North Idaho STEM Charter Academy Grant Compliance Review

Conducted October 14, 2015

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Overview

On October 14, 2015 Christina Linder and Katie Rhodenbaugh conducted a site visit on behalf of Bluum and the J.A. and Kathryn Albertson Family Foundation. Terry Ryan, CEO of Bluum, joined the visit as an observer. The team visited the North Idaho STEM Charter Academy (NISTEM) in Rathdrum in fulfillment of the agreement between JKAF and NISTEM. All aspects of the grant agreement, *Leadership Milestones, Academic Milestones, Growth Milestones, and Financial Milestones* were thoroughly reviewed. North Idaho STEM Charter Academy was found to be in full compliance and operating at optimal fiscal and academic capacity.

Leadership of the Academy

Milestone Details

NISTEM founders Colleen and Scott Thomson are both master teachers who partnered for many years to bring passionate, innovative, and inspired teaching to students in the Lakeland School District. In their roles as the leaders of NISTEM, they are self-described "reluctant administrators" who have masterfully risen to the challenge of developing an exceptionally successful charter school. Inspired leadership is evident in their "boots on the ground" approach to modeling best practices in both teaching and shared leadership. NISTEM's organizational structure is flat by design and in response to economic realities. The Thomsons' interactions with all members of staff and faculty focus on exceptional teaching designed to engage students. Students are encouraged to take ownership of their learning, coupled with a strong emphasis on collegiality and authentic cooperation. From the administrative offices to the classrooms, hallways, and breakroom, colleagues are explicitly united in a common purpose, and respectful of each other's abilities to work toward the collective vision and mission of NISTEM.

As a leadership team, the Thomsons empower faculty and staff to create a challenging learning environment in Science, Technology, Engineering, and Math through rigorous and relevant content. The school works to maximize individual potential and ensures students develop a strong work ethic and the higher-level critical thinking skills that will equip them to meet the challenges in the world around them. At NISTEM, teachers are respected professionals encouraged to explore their own creativity and sharpen their practice within the parameters of state and national standards. The respect these teachers are given, however, must be earned. According to Mr. Thomson, "A bad teacher does not make a good colleague." Over NISTEM's four years of operation, approximately 20% of the faculty has been either "counseled out" or let go by the administration when it became apparent that there was not a match in either work ethic or educational philosophy. The faculty is deeply protective of their well-established and collaborative culture and is allowed to participate in the hiring process of new teachers.

NISTEM is a mission/vision driven organization that is unwilling to compromise on its beliefs and values, and is determined to adhere to the tenants of its charter agreement. On numerous occasions, as related to their educational philosophy and practices, Mr. Thomson stated that they "care enough to tell the truth" and "will not be education reform in name only." Not surprisingly, they have the results to support these bold statements.

Curriculum, Content Competency, and Continuous Improvement

Academic Milestone Details

North Idaho STEM Charter Academy's educational program revolves around the STEM subjects and learning through engagement is its focus. In all program areas and at all levels, NISTEM assesses student progress toward achieving learner goals in these specified subject-matter areas through rigorous standards of performance. North Idaho STEM Charter Academy's core educational philosophy is that learning occurs when:

- Learners succeed at a high level both socially and academically
- Learners see the connection between what they learn and the real world
- Activities are integrated and meaningful

- Learners work individually and as members of a group
- Character education is modeled and taught
- Learners see themselves as part of the community and find ways to serve the community
- Styles and rates of learning are taken into account, yet expectations for achievement are not compromised

Collaboration among Faculty

Accountability and high expectations are an integral component of the NISTEM educational philosophy. This is true for teachers as well as students. Regular unscheduled classroom observations are conducted ensuring that faculty are continually using formative and summative assessments of student learning. Data is consistently collected and analyzed by administration and staff alike to inform curricular and programmatic improvements. Teachers develop rubrics and use the North Idaho STEM Charter Academy-STEM 21st Century Skill Rubric for both formal and informal assessments. Student skills are measured weekly in the classroom by highly qualified teachers and data is gathered through weekly rubrics and grading in the classroom. When a school-wide deficit in literacy competencies was identified the entire education team took ownership.

An informal gap analysis across grade levels was conducted to "fine tune" student writing, which had been noted as an area of weakness. An outstanding secondary ELA teacher on staff provided peer coaching and professional development for other staff members. She also developed strategies and facilitated discussions around articulation of content scope and sequence for all grades.

The quick intervention by NISTEM staff showed a near immediate impact on students' writing. Many of the content area expert teachers as NISTEM are responsible for conducting professional development for the benefit of all staff. NISTEM's curriculum is not textbook-driven, but employs a highly creative yet standards-based approach to curriculum and content mastery. A hard copy of the Idaho Content Standards by grade level is provided to each teacher with the expectation that they create lessons that address these standards at minimum. Curriculum used by NISTEM is an eclectic combination of traditional, prescribed curriculum (e.g. the Shurley

method of English and Saxon Mathematics) in concert with the innovative online Khan Academy, PLATO (math and ELA) and original, inventive, practices imagined and shared by the Academy's collaborative educators in all content areas.

The Thomsons believe in, and rely upon, the professional capabilities of their staff to develop the scope and sequence, using the most appropriate curriculum and supports to best educate their students. Fridays are reserved for regular staff development and collaboration meetings to ensure horizontal and vertical alignment across the curriculum. Grade-level common prep times are built into the schedule to further ensure this alignment.

Additionally, ongoing daily curriculum articulation discussions happen organically throughout the school. To quote one of NISTEM's veteran educators, "Collaboration is much different here. Where it is forced at other schools, the shared vision among teachers here fosters it. Teachers collaborate in other schools but their ideas and work are often undone by top-down mandates. Our administrators say 'yes' as much as they possibly can."

Through their own volition and professional desire, NISTEM teachers meet regularly to brainstorm and collaborate on their students' educational endeavors. Constantly working to improve their practice, teachers from lower grade levels meet with their students' future teachers to keep them abreast of the strides they are making. This collaboration, and others, has resulted in grade level "expectations" being raised by one grade level, e.g. 2nd graders are now expected to master curriculum previously expected of 3rd grade classes.

Morning classes are generally set aside for traditional learning modules while afternoons are dedicated to the implementation of new knowledge through interdisciplinary projects. Project-based leaning that revolves around STEM (Science, technology, engineering, and math) is at the core of NISTEMs instructional program. The curriculum is thoroughly integrated; all subject areas are authentically connected rather than artificially separated into discrete disciplines. Project-based, inquiry-based learning enables students to see the connections between subjects as well as the connections between what they are learning and the world around them. Students are encouraged to explore theses connections and express their ideas intelligently.

As soon as students enter the school they are introduced to, and begin using, academic language to communicate with their teachers and each other. Observing students as young as second grade revealed that they were able to articulate classroom tasks using appropriate academic language. As the Curriculum Director, Ms. Thomson ensures that this aspect of the curriculum is not left to chance. Last summer she developed a course through Northwest Nazarene University specifically for NISTEM teachers as part of their school-wide professional development.

Using the Scientific Method and the Engineering Design Process required teachers to utilize both the scientific method and the engineering design process to promote students thinking critically, conducting research, analyzing data, and communicating results (Appendix E). In providing this kind of highly focused staff development offering, NISTEM leadership ensures that all teachers are able to move seamlessly among STEM content areas throughout their classroom instruction, and grasp a common academic language to teach students.

Student Expectations

Accountability at NISTEM does not rest solely on the teachers and administrators. Students and their families are also held to a high level of expectation and work ethic. New students and their families learn very quickly that the NISTEM staff and administration mean what they say, and they say what they mean. Students must have a 70% average across their four core subject areas and pass projects in order to matriculate to the next grade. There are no exceptions made, nor is there an appeal process for this rule. Students who do not meet this requirement are allowed to continue at their current grade level.

The grading structure at NISTEM is also more demanding than the traditional grade scale. Students simply doing what is asked of them will earn a "C", students performing above average expectation will earn a "B", and students who are truly performing at an exceptional level will earn an "A" in course work and culminating grades. The school's philosophy is true self-esteem is earned. Good grades should be celebrated, and less than desirable grades are an opportunity for growth.

The first year NISTEM offered a 9th grade class, 21 students were enrolled. A majority of those students had matriculated through NISTEM, with the remaining being new students to the school and its strong academic culture. By the second year there were only 14 returning students for the 10th grade. The attrition is attributed to the self-selection process and believed to be impacted by the high academic standards, level of family involvement required, and the expectation of an exceptional work ethic, and other factors such as sports which the school does not offer. The school's focus is academics and STEM projects and competitions are their sports.

However, students coming into the school in later grades are given every opportunity for success; their needs are provided for through supplemental homework and support as developed by teams of teachers working across grade levels and in cooperation with families. The widely-accepted Response To Intervention (RTI) strategies are also applied to assist students in achieving grade level expectations and assigning accommodations as necessary. As they enter their fourth year, because NISTEM's culture and reputation are well established, attrition rates are expected to decrease.

Evidence of Mission-Driven Student Growth

Fidelity to the mission and vision is evident in NISTEM's student academic growth as thoroughly detailed in the Public Charter School Commission Performance Certificate report. A brief overview of NISTEM's Mission Specific Goal accomplishments from the report follow:

Mission Specific Measure # 1: Is the school successfully helping young students acquire strong reading skills?

- Exceeds: 90-100%
- Meets: 75-89%
- Does not meet: 61-74%
- Falls far below: 60% and below

Result: 85% of NISTEM students continually enrolled two or more consecutive years and with a better than 93% attendance rate in grades 2 through 3 met IRI target rates.

North Idaho STEM Charter Academy met their goal of helping young students acquire strong reading skills through a broad assemblage of proven interventions. NISTEM's IRI proficiency growth strategies include: full utilization of the Extended Reading Intervention Program provided by the Idaho State Department of Education, small group instruction focusing on student needs such as phonological processing skills, fluency, pre-reading skills, and use of differentiated and homogeneous skill groups. Program Materials include AIMSweb Cold Reads and Cloze Reads, PLATO for reading and language, AIMSweb progress monitoring materials, SRA Reading Laboratories and Specific Skills Series, and Corrective Reading for decoding and comprehension. Parents meet with teachers early in the fall to discuss IRI results and to build the partnership between family and school that is critical for student success.

Mission Specific Measure #2: Is the school helping middle school students to complete accelerated math courses?

- Exceeds: 75-100%
- Meets: 60-74%
- Does not meet: 46-59%
- Falls far below: 45% and below

Result: 74% of NISTEM 8th grade students who have been enrolled two or more consecutive years, have enrolled in and completed Algebra 1 successfully with a C or better.

This goal is measured by student enrollment as reported in ISEE, internal evaluations quarterly, and end of year assessments. This goal meets NISTEM's mission and provides evidence of their rigorous and relevant content. Through project-based curriculum, good teaching by a highly qualified math instructor provides higher-level math opportunities at an early age, which supports success as NISTEM students move to more difficult courses such as Algebra 1. The school's focus is on problem-solving and mathematical reasoning. Students test mathematical ideas, draw conclusions, and participate in formal mathematical and logical arguments.

Mission Specific Measure #3: Is the school successfully motivating students to participate in STEM Competitions?

- Exceeds: 100%

- Meets: 85-99%
- Does not meet: 70-84%

Results: 100% of 1st through 9th grade students with a better than 93% attendance rate compete in weekly STEM projects and robotics competitions.

Success is measured by student participation in daily STEM projects, participation in school wide competitions, and the use of the NISTEM 21st Century Skills Rubric. Project-based learning strategies engage students in exploring authentic problems, and solving real-world problems. This motivates students and increases student interest and the value of learning. Project-based learning activities provide opportunities for students to develop materials that show evidence of their engagement. This strategy also focuses on improving communications skills, which is critical for success in advanced education and the work force.

Another powerful result of project-based teaching is the creation of a true learning community. When effective strategies are in place, students are genuinely engaged, constantly interacting and collaborating with one another. Participation in STEM projects and competitions positively impact student success in acquiring specific 21st century skills such as teamwork, time and task management, collaboration, and presentation skills.

Mission Specific Measure # 4: Is the school helping students to successfully acquire 21st century STEM skills?

- Exceeds: 98-100%
- Meets: 85-97%
- Does not meet: 71-84%
- Falls far below: 70% and below

Results: 100% of 1st through 9th grade students with a better than 93% attendance rate are acquiring 21st century STEM skills.

The school's expressed purpose is to increase students' interest in science, engineering and math through technology, in order to prepare students for higher education and jobs in our increasingly technological economy. Normally expected coursework is taught while utilizing a project-based approach which maximizes individual potential. NISTEM's project-based STEM program is integrated so students understand the connections between subjects and their application in the world. Strategies used to positively impact student success include changing the role of students and teachers.

Students lead with their problem-solving and creativity. Teachers facilitate and create a culture of inquiry and provide support. Students and teachers are connected from across all grade levels in a project-based environment. Technologies play a crucial role in learner's lives and enable a creative school environment which is critical for the acquisition of 21st century skills. Teachers and students acquire the critical skills in their use of technology to benefit in an effective, innovative, and creative way. Administration and teaching staff are responsible for implementing strategies that positively impact student success. Students utilize 21st century skills across all grade levels daily in the classrooms.

An analysis of student growth at NISTEM reveals that students who have been with the school since its beginning are significantly outperforming students in traditional school settings, and even those students who have been at NISTEM for only a portion of their schooling outperform their traditional peers (Appendix D).

Demographics and Growth

Growth Milestone Details

Student Population and Enrollment Capacity

North Idaho STEM Charter Academy opened in the fall of 2012 serving grades kindergarten through eighth. They have since added additional sections of grades K through 8 and, using support from the JKAF grant, have now grown to 10th grade based on enrollment demands.

NISTEM will continue to add classes through the 12th grade. The Academy primarily draws attendance from three surrounding school districts: Lakeland, Post Falls and Coeur d' Alene.

Enrollment at North Idaho STEM Charter Academy began with 264 students and has nearly doubled to 446 students. Upon approval of the Board, classes are configured to maximize enrollment opportunities. Caps for each class are set at no more than the following:

- Kindergarten 22 per class (2 sections)
- 1st grade - 22 per class (number of sections may vary)
- 2nd grade - 24 per class (number of sections may vary)
- 3rd grade - 26 per class (number of sections may vary)
- 4th grade - 28 per class (number of sections may vary)
- 5th through 12th - 30 per class (number of sections may vary)

Due to the geographic location and primary residency of North Idaho, the student demographics at NISTEM do not represent a diverse student body. In general, 90% are Caucasian, 3% are Native American, 3% are Hispanic, 3% are Asian, and 1% are African American. Perhaps a more appropriate indicator that NISTEM is striving to serve all students fairly is the steady increase in the number of Academy students who are eligible for the Free and Reduced Federal Lunch program.

When NISTEM opened in 2012, 31% of the student body was eligible for the program compared to the 39% of students who are eligible today. NISTEM however, still has room to grow when compared to their three neighboring districts who serve higher percentages of Free and Reduced Lunch eligible students (43.36 in Coeur d' Alene, 45.81 in Lakeland, 49.99 in Post Falls).

As NISTEM continues to grow and more fully develop their secondary program, they are actively fostering relationships with post-secondary institutions to provide a STEM pipeline for their graduates. Through NISTEM's evolving relationship with local colleges and universities they are developing a "Pathways to Education" program through which their students will have the following options (Appendix F):

- STEM Diploma (ensures students are college, technical school, and/or career ready)

- STEM Diploma + Core 15 (ensures students have fulfilled core classes required of either a college level freshman, or a student seeking an Associate of Applied Science degree)
- STEM Diploma + Associate of Science (students graduate with an Associate of Science degree and have fulfilled all general education requirements for a four-year transfer)

Economic Impact on the Community

Rathdrum is a small town with a population of 7,090. While nearly 45% of NISTEM students live in the geographically wide Lakeland school district, only about 25% of the students live within the Rathdrum city limits. This means that the parents of roughly 300 students are driving to, or through, Rathdrum from other communities each day to drop off or pick up their students. Those families are buying gas, groceries, eating meals at restaurants, and shopping at the local hardware store.

Some of the NISTEM families have even purchased homes in Rathdrum to be near the school. Local retailers have reported increased revenues during the four days (Mon- Thurs) that parents drop off and pick up their students at NISTEM. The Super 1grocery store directly behind the school has a tremendous amount of parents shopping there before and after school. The Mayor of Rathdrum (Vic Holmes) has indicated that the economic impact of NISTEM has been significant.

In terms of number of employees, NISTEM is now ranked one of the top three or four employers in Rathdrum. NISTEM is one of the top employers and have earned a seat on the Rathdrum Mountain development steering committee. In just four short years NISTEM has become an integral part of the Rathdrum community.

Finance and Governance

Financial Milestone Details

A complete audit of North Idaho STEM Charter Academy's financial statements for the years ended June 30, 2015 and 2014 fiscal year was conducted by Hayden Ross Certified Public

Accountants of Moscow, Idaho and completed on September 29, 2015. During the audit no deficiencies of material weaknesses in internal control were identified. No instances of noncompliance with certain provisions of laws, regulations, contracts, and grant agreements were found.

As an additional measure of fiscal oversight, the governing Board of NISTEM regularly reviews and approves all financial statements. In the four years of operation, the founding Board has had one change in membership due to the personal time constraints of said member. The Board unanimously agreed to carry on with a vacancy, and may choose to fill that position in the future according to need.

The NISTEM Board is made up of community members that have a deep understanding of project-based learning and support high academic expectations and character development. No member of the NISTEM Board has a child attending the school, which has proven to be a critical aspect of working toward a common vision without personal agendas biasing operations.

Mr. Thomson's exceptional oversight of the school has been the primary factor in the fiscal health of NISTEM. Adhering to a conservative needs-based, no frills, budget, NISTEM operations are thriving within the constraints of limited State issued funding for public schools. NISTEM has also resisted the temptation of Federal funds. After conducting a thorough analysis, the Thomsons concluded that the actual costs associated with administering Title I funds would outweigh any tangible benefit to students.

Cost savings measures are consistently forefront and include the Thomsons being compensated according to the teacher pay scale versus the appropriate administrative pay scale, and the delayed opening of the school by one year due to the available lease options being over budget. As a result, NISTEM maintains an annual operating surplus and is able to afford a substantial pay-for-performance (PFP) program (Appendix G). A review of *Schedule VII- Combining Statement of Revenues, Expenditures and Changes in Fund Balance* indicates a positive change of $509,381 for FY 15 (included in the audit report).

According to the auditing standards generally accepted in the United States of America, North Idaho STEM Charter Academy has fairly and accurately reported their financial statements. For the purposes of the grant agreement, with Scott and Colleen Thomson serving on the leadership team, NISTEM has met their year one Financial Milestones by obtaining a "clean audit", by having no events of default under any loan agreements, and by generating a surplus of net operating income.

Conclusion

NISTEM was found to have met – and exceeded – the milestones set forth in the JKAF grant agreement. This school should be considered a model for other public schools in the areas of finance, shared leadership, and student growth.

Christina Linder currently serves as the Associate Dean of the Idaho State University College of Education. Prior to this position she was an English teacher, federal programs director, professor of educator preparation, and administrator. In her seven years as the Director of Certification and Professional Standards at the Idaho State Department of Education she redefined the processes for approving educator preparation throughout the state, and championed higher standards in all areas of educator preparation, curriculum development, and professional development for teachers and administrators. Her areas of expertise are in teacher preparation, evaluation, and professional learning. She has served on multiple national advisory committees and as an executive board member of the National Association of State Directors of Teacher Education and Certification.

Katie Rhodenbaugh is an education consultant who has nearly 15 years of successful leadership and management experience in such diverse industries as fine dining, hospitality, medical esthetics, training, and education. She has a strong track record of effectively collaborating with local and state leaders, schools, districts, college and university faculty, and community partners. Prior to branching out on her own as a consultant, Ms. Rhodenbaugh spent six years serving as the Professional Standards Coordinator at the Idaho State Department of Education (SDE). During her tenure at the SDE she lead dynamic teams of educators through various review processes including educator preparation program approvals, teacher preparation standards reviews, and standards-based higher education faculty trainings. Ms. Rhodenbaugh has extensive experience in policy and technical writing, project management, budget oversight, training, and motivational leadership.

Terry Ryan is CEO of Bluum and a member of the Rural Opportunities Consortium of Idaho (ROCI) task force. Before moving to Idaho in August of 2013, Terry served as Vice-President for Ohio Programs and Policy at the Thomas B. Fordham Institute for twelve years. Terry began his career in education as a teacher in Poland and worked with the Polish Ministry of Education and the Foundation for Education for Democracy. In the 1990s, he served as research director for the UK-based 21st Century Learning Initiative. He is a member of the National Alliance for Public Charter Schools Policy Advisory Council. Terry has co-authored two books on education. Ohio's Education Reform Challenges: Lessons from the Frontlines with Chester E. Finn, Jr. and Michael Lafferty of (Palgrave Macmillan, 2010), and The Unfinished Revolution with John Abbott (ASCD Press, 2000).