental problems, all citizens, not just future scientists and engineers, need to be willing and able to confront science-related dilemmas. The most immediate way to nurture interest in science among students with less supportive home environments may be to increase **early exposure** to high-quality science instruction in schools. Providing students with additional opportunities to learn science will help them to develop the ability to "think like a scientist" – a skill that has become all but essential in the 21s century, even if students choose not to work in a science-related career later on.[iii]

The *NAEP 2015 Science State Snapshot Report Hawaii Grade 4 Public Schools Overall Results* reported that the average score of fourth-grade students in Hawaii was 146. This was lower than the average score of 153 for public school students in the nation. For 8th graders, the score was 144, which is considered *significantly* lower than the average score. Only four states were lower than in Hawaii. In 2015, students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was **28 points lower than that for students who were not eligible.** This performance gap was not significantly different from that in 2009 (24 points). [iv] *The United States is not improving*. In 2015, science was a major domain for PISA, in 2018, it was a minor domain. Therefore, we're looking primarily at the 2015 data. However, in both 2015 and 2018 children of low socioeconomic status (SES) across the Organization for Economic Co-operation and Development (OECD) countries are almost 3 times more likely than advantaged students not to attain the baseline level of proficiency in science.[v] This is consistent with what NAEP reported for students of low SES.

Native Hawaiians (NH) are socio-economically disadvantaged. Many reports have outlined the social inequalities and hardships faced in Native Hawaiian homes and communities due to low incomes and disparity between the economic status of Native Hawaiians and Hawai'i State (Kamehameha Schools, 2014; Asia Pacific Exchange & Development, 2010). The median household income in Hawaii was $69,515. Of the five largest race groups in Hawaii, Filipinos had the highest household income and ***NHs had the lowest.***[vi] NHs have the highest poverty rate of any subgroup in Hawai'i at 15.5 percent, compared to 7.7 percent in the state as a whole.[vii] Therefore, our project addresses **Absolute Priority b,** the needs of at-risk children and youth.

ii. Specific gaps or weaknesses in services are addressed: In an ever-changing, increasingly complex world, it is more important than ever that our nation's youth are prepared to bring knowledge and skills to solve problems, make sense of information, and that they know how to gather and evaluate evidence to make decisions. These are the kinds of skills that students develop in science, technology, engineering, and math—disciplines collectively known as STEM. If we want a nation where our future leaders, neighbors, and workers are prepared to think deeply and think well and can understand and solve some of the complex challenges of today and tomorrow, then experts agree that **building students' skills, content knowledge and fluency in STEM fields is essential**. [viii] Native Hawaiian children are the keepers of our culture, speakers of our language and leaders of our future, and yet today they are far behind even the dismal State of Hawaii's outcomes in science as is demonstrated by the science scores in Oahu elementary schools with high numbers of NH students.

Keiki O Ka Aina Family Learning Centers (KOKA), a Native Hawaiian non-profit agency, has been supporting NH children school readiness and success for over two decades. We know that what children fail to learn during the early childhood years, Pre-K through third grade may have a negative influence on their achievement trajectory for life. Unfortunately, many early childhood education teachers (Pre-K through 3rd) are not comfortable teaching science and may even avoid teaching science due to their limited knowledge of science and problem-solving skills, limited time, and low self-efficacy (Appleton, 2007, Greenfield et al., 2009). In addition to the lack of professional development for STEM instruction, schools often lack the resources necessary to teach these subjects in a way that will engage

[redacted]

students. “Many primary schools lack sufficient quantities of equipment and consumables, with over 70% of schools having less than 60% of the items needed. The average primary school has only 46% of the equipment and consumables in sufficient quantities needed to teach science.”[ix]

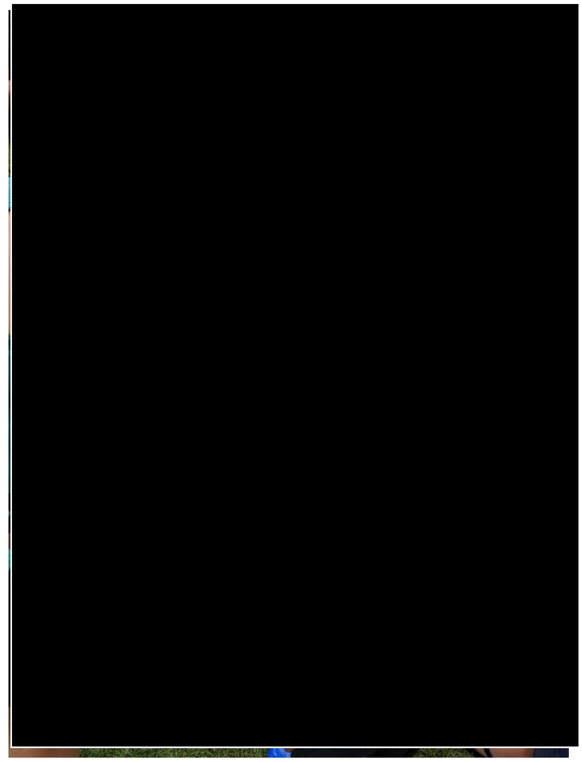
“In schools serving the most academically at-risk students, there is today an almost total absence of science in the **early elementary grades**. This is particularly problematic, given the emerging consensus that opportunities for science learning and personal identification with science are long-term developmental processes that need sustained cultivation. In other words, the lack of science instruction in early elementary school grades may mean that only students with sources of support for science learning outside school are being brought into that long-term developmental process; **this gap initiates inequalities that are difficult to remediate in later schooling."** [x] The National Research Council's *A Framework for K–12 Science Education Practices* states: "… before they even enter school, children have developed their ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."[xi] Yet current data on school readiness and early mathematics and science achievement—data on the "T and E" of early STEM learning is not available—indicating that we are not giving young children the support they need to be "STEM Smart."[xii] (In Hawaii the S for *science* lacks evaluative data for grades K-3. We know that "*What gets measured gets done*." Science in the primary grades of Hawaii elementary schools is NOT measured).

To address the identified gaps and weaknesses that necessitate this project, KOKA will implement the **Revitalized Instruction in STEM Education (RISE) Project.** RISE will address the following **Root Causes** of our community-identified problem: ***Many Native Hawaiian children lack the STEM/literacy knowledge and skills necessary for strong academic achievement and success in the 21st-century workplace***.

ROOT CAUSE 1: Teachers lack STEM Training and don't want to sacrifice reading instruction time for STEM teaching: In Hawaii, as well as nationally, most elementary school teachers have very little formal education in science and technology. Although most *high school science teachers have* completed a *science* major, fewer than half of *middle school science teachers* and only **5 percent of *elementary science teachers* have done so.**[xiii]

As a result, elementary school teachers tend to shy away from science, particularly physical science. Currently, many states are adopting the Next Generation Science Standards (NGSS) or are revising their state standards in ways that reflect the NGSS. For students and schools, the implementation of any science standards rests with teachers. For those teachers, an evolving understanding regarding how best to teach science represents a significant transition in the way science is currently taught in most classrooms and it will require most science teachers to change how they teach. (It should be noted that STEM includes computer science). Additionally, with today's emphasis on literacy instruction in the early grades, elementary teachers often wonder how they can make time in the curriculum for rich STEM experiences while still making their students proficient readers, and they have reason to be concerned. *In SY17-18, only 38 percent of Native Hawaiian students tested proficient in reading, as compared to 54.1 percent of all students*…” [xiv] **RISE SOLUTION:** We will provide NH teacher mentors strong in science/literacy integration, and computational thinking skills, to support elementary staff to improve their science/literacy knowledge and skills and show them how to integrate science, computational thinking, and literacy embedded in a cultural context. Therefore, **RISE meets Absolute Priority a.** Beginning reading and literacy among students in kindergarten through third grade. (We will integrate literacy and STEM for NH students PreK-2)

ROOT CAUSE 2: Classrooms lack adequate STEM materials and equipment: Students miss the hands-on experiences that make science come alive. About 81% of the DOE’s operating budget comes from the state general fund, which includes revenue from the general excise tax and income taxes. This means that dollars for schools can be at the mercy of fluctuating economies, politics, and every other department fighting for money from the same pot. Outdated computers, no microscopes or materials for experimentation make science and technology dull and lifeless.[xv] Due to budgetary considerations, and the likelihood that many school administrators feel that their primary grade teachers lack a science background and the confidence needed to teach STEM, important hands-on, motivating science and



technology materials are missing in the classroom. **RISE SOLUTION:** Our project will provide teachers with the equipment and materials needed for STEM/Literacy Integration.

ROOT CAUSE 3: Hawaiian children lack Hawaiian role models in STEM: Hawaiians are underrepresented in science and technology professions. The Anita Borg Institute for Women and Technology (ABI) found that only 6.1% of men holding technical positions and 8.2% of women holding those positions in Silicon Valley are minorities. Caroline Simard, author of the report, *Obstacles And Solutions For Underrepresented Minorities in Technology* said, "The level of underrepresentation of African-American, black, Latino, Hispanic, and Native American and Native Hawaiians in technical positions in leading high-technology companies in Silicon Valley is alarming." Therefore, our Hawaiian students have few if any role models in STEM fields. The perception is formed early on that *STEM is for white men only.* [xvi] Therefore, **RISE also meets Absolute Priority c.** Needs in fields or disciplines in which Native Hawaiians are underemployed. **RISE SOLUTION:** Students will see NH females knowledgeable about STEM and their culture in their classrooms teaching STEM/Literacy within a cultural context.

ROOT CAUSE 4: Hawaiian Students are taught outside the context of their culture: Children are taught a curriculum that doesn't relate to their way of learning. Hawaiians had a well-developed epistemology that is congruent with some of the best practices in education today including computational thinking. The Hawaiian saying, *ma ka hana ka ʻike* means, "The knowledge is in the doing." Educators know that hands-on experiences, especially in STEM classes, are very important in the learning process. Significant findings from culture-based education research, conducted by members of the Culture-Based Education Working Group of *Na Lau Lama* (a consortium of Hawaiian agencies and the DOE), describe the preferred environment and a framework for success for Hawaiian students: 1) Students learn best when they are motivated to learn 2) Motivation to learn is directly proportional to one's sense of relevance and ownership of the subject matter 3) Motivated students will retain more information based on their ability to apply the knowledge learned to life. 4) The true benchmark for success is the ability of students to integrate the knowledge and experience in their own lives and, in essence, become the teacher. [redacted]

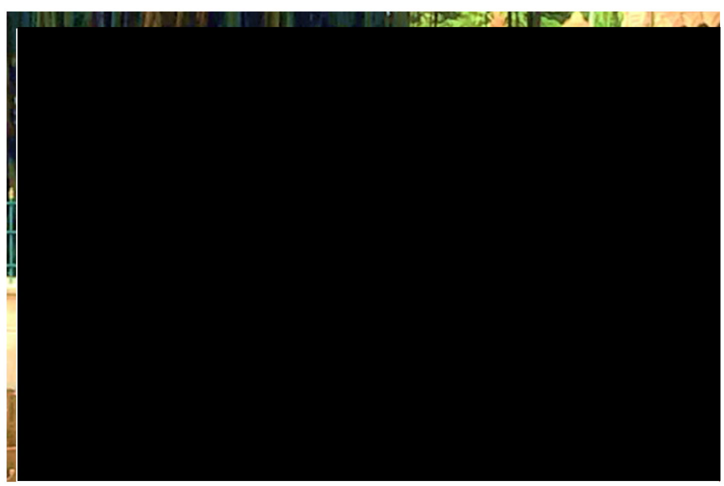
b. Quality of the project: i. The project successfully addresses needs of the target population: Born of community need, KOKA has been driven over the past 25 years at every level by the voices of low-income and high-risk Native Hawaiian families. The design of RISE will address the community-identified gaps and weaknesses that result in poor STEM outcomes for NH students by tackling the root causes of these poor outcomes using the following design that addresses the needs of NH children in PreK-2: [redacted]

[redacted] They will also have information that allows them to provide accommodations and extensions for individualizing instruction. Classroom teachers will be able to email our staff for further information and to maintain relationships with their mentors.

Additionally, CHISLE will be used in two NH center-based preschools, four NH Parent/Child Interactive Preschools (PPP), and with home-visitors providing Home Instruction for Parents of Preschool Youngsters (HIPPY). KOKA has been providing PPP and HIPPY for NH families for over twenty years, and center-based preschools for over 15. We currently serve 500 families in these programs through NHEP and State MIECHV funding. [redacted]

[redacted] project will serve 600 PreK children, as well as 25 K-2 at teachers. Through our teacher training and mentoring work, **RISE will meet <u>Competitive Preference Priority 2:</u>** Fostering Flexible and Affordable Paths to Obtaining Knowledge and Skills. On average there are 25 weeks in a school year. [redacted]

[redacted] We believe this will lead to more productive STEM learning, expertise, and positive career trajectories for Indigenous students in fields where NHs are grossly underrepresented. [redacted]



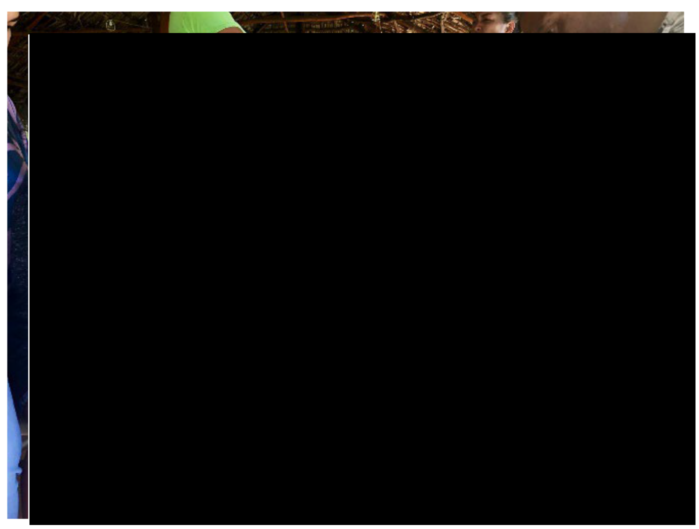
[redacted]

CHISLE will be specifically designed to incorporate Computational Thinking. The K-12 Computer Science Framework in consultation with the Computational Thinking Task Force of the Computer Science Teachers Association describes computational thinking as the thought processes involved in solving problems, specifically problems that can be expressed as steps or algorithms that can be carried out by a computer.[xvii] Generally, computational thinking is understood to be a combination of four skill categories**: 1-** **Pattern recognition;** 2) **Creating and Using Algorithms**. **3-** **Decomposition** and **4-** **Understanding Abstractions**. To quote award-winning Ann Gadzikowski "…***schools must prepare children to think with creativity, complexity, and logic. The key to building a computer science-literate society is teaching our children computation thinking skills, starting in early childhood."*** [xviii] Therefore, **RISE meets Competitive Preference Priority 1:** Promoting Science, Technology, Engineering, or Math (STEM) Education, with a Particular Focus on Computer Science.

ii. The RISE project demonstrates a rationale: RISE demonstrates a rationale as several key project components included in our logic model are informed by research or evaluation findings that suggest the project component is likely to improve relevant outcomes. [redacted] "Science provides an authentic and engaging context for literacy learning," according to P. David Pearson, dean of the Graduate School of Education at the University of California (UC), Berkeley, "and literacy learning can support students in learning science."[xix] Synthesis of literature revealed five characteristics of STEM education: (1) Instruction integrates two or more subject areas within a context; (2) Students' work should be practical and/or authentic; (3) Intentionally target critical thinking and problem-solving skill development; (4) Learning is student-centered; (5) Technology is regularly used (Asunda, 2012;Berlin & White, 2012;Bybee, 2013;Ejiwale, 2012;Foutz, et al., 2011;Hansen & Gonzalez, 2014;Kennedy & Odell, 2014;Laboy-Rush, 2011;Moye, Dugger, & Stark-Weather, 2014;Sahin & Top, 2015;Sanders, 2009;Stone, 2011;Wells, 2015;Zollman, 2012). CHISLE incorporates all five elements.

Seeds of Science Roots of Reading is a STEM/Literacy integrated curriculum starting with second grade. Rigorous independent evaluations of Seeds/Roots show that it has substantially raised students' knowledge of science as well as their performance in reading and writing. One independent study found that 3rd and 4th graders receiving Seeds/Roots improved three times as fast as other students in the strength and clarity of their writing on science.[xx] [redacted] Charlotte Danielson (1999) found that mentoring helps novice teachers face their new challenges; through reflective activities and professional conversations, they improve their teaching practices as they assume full responsibility for a class. Danielson also concluded that mentoring fosters the professional development of both new teachers and their mentors.[xxi] Well-designed mentoring programs also lower the attrition rates of new teachers (National Association of State Boards of Education, 1998).[xxii] While our science/literacy teacher mentors will not necessarily be mentoring NEW teachers, they will indeed be *mentoring teachers new to teaching science (including computer science) and integrating literacy*.

When looking at how computer science is currently taught it is important to note that, "In every other subject, teachers have to prove their content knowledge. It is expected that they know well beyond what they teach. However, in computer science, the mantra has been, "learn alongside your students." This has served teachers well, but only as a starting point. It has empowered many educators to get started. But we are now seeing educators hit a wall. They are finding their lack of content knowledge eventually becomes prohibitive, especially when they start trying to integrate computational thinking. If we are serious about computer science/coding/computational thinking integration, it's time to dig in and master the necessary pedagogical content knowledge."[xxiii] [redacted] The **third component** is the integration of *computational thinking*. When children develop computational skills, they can articulate a problem and think logically. It helps them to break down the issues at hand and predict what may happen in the future. (In literature this is *prediction*). It helps them to explore cause and effect and analyze how their actions or the actions of others impact the given situation.[xxiv] Marina Umaschi Bers, a professor in the Eliot-Pearson Department of Child Study and Human Development and an adjunct professor in the Computer Science Department at Tufts University explained: "The notion of computational thinking encompasses a broad set of analytic and problem-solving skills, dispositions, habits, and approaches most often used in computer science, but that can serve everyone." Research at Tufts University has shown that learning to program with tangible robotics kits allows young children to practice sequencing, logical reasoning, and problem-solving skills, along with positive behaviors such as collaboration and communication (Kazakoff, Sullivan, &



Bers, 2013; Bers, 2015; Sullivan & Bers, 2015). Also, they have shown that children as young as 4 years old can master powerful ideas from computational thinking and early engineering (Bers, 2017). [xxv] Many teachers are finding that the best way to teach computational thinking is by *integrating* it into other subject areas. This not only alleviates the pressure to find time for discrete lessons, but it's also a better application of computational thinking. Integration creates a more authentic and interesting learning environment.[xxvi] In the October 2018 issue of *The Science Teacher,* Drew Neilson and Todd Campbell shared an example of how adding a computational thinking component to a science lesson allowed students to not only find the "right answer," but to move beyond it.[xxvii]

In addition to the *Rationale,* RISE has a well-specified conceptual framework that identifies key components of the project and describes the relationships among the key components and outcomes, both theoretically and operationally. Please see the Logic Model at the end of this narrative**.**

c. Quality of project services: i. The Project ensures equal access for project participants. Our strategy for ensuring equal access and treatment for our participants who are primarily NH and therefore members of a group that has traditionally been underrepresented, is to support teachers working for public elementary school with a student population of which the majority are NH children on free or reduced lunch. We will serve all children regardless of race, color, national origin, gender, or disability in PreK-2 classrooms.

ii. The services reflect up-to-date knowledge from research and effective practice. [redacted] In April 2017, STEM Next, in partnership with the Hoag Foundation and the Molina Foundation, commissioned the Institute for Entrepreneurship in Education (IEE) and the Caster Family Center for Nonprofit and Philanthropic Research at the University of San Diego to provide an overview of literacy learning within the disciplinary context of Science, Technology, Engineering, and Math. The review of the literature revealed that students who experience science through a balance of reading informational text and hands-on experiences show greater gains on measures of science understanding, science vocabulary, and science writing. [xxviii] Integrating Science and Literacy Reading texts with STEM themes is one of the best ways for students to build literacy skills (including how to read, write, and reason with the language and text) while learning STEM content and cultivating dispositions of science (Pearson, Moje, & Greenleaf, 2010). In fact, an entire issue of Science in 2010 examined the synergies between inquiry science and literacy teaching and learning (see Pearson, Moje, & Greenleaf, 2010, for a review). The authors provide theoretical and empirical support for an integrated science literacy approach, advocating "science learning entails and benefits from embedded literacy activities...literacy learning entails and benefits from being embedded within science inquiry." The fundamental principle of integrating science and literacy is to engage students in text-based inquiries along with hands-on science investigations (Cervetti, Pearson, Bravo, & Barber, 2006).[xxix]

[redacted] Research conducted by Durham University has shown the following benefits for mentees: 1) Provides impartial advice and encouragement 2) Develops a supportive relationship 3) Assists with problem-solving 4) Improves self-confidence 5) Offers professional development 6) Encourages reflection on practice.

[redacted] Both theory and research substantiate the importance of culturally relevant education, including the need for a range of educational approaches that create space for and/or are critically grounded in a particular cultural worldview. First is the cultural survival of indigenous and other groups and the often neglected but critical role of education in that process. Research indicates that assimilationist policies in Western education resulted in a loss of native culture and language along with marginalizing the identities of indigenous children who feel alienated from school (Anders-Baer, 2008; Benham & Heck, 1998; Lipka, 2002; McAlpine & Crago, 1995; McDougall, 2006; Ogbu, 1982; Wilson & Kamanä, 2006). The movement to stake a claim in education as a community-driven process and product have demonstrated significant success. Scholars show that children's learning is more effective if it occurs within a cultural context, that is, with attention to cultural values and behaviors, learning styles, and the context of place and the physical environment (Bruner, 1996; Cornelius, 1999; Gruenewald, 2003; Irvine & York, 1995; Kawakami, 2003; Lee, 2003a, 2003b). [xxx]

[redacted]

[redacted]. Research has shown that students who engage in well-designed laboratory experiences develop problem-solving and critical-thinking skills, as well as gain exposure to reactions, materials, and equipment in a lab setting. Sustained investments in hands-on experiences help inspire students to further their education and prepare them for high-technology careers by fostering skills sought by potential employers.[xxxi]

iii. Impact of RISE services on the intended recipients of those services: [redacted]

d. Quality of project personnel i. [redacted] If funded, they will make up the core of the RISE Project. When KOKA advertises and interviews for available positions, a form for all applicants to sign indicating that KOKA does not discriminate in hiring practices or program enrollment is included. All agency literature for recruitment, flyers, brochures, ads, PSAs, etc. specifically states that KOKA does not discriminate based on race, color, national origin, gender, age, or disability. This information is also stated in both the KOKA Parent Handbook and Staff Handbook. All programs are inclusive, registering children with differing abilities. Flyers and brochures are distributed through Department of Education schools, many of which include Special Education Preschools. KOKA staff and participants are diverse in terms of age, ability, ethnicity, age, and gender. The agency has a designated Equal Opportunity Officer to monitor policy compliance.

ii. Qualifications, including relevant training and experience for key personnel.

[redacted]

[redacted]

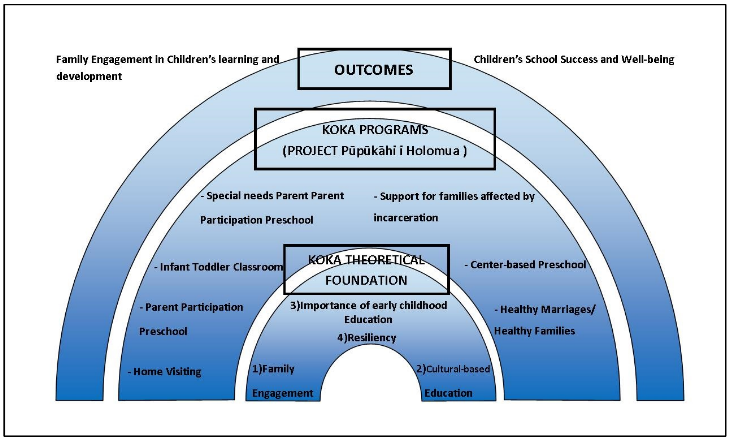
e. Quality of the management plan: i. **Adequacy of management plan to achieve objectives on time and within budget, including responsibilities, timelines, and milestones for accomplishing project tasks.** KOKA has been in operation for over 25 years, successfully serving the needs of Native Hawaiians throughout the State of Hawai'i. The current Executive Director, [redacted] recipient of the 2015 Accounting and Finance Women's Association Business Woman of the Year Award, has been the leader since the inception of the organization. The agency provides childhood and family strengthening programs in a native cultural setting. RISE has SMART objectives that are Specific, Measurable, Attainable, Results-focused, and Time-bound.

Table 2. Performance Matrix **GOAL: Native Hawaiian children will gain the STEM/literacy knowledge and skills necessary for strong academic achievement and success in the 21st-century workplace.**

[redacted]			
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

ii. The adequacy of mechanisms for ensuring high-quality products and services



The Performance Matrix presented above helps us to monitor RISE for high-quality. It includes clearly defined tasks, responsibilities for accomplishing tasks and targeted milestones. Members of the KOKA management team are trained in Dr. W. Edwards Deming's Total Quality Management (TQM). The Plan–Do–Study–Act cycle is a four-step model for carrying out change. The **PDSA cycle** for RISE consists of: **1. Plan:** The intervention to be implemented is planned. The plan was developed within the Project Quality Improvement (PQI) Team and Hui Alakaʻi Representatives ensured that the intervention is Specific and Achievable while the Research Department Representative ensured that the intervention is Measurable and Time-bound. The Hui Alaka`i and community members helped to ensure the intervention is relevant. 2. **Do:** The Project Director and his/her team will implement the plan, collecting data and monitoring along the way. 3. **Study:** The RISE team will analyze the data collected monthly and make any necessary changes. 4.**Act:** We will then implement changes and begin the cycle again to ensure data-driven decisions.

KOKA completes an A133 audit annually. In the past 25 years, KOKA has managed more than 40 million dollars and has closed out all expired grants in good standing. We have been administering NHEA (US Department of Education) grants for the past 18 years as well as three Office of Hawaiian Affairs grants, two Administration for Native American (ANA) grants, a two-million-dollar state grant, a W.K. Kellogg Foundation –Family Engagement Initiative grant, and numerous smaller private foundations. Our Systems Analyst has over 13 years of professional management and technical experience, Resume attached.

f. Quality of the project evaluation: i. Evaluation provide valid and reliable performance data on relevant outcomes: KOKA will perform an Outcome Evaluation. The Evaluation Team will finalize needed instruments and progress reports to facilitate tracking of each activity, ensure reports capture all pertinent information, and achievement of all goals and objectives. All targets for key activities and services are captured in the Logic Model at the end of the narrative. Each target was based on reasonable estimates, which incorporate data on the past performance of similar programs implemented by KOKA within Native Hawaiian communities. Due to KOKA's experience with the evaluation of similar programs, the evaluation plan itself is reasonable, achievable and appropriate. [redacted] In addition, the Evaluation Committee will support the hiring of the proposed External Evaluator. [redacted]

[redacted] **specific indicators:** The RISE Logic Model specifies our key components, strategies, outcomes, and impact, and provides a foundation for the program design, evaluation design, and interpretation of evaluation results. Annual assessment of performance on stated project objectives will inform progress toward long-term goals, as our objectives specify baseline data and magnitude of expected changes. Together, the Logic Model, performance measures, measurement of the fidelity of program implementation and collection of outcome data (both quantitative and qualitative) will help determine (and operationalize) the threshold for acceptable and successful program implementation to achieve desired outcomes. The participatory and utilization-focused evaluation approach ensures regular, timely, and useful feedback so project staff can make data-informed decisions- regarding program changes. Please see Performance Matrix for specific indicators.

<u>2) When various types of data will be collected</u> [redacted]

[redacted]

<u>3) What methods will be used</u> The KOKA PQI Team will use both qualitative and quantitative data to guide decision-making as we follow the PDSA cycle of continuous improvement previously presented.

<u>4) What instruments will be developed and when:</u> [redacted] The Draw-A-Scientist Test is already in existence and has been used for 50 years.

5) How the data will be analyzed: Our **Outcome Evaluation** will be a systematic process of collecting, analyzing, and interpreting information to determine the extent to which the project is effective. The ongoing evaluation will provide feedback on the effectiveness of the project and its components as we follow the PDSA model. Our previously mentioned evaluator will take the lead in data analysis.

6) When reports of results and outcomes will be available: RISE will submit quarterly, semi-annual, and an annual performance report (APR) that will demonstrate progress in meeting Project objectives, financial reports and performance measurement data. The project will also submit the same reports annually to the Native Hawaiian Education C+ouncil.

7) KOKA uses data to monitor progress & provide accountability information at the site and strategies for replication in other settings. [redacted] The evaluation includes both formative and summative pieces, as well as quantitative and qualitative evaluations. We work together with other NH early childhood organizations in the Eleu Consortium and we annually hold a statewide training for over 300 NH early childhood educators. Last year was our 3rd gathering with the goal to share best practices with teachers to benefit our NH communities. The information from this project will be shared as we have shared curriculum and information for the past several years working with our partners. We will also continue to shre information at the Hawaii Association for the Education of Young Children Conference, a local affiliate of NAEYC. All data is used to inform decisions for moving forward with collaborations and partnerships with other educational and social service organizations.

[redacted]

[redacted]

Endnotes

[i] https://www.oecd.org/pisa/

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[iii] Ibid

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[xi] STEM Smart Brief, December 03, 2013 http://successfulstemeducation.org/resources/nurturing-stem-skills-young-learners-prek%E2%80%933 Accessed November 15, 2016

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[xiii] The National Academies Press https://www.nap.edu/read/21836/chapter/6

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[xv] http://www.honolulumagazine.com/Honolulu-Magazine/April-2019/The-Bottom-Line-How-the-Hawaii-DOE-Gets-and-Spends-its-Money/

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