

Serving Grades K-12 Anticipated Opening: July 1, 2018 Kuna School District Kuna, ID

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## **Executive Summary**

The public education system has seen cycles of change throughout its 120+ years of existence where focusing on the "big ideas" of mathematics and literature gave way to more focused attention and an emphasis on phonics and skills development. Each cycle of change has offered methods that are beneficial for particular types of learners; however, the general process of change has not afforded the flexibility to show benefits for multiple student learner types.

In the past, students have been able to choose which subjects of study they would like to pursue, but apart from a few schools and programs, they have had little to no choice in the way they would like to be taught in those courses. Public education provides many great opportunities for students to be educated in not only their required, core classes but also amazing elective and extracurricular programs. However, public education struggles in meeting the needs of the different learning methods and styles in which the students learn best.

Public education, as a bureaucracy, strives to give all students the opportunity to learn and to be successful, but by the very nature of being a bureaucracy, public education is slow to respond to the differing needs of its students. Most people would agree that each student learns similar material and concepts differently and at different rates. If that is so, then those same people must also agree that a system that forces all students to learn in a similar manner and pace, is not a system designed for all students.

Also, because of bureaucracy, many programs in public schools are only as long-lived as the teachers who lead or administrators who support these programs are there to continue the leadership and support. Often, once the lead teachers or supportive administrators leave the public school, the program quickly dissolves back into the traditional model of learning. The system needs to be flexible and adaptable to this change. For these reasons, the founders of Project Impact STEM Academy (Pi STEM) have collaborated to design a charter school to provide this vehicle for change.

Pi STEM will develop an environment that offers learning through multiple means, methods and speeds. Using structured, personalized learning platforms, Pi STEM will allow students to move at a pace that is appropriate at an individual level. This platform will ensure that concepts are thoroughly understood/mastered before a student progresses onto a more complex concept. Additionally, Pi STEM's environment intends to integrate work that has been typically segmented into standalone subjects. Pi STEM believes this integration will provide a better understanding of the content's purpose, and ultimately provide an improved learning of the materials. This integration will occur using project-based learning. Projects will be based in science, technology, engineering and mathematics (STEM) in an interdisciplinary and applied approach. Other disciplines will also be necessary; artistic skills will be required for presentation, history will be used during project development and research, as well as other subjects.

Pi STEM's environment no longer requires the teacher to be the "sage on the stage" where the teacher becomes the sole provider of information. With information being as ubiquitous

as it is through technology, teachers are now taking on the role of facilitator and life coach. Instead of being masters of retaining facts, students can now be asked to be assessed on their skill levels in communication, collaboration and critical thinking while being creative and innovative.

Pi STEM's founders have reached out to the community of Kuna with the initial intent of building a high school that would provide the above referenced environment. Through many public events, social media contacts and community leader discussions, Pi STEM has decided to follow the public's request of extending the intended charter school to grades K-12.

Before opening its doors, Pi STEM will apply to Northwest Accreditation Commission, a Division of AdvancED for accreditation. Pi STEM will complete the accreditation process review and obtain candidacy status within the first year of operation. Additionally, the accreditation report and/or self- evaluation will be submitted to the authorizer annually.

Pi STEM's founding group is represented by experienced individuals with diverse backgrounds, who are committed to helping student's reach their utmost potential. Pi STEM is founded by a group consisting of local community leaders who are actively involved in education, specifically with underserved populations. This can be seen in Appendix D Petitioning Group. As well as the numerous outlined skills, a majority of Pi STEM's founding group are parents. As such the team believes strongly in the connection between student success and parental/family involvement. Pi STEM will work to continually foster strong family engagement through use of communication practices, a parent/teacher organization, and community presentations of student's work.

Pi STEM defines success for their students in being able to own and access their learning while also being able to express their understanding of learning through critical thinking, collaboration, communication, and connection to the community.

Pi STEM's focus is centered on children, allowing each child to become confident and successful in their own educations. Pi STEM will work tirelessly in its endeavor to provide families voice and choice in their academic lives and Pi STEM looks forward to working with our community, community leaders and the public-school system in doing so.

### **Mission Statement**

Project Impact STEM Academy will provide an engaging, adaptive learning environment through the use of personalized learning plans, intentionally integrated curriculum, mastery-based progression, and authentic projects embedded in science, technology, engineering, and math. In this environment, students will gain confidence, practice failure until it is no longer intimidating, and become invested in the life-long pursuit of knowledge.

## **Educational Program**

## **Educational Philosophy, Instructional Practices and Curriculum**

#### **An Educated Person**

At Pi STEM the belief is that an "educated person" is one that has an acute appreciation and a multitude of exposure to the skills of gaining knowledge. We feel that becoming educated is not necessarily an achieved status but instead reflective in a self-motivated desire to become a perpetual student of knowledge. In a letter written while a professor at Eton College (1845-72) Master William Corv wrote his belief of the purpose of education; we feel these words can also depict the definition of becoming educated:

"... you go to a great school not so much for knowledge as for arts and habits; for the habit of attention, for the art of expression, for the art of assuming at a moment's notice a new intellectual position, for the art of entering quickly into another person's thoughts, for the habit of submitting to censure and refutation, for the art of indicating assent or dissent in graduated terms, for the habit of regarding minute points of accuracy, for the art of working out what is possible in a given time, for taste, for discrimination, for mental courage, and for mental soberness."

Pi STEM believes that an educated person will possess the aptitudes necessary to meaningfully contribute to society at large by embodying the following skill sets:

- Initiative and Self-Direction
- Flexibility and Adaptability within Failure
- Leadership and Responsibility within their Community
- Problem Solving through Information Integration
- Productivity and Accountability

### **How Learning Best Occurs**

The philosophy of Pi STEM is grounded in the belief that if provided with a healthy, safe, and encouraging environment, all students can and want to learn. Pi STEM's philosophy is that learning is maximized when:

- focused and integrated investigations are implemented across the curriculum
- compelling projects are designed and guiding questions are asked
- fieldwork, local expertise and service learning are incorporated
- high quality student work is produced and presented to the public
- mastery-based, research-driven instructional practices are used school wide
- reading and writing are taught across the disciplines in K-12
- inquiry-based mathematics and science are taught
- learning is integrated through the STEM related fields
- a school culture of exploration and learning through failure is built and character is
- reflection throughout learning is built-in and expected

- a Professional Learning Community (PLC) is developed
- families are engaged in the life of the school
- time is designed for student, community, and adult learning

Students, parents, and teachers will experience peace of mind in the Pi STEM setting because of a commitment to the concept that each child has the right to attend school in an environment that fosters learning. Each parent has the right to expect a school to provide a healthy and nurturing environment for their child. Each staff member has the right to teach in a respectful environment. Pi STEM is committed to teaching students respect for all people regardless of age, gender, color, race, ability, nationality or religious affiliation. Through respect as a value, Pi STEM believes that students learn best through trial and error, successes and failures, with support from their teachers, family and community.

#### **Instructional Practices**

Over the last 120 years in the United States, in traditional schools, students have been placed into groups according to their ages and regional locations. As students progress in their academic skills and learning, most learn and progress at the same rate. Some students do not learn at that rate and are left either bored and wanting for more, or lost and left behind. The traditional school system does not work for all students and it is time for a change.

During the 2015 Idaho Legislative session, House Bill 110 was passed that directed the Idaho State Department of Education to investigate a change in Idaho schools towards a mastery-based educational model. The mastery-based educational model provides a structure that creates flexibility and allows students to progress as they demonstrate mastery of academic content, regardless of time, place, or pace of learning. This approach creates a personalized and differentiated learning experience for all students allowing the students to work at the pace and level that is best for them.

The instructional design principles for Pi STEM will be mastery, competency-driven and real world skills based. Students will work in a fluid, no-bell system where a student can work on the skills and content that they, and the faculty, deem important and appropriate. Students will collaborate with each other, learning how to work best with other individuals (Guskey, 2010). The students' work will be reflective where they can look back upon their experience and learn from their successes and failures.

The traditional academic core subjects will be taught as integrated learning experiences through project based learning (PBL) making the students' learning more relevant and connected (Jones, 1997). Many of the students' projects will come from partnerships with locally based industries and community leaders, allowing students to affect real change in their communities through their work and learning.

The processes of PBL will provide our students the opportunity to access the path of the future, which addresses solving problems through creative innovation. Pi STEM seeks to distill a growth mindset and passion for learning by reinforcing achievement through effort. Pi STEM endeavors to educate students and reinforce the skills of the future through an open and personalized learning atmosphere focusing on the development of 21st Century Skills, experimentation, and presentation.

21st Century Skills have been identified as one of the largest growing needs of the world's workforce. Unfortunately, many students lack these skills which traditional education does not effectively teach (Rotherman, 2009). Without intentional education focused training on soft skills, students will fail in the global community. Not only should 21st Century Skills be taught intentionally, students' learning should also extend beyond the school grounds as they work with industry and community leaders. These connections allow students to provide services and ideas to the community to help solve real world problems, adding considerable value to not only the students' lives but also to the school district and the entire community. As students become better known within the community, their potential to be recruited by industry will be greatly improved.

STEM is known as science, technology, engineering, and math and as such, many people may assume this is the main content and focus of Pi STEM. However, STEM areas revolve around the idea of innovation, trial and error, critical thinking, the design process, computational thinking, and integration of research and resources. For example, science is built on the scientific process of asking questions, building hypotheses, and experimentation. Technology focuses on computational thinking and using the technological tools available in the current society along with the possibility of adding to and/or building new technology. Engineering revolves around the design process which emphasizes growth through failure, constructive criticism, and revision. Mathematics is based on models and critical thinking in all areas of life, providing students with another language in which they may communicate their learning. As such, Pi STEM strives to integrate and develop these STEM processes into students' education and structure.

Pi STEM is not unique in the use of mastery-based education. The State of Idaho has developed the Idaho Mastery Education Network (IMEN) for the purpose of implementing House Bill 110. Idaho schools involved in IMEN have begun training in the use of mastery-based education models.

The curriculum that Pi STEM is investigating is provided by Summit Learning and the Summit Learning Platform. Summit Learning's mission is to prepare their diverse population of students for success in college, career and life, and to be contributing members of society. (Unknown, 2017).

Summit Learning is a leading public charter school system with 11 schools in California and Washington. Summit Learning shares its personalized learning approach to teaching and learning with over 300 schools, free of charge.

Summit Learning has published a recent report titled *The Science of Summit: School models that Drive Student Success* where Summit Learning describes the framework and research that they have used to develop their schools and curriculum. The Summit Learning approach to teaching and learning is based on developing four key student outcomes which Pi STEM will use to measure student's proficiencies. These assessments include Cognitive Skills (interdisciplinary, higher-order, thinking skills with rubrics developed with Stanford University), Content Knowledge (rigorous content across all academic subjects), Habits of Success (behaviors, mindsets, and dispositions), and Sense of Purpose (self-knowledge, values, relationships, and a credible path). This cohesive approach combines what learning

science tells us is best for students with universal human values and Summit Learning's experience as educators and teachers.

Summit Learning's model also mirrors Pi STEM's mission in the three pillars that Summit Learning has chosen to support their teachers and students. These pillars are: project-based learning (where real-world projects are a major component of the Summit experience), one-to-one mentoring (where students work with a designated mentor to create and track goals throughout the student's learning experience) and individualized pathways (which places students at the center of learning empowering them to set goals and deeply understand content by consuming it in a way that they learn best).

The Summit Learning curriculum was developed by teachers. It is a collection of meaningful projects, concept units and playlists of content and assessments that are include in the Summit Learning Platform. The Base Curriculum has been designed as a model curriculum for Summit Learning that is built with flexibility in mind so that partner schools can customize it to meet the expectations of their state standards, district benchmarks, school values and student needs. Teachers can adapt or create new playlists and projects to meet their students' needs. All of us learn in different ways. With Summit Learning, students are able to move at their own pace and learn how they learn best because they have different options to learn the same information, all with the support of their teacher. While the Summit Learning Platform does provide curriculum that surpasses Idaho State and United States Federal graduation requirements, the platform does not include specific STEM focused curriculum. The platform is extremely flexible and Pi STEM faculty can easily modify the curriculum to match our STEM model of integrating the student's lessons into a projectbased learning model. The Summit Learning Platform was not chosen primarily for the builtin curriculum, but it was also chosen for its ease in modifying the curriculum and its alignment to Cognitive Skills, Content Knowledge, Habits of Success and Sense of Purpose.

Pi STEM will have the ability to integrate a STEM curriculum within the Summit Learning platform that is more than just an integration of subject areas. A STEM curriculum includes more than just an integration of subject areas. A STEM curriculum develops a set of thinking, reasoning, teamwork, investigative and creative skills that students can use in all areas of their lives. STEM isn't a standalone course, but rather it is a way of intentionally incorporating different subjects across an already existing curriculum (Jolly, 2014). The Summit Learning Platform curriculum is designed to build upon and support project-based learning.

The curriculum at Pi STEM will include projects with rigorous lessons in science and mathematics which by its very nature means that the lessons will be hand-on and inquiry-based. Great STEM projects will need more than just rigorous lessons in order to accomplish Pi STEM's mission. Great STEM projects will include the following components:

1. **STEM lessons focused on real-world issues and problems**. Pi STEM will partner will local businesses and the community of Kuna in finding real-world issues and problems to solve.

- 2. **STEM lessons are guided by the engineering design process (EDP)**. The EDP will be used as a framework for Pi STEM's student to use while creating solutions to realworld issues and problems.
- 3. **STEM lessons immerse students in hand-on inquiry and open-ended exploration.** A student's path to learning will be open ended with constraints where the student's work will be hands-on, collaborative with decisions about solutions that are student generated.
- 4. **STEM lessons involve students in productive teamwork**. In order to help the students be productive in their teamwork Pi STEM will intentional instruct students with similar language, procedures and expectations for group work. Students will be assessed by their teachers and peers while working in a group to develop solutions to problems.
- 5. **STEM lessons apply rigorous math and science content that students are learning into the student's projects.** Students will not see math and science as standalone courses, but work together to solve problems.

STEM lessons allow for multiple right answers and reframe failure as a necessary part of learning. Pi STEM's learning environment will offer students the opportunity to develop solutions to problems without the fear of being wrong or making mistakes. Students will develop many different solutions to problems that they are solving. STEM lesson always provide opportunity for multiple correct answers (Jones, 1997). The Content Knowledge curriculum developed by Summit Learning is in alignment with Common Core and Next Generation Science Standards. For college-level courses, the content is aligned to the AP standards. To ensure that all students cover the full scope of the curriculum, students will be required to demonstrate their mastery of the content standards aligned with Common Core, Next Generation Science Standards and AP, College Board Standards. The flexibility in STEM lessons will come from how the students choose to find solutions to the problems that they are investigating.

## **Expected Student Outcomes**

Assessment occurs in many ways: performance, verbal, and written. It is the intent Pi STEM to make use of all three in every focused investigation. Monitoring the progress of students and evaluating innovations in educational procedures are an important part of the curriculum development process. Pi STEM will provide formative and summative data to demonstrate that the school is meeting performance standards prescribed by the state. This data may also include emerging Idaho State Department of Education standards and/or Pi STEM-developed criteria.

Pi STEM will fully participate in required testing included in the Idaho Assessment Program, currently made up of the following tests:

- Civics Assessment (CA)
- College Entrance Exams (SAT)
- English Language Proficiency (ELP)
- Idaho Reading Indicator (IRI)
- Idaho Standards Achievement Test Comprehensive Assessment System (ISAT)

- National Assessment of Educational Progress (NAEP)
- Science End of Course Exams (EOC)

The teachers will work together throughout each new focused investigation to find the most effective methods of assessment of the content. Students will be given a chance to present everything that they know about each area of content. Students and teachers will work together to make sure that the learning is as effective as possible.

Student self-assessment will provide a unique learning opportunity for Pi STEM students. As active participants in assessment of their own work, learners are encouraged to develop an understanding of their strengths and deficiencies, and an objective view of their accomplishments. This allows for students to learn from their mistakes and recognize the areas that need growth, along with understanding their own abilities.

Pi STEM's Executive Director, will clearly define the essential knowledge and skills for student learning in each program area, making standards subject-specific and transparent to students and families. The Executive Director will also work closely with Pi STEM's Board of Directors to ensure the governing body remains an active participant in the learning of the students.

Pi STEM believes that students learn and work best when the learning is measurable with explicit competencies. The learning outcomes are written in transparent, student friendly statements where differentiated, and timely supports are provided. The assessment and reporting of grades should be meaningful and should reflect what Pi STEM values most; which is student growth and student efficacy in their learning. Foremost, Pi STEM understands that all students learn in differing manners and rates and students should be allowed to learn at the pace and manner that is best for them.

In order to adequately serve students in mastery based education, it is necessary to examine indicators of success that encompass the blended instructional model Pi STEM will employ. Since we engage students in learning through a flexible, and personalized framework, Pi STEM strives to measure our students' progress in ways that extend beyond more traditional methods. In addition to metrics like longitudinal student/school standardized test growth and graduate rates, Pi STEM's students will develop portfolios which will demonstrate evidence of the student's learning and growth.

Research shows that students at all levels see assessment as something that is done to them, on their classwork, by someone else. Beyond "percent correct," assigned letter grades, and grammatical or arithmetic errors, many students have little knowledge of what is involved in evaluating their classwork. Portfolios can provide structure for involving students in developing and understanding criteria for good efforts, in coming to see the criteria as their own, and in applying the criteria to their own and other students' work (Parker White, 2004).

Research also shows that students benefit from an awareness of the processes and strategies involved in writing, solving a problem, researching a topic, analyzing information, or describing their own observations (Parker White, 2004). Without instruction focused on the processes and strategies that underlie effective performance of these types of work, most

students will not learn them or will learn them only minimally. And without curriculum-specific experience in using these processes and strategies, even fewer students will carry them forward into new and appropriate contexts. Portfolios can serve as a vehicle for enhancing student awareness of these strategies for thinking about and producing work-both inside and beyond the classroom.

Students will develop their portfolios based upon evidence from their individual work as well as project based work done in teams. Students will be asked to critically reflect upon their learning through reflection and self-assessment. Students will be asked to display and defend their portfolios during public events, as well as through peer and teacher evaluations.

Students K-5 will be evaluated for progress in the following areas in addition to academic skills covered by the Idaho Thoroughness Standards and the Common Core:

### Personal Responsibility

Students will have positive attitudes and perceptions about creating quality work, striving for excellence and interpersonal skills.

### Expanding and Integrating Knowledge

Students will acquire and integrate knowledge and experiences from different subject areas. Students will gather and use subject-area information effectively in order to gain new knowledge, classify and organize information, support inferences, and justify conclusions appropriate to the context and audience.

#### Communication Skills

Students will communicate with clarity, purpose, and an understanding of audience using a variety of communication forms and skills. Students will develop oral and written skills, as well as thinking and reasoning skills. Students will utilize, evaluate, and refine the use of multiple strategies to solve a variety of problems.

### Social Responsibility Skills

Students will deal with disagreement and conflict caused by diversity of opinions and beliefs. Students will evaluate and manage their behavior as group members. Students will participate in community service that reflects responsible citizens in a democratic society.

Based upon the above criteria, Pi STEM is currently developing a rubric similar to the 6-12 cognitive skills rubric developed by Summit Learning and Stanford Center for Assessment, Learning and Equity (SCALE). This rubric will be adapted for the K-5 grade levels.

Pi STEM will participate in all state mandated testing, including, but not limited to, the ISAT, ISAT Alt, IRI, WIDA Access 2.0, Science End of Course exams, SAT, and NAEP. The school will have a test coordinator who will oversee the testing program and insure the testing process is followed with fidelity for all tests. Pi STEM will work with stakeholders to help them understand the importance of the assessments and the information that can be gained from them.

#### Academic Goals

Within three years of operation Pi STEM will expect of its K-5 students:

- 85% to be proficient or above grade level on all State required testing.
- to master 80% of all content material.
- to have the knowledge and skills to successfully transition to the advanced grade levels

Students 6-12 will be evaluated for progress in the following areas in addition to academic skills:

### Cognitive Skills

Pi STEM will utilize the Summit Personalized Learning Platform developed by Summit Learning. As Summit Public Schools have defined them, Cognitive Skills are practices necessary for college and career readiness, synthesized from major nationally accepted standards and revised and vetted through their partnership with Stanford Center for Assessment, Learning and Equity (SCALE). The cognitive skills rubric dimensions are broad enough that they have a place in all classrooms (example: all courses have a place for the selection and use of evidence, or finding relevant sources). They are taught and assessed through projects and used to define high-quality final products of these performance assessments. All of Pi STEM's projects are based off of subsets of Cognitive Skills. Refer to Appendix H2 for the full description and rubric for Cognitive Skills.

### Cognitive Skills Domains

- 1) Inquiry
  - a) Hypothesizing
  - b) Designing Processes and Procedures
- 2) Analysis and Synthesis
  - a) Identifying Patterns and Relationships
  - b) Comparing/Contrasting
  - c) Modeling
  - d) Interpreting Data/Info
  - e) Making Connections & Inferences
  - f) Critiquing the Reasoning of Others
  - g) Justifying/Constructing an Explanation
- 3) Writing/Composing
  - a) Argumentative Claim
  - b) Informational/Explanatory Thesis
  - c) Narrative
  - d) Counterclaims
  - e) Selection of Evidence
  - f) Explanation of Evidence
  - g) Integration of Evidence
  - h) Organization (Transitions, Cohesion, Structure)
  - i) Introduction and Conclusion
- 4) Speaking and Listening

- a) Discussion/Contribution
- b) Preparation
- c) Norms/Active Listening
- 5) Products and Presentation
  - a) Style and Language (Tone, Academic Language, Syntax)
  - b) Oral Presentations
  - c) Multimedia in Written Production
  - d) Multimedia in Oral Presentation
  - e) Conventions
  - f) Precision

#### Academic Goals

Within three years of operation Pi STEM will expect of its 6-12 students:

- to pass at least one Advanced Placement exam with a score of three or higher before graduation (While the AP course exam does not completely support our project-based model, continued education does consider these courses to be extremely valuable. Therefore, Pi STEM needs to support its students and their higher academic, educational goals of requiring Advanced Placement courses)
- 85% to be proficient or above grade level on all State required testing
- to master 80% of all content material
- to be prepared to graduate with a high school diploma as described in Appendix H2 Graduation Requirements
- to prepare to apply to a continuing education program after graduation (i.e. college, vocational/technical school)

# **Plan for Serving All Students**

Pi STEM has focused during our public discussions to highlight that our school is a public school available for all children to apply. The personalized learning plan structure adapts to individual needs and can be complimentary to the differing learning styles within the community. All community students will be encouraged to apply at Pi STEM and Pi STEM will use the State regulated lottery process for enrollment. Additional efforts have been placed on defining English Learners, students with a 504 plan, and Special Education procedures. Pi STEM believes that every child deserves an education and with our focus on the individual needs of our students it caters to a large range of different learners. Pi STEM's dedication to our students whether they are fast learners, slow learners, need additional accommodations as would be outlined on a 504 plan, need additional educational supports under an IEP, or are learning the English language will all have access to an education. Pi STEM will ensure that we follow all guidelines as outlined in the Idaho Special Education Manual, and the services that would be offered through IDEA and OELA. Pi STEM feels that this allows students to learn from each other regardless of learning ability and will encourage students to grow academically and socially. They will be able to work within a group and individually to meet the goals of their personalized learning plan and 504/IEP/ELL plans as needed. Pi STEM recognizes the needs of all learners and is able and ready to support their learning and will find the individuals to provide special education and

ELL services and equipment /accommodations that the student may need to access their education.

The Board of Directors of Pi STEM will work closely with the Executive Director to ensure the data collected through the Summit Learning system, the standardized testing, and overall portfolio performance of students is reported yearly, although data collected for IEPs outcomes will be collected multiple times a week and periodic written progress statements related to progress towards the IEP's annual goals will be reported at a minimum, concurrent with the issuance of report cards. These reports will be used to verify that the educational practices are indeed generating the outcomes stated in Pi STEM's mission, as outlined in the table below.

Table 1: Pi STEM School Measurement

1. 90% of students growing 1.25-1.75 years	Measured via growth tracked through						
in reading and math per year	testing scores and IEPs.						
2. 90% satisfaction in student, family,	Measured based upon presentation						
community and staff in learning process	feedback and community project response						
3. An environment and culture that is safe,	Measured in Average Daily Attendance, staff						
and inclusive	evaluation, Directors evaluation, school						
	surveys						
4. Community involvement/partnership	Measured in how much involvement and						
	how many partnerships are developed.						
	Survey data from established partnerships						

## **Professional Development Plan**

Pi STEM's vision is to create an environment of growth and high expectations through relevant professional development that results in a measurable increase of student achievement, teacher performance, and leadership capabilities. Pi STEM believes teacher evaluations should be approached with a growth mindset.

According to Section 9101 (34) of the Elementary and Secondary Education Act, professional development means a "comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement." As educators, Pi STEM takes this call very seriously. Pi STEM's Professional Development realizes that our unique program requires specialized training and development to ensure all stakeholders are successful. Pi STEM will offer a spectrum of comprehensive trainings for staff to ensure an understanding of the school culture and their instructional roles in our unique and dynamic program. Training is offered to all staff members with alternate focuses depending on specific duties. Pi STEM's trainings include (but are not limited to):

- Culture & Mission
- Curriculum
- Project-Based Instruction
- Mastery-Based Instruction

- Day to Day Instruction Strategies
- Student Information System/Technology
- Equity
- Time Management
- Center Coordinator
- Compassion and Caring
- Student Advisor
- Formative Feedback
- Teaching As Leadership

Pi STEM staff will receive extensive summer training before students arrive for the school to ensure that they have a clear understanding of Pi STEM's vision and the implementation of the Summit Learning Program.

Summer training will include the following highlights:

- An introduction to the Pi STEM instructional vision, including core values and the importance of mindset.
- Facilitated "team time," during which full teams work to consider school logistics (such as bell schedules), establish team norms, ensure curriculum aligns with local standards, and plan how to introduce students and families to Summit Learning
- Immersion into teaching and facilitating the Summit Learning curriculum, from how to lead skills-based, real-world projects, to facilitate students' learning experience via the **Summit Learning Platform**
- Modeled practice with 1:1 mentoring one of three transformational pillars of the Summit Learning approach
- Time to reflect on individual and team experiences and expectations

Professional development will continue throughout the year with team coaching and training in working in the Summit Platform, making data driven decisions to assist students in the learning, as well as academic and technical support from Summit Learning.

For further assistance in professional development, Pi STEM has reached out to other schools which use a project/mastery-based model as well as other schools with a STEM focus (North Idaho STEM Charter Academy, and Columbia STEM Academy). Pi STEM teams will visit these schools where they can shadow other professionals in order learn from their example.

Pi STEM has also begun the process of applying to join in the new cohort of schools who receive training from Summit Learning. Summit Learning provides an extensive training program, free of charge, that provides free support, tools and professional development to support Pi STEM's staff through the change management process.

The application process and deadline is as follows:

December 8th, 2017-1st Early Submission Deadline

- o Allows for access to additional Summit Learning professional development opportunities
- March 6th, 2018-2nd Early Submission Deadline
  - o Allows for access to special opportunities to connect with schools currently participating in the program
- May 1st, 2018-2018-19 Program Application Deadline
- Summer 2018-Summer Training
  - o Required in-person training for school leaders and teachers joining in the program

Please see Appendix H4 Staffing Professional Development and Evaluation.

### **Financials and Facilities Plan**

### **Fiscal Philosophy and Spending Priorities**

Holding the torch of deciding where tax payers' money is spent is a very serious obligation. Pi STEM feels the Board is up to the task. Specifically related to fiscal responsibility, Pi STEM has several board members with relevant experience, including several private business owners. As business owners, they know how being conservative with numbers allows the company to continue to grow. One member operates a non-profit company and understands the importance of government oversight. Another board member is a government employee that works daily with cost accounting, governmental budgeting and account ledgers. Another is a certified public accountant who has personally audited publicly funded entities like city libraries, charters schools and city's budgets. As such, this individual is a very important part of Pi STEM's board for they have a strong knowledge of the complexities of finance. Together the Board has a balanced level of understanding that will help maintain school finances. All board members understand the importance of training in their jobs and desire to take the same level of training to the governing of Pi STEM. Minimally, Pi STEM will network as a member of the Idaho School Board Association and will participate in the training available through the membership of this Association. Pi STEM has budgeted for this membership in our expenditures.

As expressed in the mission statement, Pi STEM's priority is to provide an engaging, adaptive learning environment. The founders and Board of Directors of Pi STEM believe that the most important aspects to creating this environment are not necessarily found from expenditures in a fancy building, or on expensive textbooks. Pi STEM instead believes the priority for funding should be focused on acquiring the right mentors and staff, and ensuring the necessary training and tools are available for them. Pi STEM will work diligently to provide the tools its staff and students needs to remain adaptive and engaged.

## **Financial Management Plan**

The financial data Pi STEM used for the budget were derived from projections of other charter schools similar in size and location to Pi STEM. Using similar budgets makes sense as projections in staff and students will be parallel to these schools. Pi STEM expects its facility (structure, land, utilities, parking & landscaping) to be similar in size with many of the same needs. Pi STEM understands that projected enrollment is not typically met within

the first few years, therefore the financial budget is more conservative with its plans to prepare for this likelihood. Pi STEM's breakeven enrollment count is 226 students. In the event of low enrollment, Pi STEM is prepared to reduce expenses by cutting the number of paraprofessional employees, facility expenses, or the number of mobiles and furniture. Other negotiable expenses will include salaries and vendor contracts. Pi STEM's fixed costs will consist of personnel, IT, facility expenses and loan repayment(s). Pi STEM's focus will be on its environment, culture and mentoring program. Pi STEM's board understands all monies that fund the school are public funds and will have significant accounting, oversight and audits. Pi STEM's board will be expected to understand the criticality of this financial oversight and the requirements to preserve fiduciary governance. Pi STEM's board members will be trained on the purpose of the following financial reports and value of such reporting to be timely, accurate and comprehensible:

- Balance Sheet
- Cash Flow Statement
- Income and Expense Statement
- Budget versus Actual Report

Pi STEM has adopted a philosophy of transparency and will keep all financial records public.

Pi STEM intends to hire a full-time book-keeper, or contract a bookkeeping service familiar with charter school finance, that will have a strong understanding of requirements for reserves and experience in handling the accounting process. This person will work closely with the Office Manager who will be responsible for communicating the financial reports noted above to the Board. From the information provided, the Board will determine if decisions being made are fiscally responsible and fulfilling the mission of this school.

Pi STEM's budget was created by its founders, many of which are taking an active role on the Governing Board of Trustees. All Board members, including future members, need to have a knowledge of what will be required for Pi STEM to remain financially solvent.

## **Description of Facility Needs**

Pi STEM has a great vision of what the facility will look like and how children will move throughout the building. The Founding Board of Pi STEM also understands that its ideal structure will not be constructed in its early years. Mobile classrooms will likely be the most financially responsible option in the beginning. To keep with the mission and culture, Pi STEM is communicating with mobile classroom companies. These companies can provide large exterior structures with open floor plans allowing a communal atmosphere. These spaces will include break out rooms, a large conference room, spaces for small groups, glass wall separators and large open areas that can work for community expositions.

Pi STEM has had discussions with two different architects in reference to the possible structure designs, and how to best plan. One architect Pi STEM spoke with is willing to work with the mobile company in constructing the mobile classroom structure with the right supports for future alterations. These alterations would make the structure more aesthetically pleasing and fitting to the interior feel as well as allow the mobile classroom

structures to be reused in the permanent structure. The other architect firm has designed multiple structures that incorporate the open design concepts that fit with Pi STEM's model. Figure 1 below is a generic diagram showing the concept of a FLEX model. Figure 2 shows the floor plans of a school designed by the second architect and closely resembles a structure that would work well for Pi STEM in the future.

Pi STEM is aware that a structure will not likely be built for at least a few years. Until that time, Pi STEM will attempt to develop a similar environment within the mobile classroom units, with a separate area for the administrative staff. In such a scenario, as well as with the future permanent structure, Pi STEM has investigated concerns of sound management in the open concept with the architects. The architects provided an acoustical analysis report on the design seen in Figure 2 that can be seen in Appendix H1.

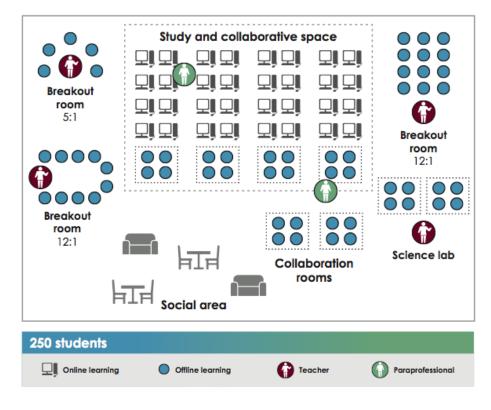


Figure 1: Generic FLEX Model

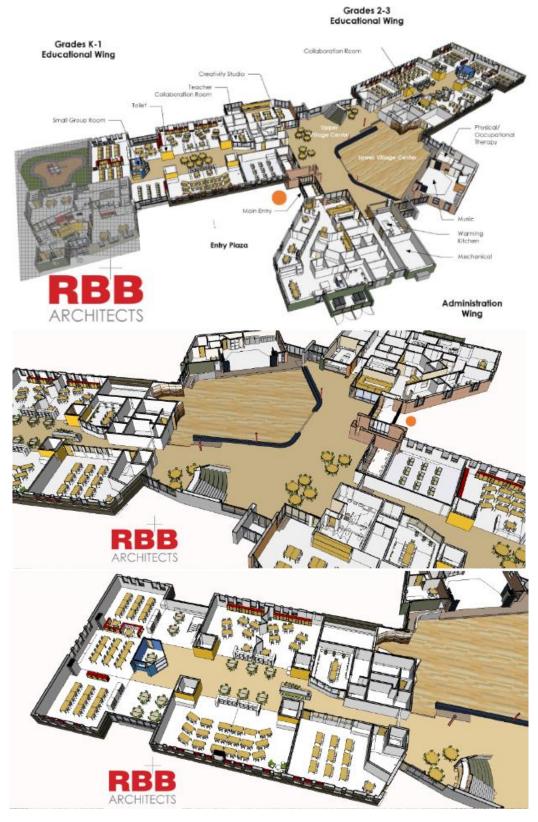


Figure 2: Envisioned Structure using a FLEX model

## **Board Capacity and Governance Structure**

Dr. Carpenter, in his book <u>Charter School Board University</u>, clearly explains the difference between governance and management; simply stated, governance asks "how well" while management determines "how". He notes that in practice however, maintaining this distinction can be difficult for boards, and that the most successful boards will continually discuss their purpose and note that the method to fulfill this purpose is by governing, not managing.

## **Description of Governance Structure**

The organizational structure of Pi STEM has evolved from a small group of individuals with a common dream to a more structured Founding Board with roles and assigned responsibilities. The Founding Board is a working board that incorporates both the aspects of governing and managing with additional assistance from other founding members (see Appendix D Petitioning Group). Pi STEM's Founding Board will transition to a formal governing board as described in the transition section below. The transition of the board will alter the management aspects however, the board structure will remain similar.

The Board of Directors will be comprised of five to nine voting members, all Idaho residents, who shall monitor all business affairs of Pi STEM. Positions within the board will include Chairman, Vice Chairman, Secretary, Treasurer and Communications Director. The Board will be responsible for all school policy decisions, including ensuring its academic program is implemented effectively and is resulting in quality student achievement, adopting appropriate school policies, reviewing the school's financials, overseeing student discipline, monitoring organizational program performance, and ensuring other policy considerations are implemented as needed or as mandated by state or federal law. Ultimately, the governing body will be responsible for overseeing the academic program's effectiveness, the school's fiscal performance, and ensuring that the school is performing its mission faithfully. Further detailed expectations and goals for the governing body of Pi STEM are set forth in the bylaws found in Appendix B Bylaws. The diagram below depicts the governing structure for Pi STEM.

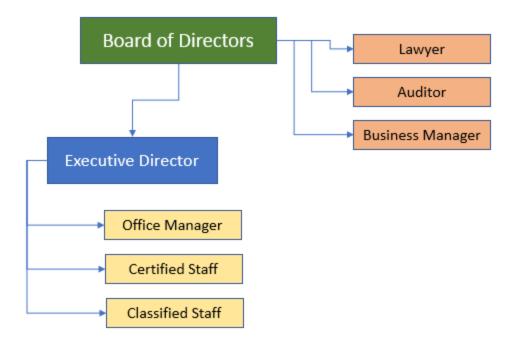


Figure 3: Pi STEM Governance Structure

As legally accountable for the operation of the charter school, the Pi STEM Board of Directors commits to adhering to all federal and state laws and rules and acknowledges its responsibility for identifying essential laws and regulations and complying with them. This includes Idaho's Open Meeting and Public Records laws.

In addition, board members will be expected to do the following:

- 1. Unrelentingly pursue the goals set forth for the academic achievement of its students
- 2. Enhance Pi STEM's public standing
- 3. Serve as ambassadors, advocates and community representatives of the school
- 4. Ensure legal and ethical integrity and maintain academic accountability
- 5. Use personal and professional skills, relationships, and knowledge for the advancement of Pi STEM
- 6. Believe in and be an active advocate and ambassador for the values and mission of Pi STEM
- 7. Work with fellow board members to fulfill the obligations of board membership
- 8. Keep informed about the school by attending board meetings

Pi STEM understands the importance and value of a strong governing board. The Founding Board believes through early founder's education, review of other (both successful and unsuccessful) charters, and the development of policies, orientation practices and training for future board members, Pi STEM will effectively maintain its board capacity and governance ability.

## **Founding Board Qualifications**

Pi STEM's founding group is represented by experienced individuals with diverse backgrounds, who are committed to helping students reach their utmost potential. Pi STEM is governed by a board consisting of local community leaders who are actively involved in education, specifically with underserved populations.

The members of Pi STEM's founding group have valuable skill sets for the current roles within the Founding Board as well as those necessary for the later governing Board of Directors. These skills include educational administration, PBL/STEM/PLP teaching, banking, special education, CPA experience, entrepreneurship, real estate, business management, information technology, cost accounting, charter development, parental skills, social work, school board/PTO membership, and multi-lingual skills. The vast array of capabilities has provided Pi STEM multiple viewpoints into the development of its charter. Please refer to Appendix C for Board Member resumes.

While Pi STEM is fortunate to have a group with a diverse area of expertise, the Founding Board agrees there is an opportunity to strengthen specific skills related to operation of a successful board and finances specific to education and charter schools. This knowledge will be beneficial to the Founding Board, with the board transition, as well as the ongoing implementation of Pi STEM's charter. To develop these areas, specific steps have been included in the transition plan detailed in the following section.

#### **Transition Plan**

Pi STEM's organizational structure has transitioned as it has progressed through the processes necessary for the development of a new charter school. Lengthy, in-depth discussions related to multitudes of topics and informal agreements have transitioned to delegated planning, research and recommendations, and meetings with predefined agendas for communication and formalized decision-making. And while Pi STEM is no longer functioning as a small informal group it is still very much a 'working' board not solely focused on governing.

To transition the current board into the necessary structure for successful governance, Pi STEM's Founding Board has determined the steps that will be required. The steps are not necessarily chronological however should follow a logical order, for example new members must be selected before being trained.

Current founding board members will discuss and appoint the individuals to the governing board. In some cases, the individuals will be the same as those in the Founding Board. In cases where they will change, adequate time will be allotted for the position's transition.

All governing board members will complete the initial board member training to include topics such as: member roles & responsibilities, board governance & development, Parliamentary Procedure, charter school finances and financial reports, Pi STEM's mission, charter and anticipated measurement standards, as well as other topics noted in the following training section as well as in Pi STEM's Board Member Orientation. In alignment with the founding philosophy, Pi STEM will not dictate the method for the training but

instead allow each member to learn in the method that best meets their learning style. Pi STEM will provide methods such as online instructional videos, books, and one-on-one peer development for each topic. Each member will then be asked to certify their understanding of the topics.

A timeline will be established noting the expected hiring date for the school leaders as well as the date the board will transition. The transition date may be before, but not after, the school leaders hire date.

During the transition process the Founding Board will monitor the progress and determine if adjustments are necessary due to skill gaps or other factors. Founder's Syndrome is one such other factor that will be monitored for and avoided. Symptoms and methods for avoidance of founder's syndrome include:

- Symptom: Appointment of new board members that are not for the benefit of the board but merely due to being 'founder friendly'
  - o Avoidance method: Ensuring the board determine the group's strengths and weakness will allow recruitment in areas of weakness
- Symptom: Founder(s) become the sole decision makers
  - o Avoidance method: The board will train and continue to improve skills in governance practices and implement parliamentary procedures
- Symptom: "My" statements "my school", "my staff"
  - o Avoidance method: Board members will revisit the agreed ethics commitment and be allowed to voice any concerns if such symptoms are recognized
- Symptom: The board tending to support the founder more than the mission
  - o Avoidance method: Reading/public discussion of Pi STEM's mission will become the initiating process for each Pi STEM Board meeting

Pi STEM believes these issues can be avoided by ensuring the board is well versed on signs and symptoms. The associated issues can further be avoided by developing strategic planning and ensuring new board members receive orientation and training.

Pi STEM recognizes that the interdependent nature of the founding board will take time adjusting into roles of an independent 'board' and 'staff' but believes by incorporating this strategic, well-communicated transition plan will improve the process.

## **Board Training and Recruitment**

Pi STEM will have an autonomous Board of Directors dedicated to the successful operation of the school. The Board of Directors will be initially composed of individuals with expertise in education, business, and/or other areas that directly benefit Pi STEM as previously described and reflected in the board member's resumes (Appendix C). Newly appointed Directors shall serve for a minimum two year to three year, staggered, terms with no limit to the amount of terms served.

All Board members will complete an initial orientation, in which they will be asked to certify their understanding of the following topics:

- 1. Conflicts of Interest
  - a. All Board of Directors will be expected to sign a conflict of interest form
- 2. Board Roles and Responsibilities
- 3. Models of Governance and Leadership
- 4. Ethics
  - a. The code of ethics will serve as a code of conduct for board members. It will promote values such as: selflessness, integrity, objectivity, accountability, honesty, and leadership. The Board of Directors will use the code of ethics as a guideline for making ethical choices and ensure accountability for those choices. During orientation, the Board of Directors will be given a presentation on the code of ethics and address any questions or concerns. By acknowledging and signing the code of ethics, the Board of Directors will express their commitment to ethical behavior. An initial code of ethics was determined and signed by Pi STEM's founding board members. (Appendix H2)
- 5. Financial Responsibility & Report Understanding
- 6. Overview of School Philosophy, Structure and Expected Outcomes (Measurables)

Pi STEM strongly believes in a model of reflection and continuous improvement. The Board of Directors will determine specific training opportunities for the team and develop the process for that training to occur each school year. There are numerous sources, including the Idaho State Public Charter School Commission, to assist Pi STEM in locating the resources necessary to ensure the Board is adequately trained and improving in its skills. The Idaho State Department of Education provides each Public Charter School Board a yearly stipend as a resource for yearly Board training. Pi STEM's board will maintain a reference of valuable training opportunities to include books, links to online videos, and persons available for one-one instruction. Time will be allotted within many of the yearly school board meetings to refresh board skills as well as discuss additional learning opportunities.

The founding board has outlined the specific resources below that will be used in the board's training:

- The SPEED of Trust: The One Thing That Changes Everything: Book by Stephen M. R. Covey
  - Members will examine the training materials and develop methods to implement enhancements to the team based on the training
- Charter School Board University: An Introduction to Effective Charter School Governance: Book by Brian L. Carpenter
  - Members will read the book as well as use the tools the book provides to revisit the lessons and improve board functionality on an ongoing basis
- Idaho School Boards Association Training (membership was attained by the board see Appendix H2): Website listing of development options

Pi STEM's Board became members to the ISBA in October 2017 and will review the valuable tools and training available from membership.

Pi STEM understands the extreme value of a well instructed, well informed, and operational board. Pi STEM believes in the simplest terms, a good board of directors can greatly impact,

if not determine, the overall success of the school. The image below illustrates this thought. It also highlights how continual improvement can improve Pi STEM's board recruitment.

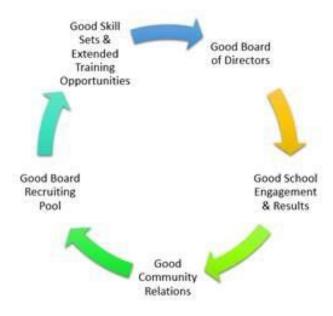


Figure 4: Governance Impact

Pi STEM will maintain solid community connections and seek out potential board candidates early and often. Through internal board reviews, a committee will be developed so that the board will understand both its strengths and weaknesses and strive to fill those areas of weakness with improved educational opportunities as well as with our candidate searches.

# **Student Demand and Primary Attendance Area**

## **Enrollment Capacity**

Pi STEM intends on serving students grades K-12. The minimum enrollment for financial viability is 226 students, or about an average of 33 students per class for grades K-5 (198 students) and 33 students per class for grades 6, 7, and 9 (99), for a total of 297 students. A more precise estimate of Pi STEM's enrollment will be available three months prior to school opening. Year two will roll up 8th and 10th grades adding 66 students to the totals. Year three will roll up 11th grade adding 33 more students. Please refer to Table 2 below for a detailed description. Pi STEM has chosen this enrollment model because 7th and 9th grade years are typical transition stages in education, and would have an improved chance of full enrollment. This way, they will not be supporting a complete K-12 school in the first years of operation. Pi STEM understands the possibility for low enrollment in the secondary grade levels and understands the budgetary concerns with smaller secondary student enrollment. In an effort to balance these concerns, Pi STEM is seeking and hiring highly qualified teachers. More information can be seen in the educational program section of this petition.

Paraprofessionals will be especially useful as mentors to students who need more one-onone time, especially those who have a 504 plan, an IEP, are ELL learners, or behavioral problems. They will assist in maintaining structure during student break times as well as guiding small groups of students in various subjects and projects. Pi STEM will look to hire paraprofessionals that are familiar with working with children and have the knowledge and skills to do so. They also must be flexible and willing to learn and adapt if necessary. It will be important that those hired are able to step in when they recognize something is off with students they frequently work with and recognize when a student is at their frustration level and refrain from pushing the student past their abilities.

Pi STEM's future plans are to replicate not expand the school model in an effort to maintain Pi STEM's mission and culture.

#### **Enrollment Preference**

Pursuant to Section 33-5206 of Idaho Code, Pi STEM will use the following preference grouping:

- first, to children of founders and Pi STEM staff, provided that this admission preference shall be limited to not more than ten percent (10%) of the capacity of the public charter school;
- second, to siblings of pupils already selected by the lottery or other random method;
- third, to pupils seeking to transfer from another Idaho public charter school at which they have been enrolled for at least one (1) year, provided that this admission preference shall be subject to an existing written agreement for such preference between the subject charter schools:
- fourth, to students residing within the primary attendance area of the public charter school: and
- fifth, by an equitable selection process such as a lottery or other random method.

Table 2:Enrollment Plan

Year	Total enrollment	Grades served	# of classes per grade	# of students per class
2018-2019	297	K-7, 9	1	33
2019-2020	363	K-10	1	33
2020-2021	396	K-11	1	33
2021-2022	429	K-12	1	33

### **Primary Attendance Area**

The primary attendance area for Pi STEM will lie within the current boundaries of the Kuna School District, as seen in the map below:

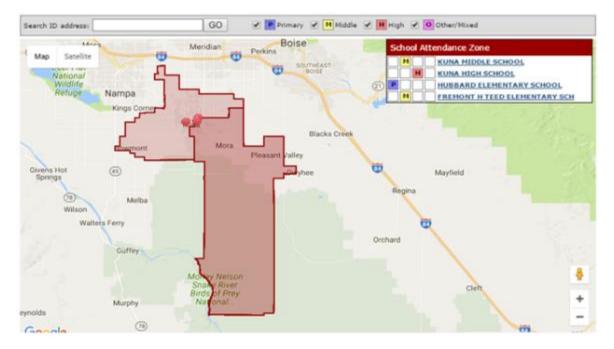


Figure 5: Attendance Map

Pi STEM is located in the Treasure Valley region of Idaho, in the city of Kuna. As of the 2010 Census, there were 15,210 people living in the city. The racial makeup of the city was 91.2% White, 0.6% African American, 0.8% Native American, 0.7% Asian, 0.1% Pacific Islander, 3.6% from other races, and 2.9% from two or more races. Hispanic or Latino of any race was 8.6% of the population.

The demographics of the proposed school will be mixed with no focus on ethnicity, gender, or socioeconomic background. All students will be welcome and all students will have the opportunity to excel in their choice of study.

## **Community Need and Market Interest**

The city of Kuna is a growing bedroom community in the Treasure Valley located in Southwestern Idaho. Kuna's growth rate is outpacing the ability for the local school district to be able to provide a learning environment that is personalized to the individual student's needs. As the city of Kuna and its school district continues to grow, the need for families to be able to choose a form of education that fits their student's needs will also continue to grow.

Wendy Johnson, the current superintendent of the Kuna school district recently stated in a district press release that "The current high school will be approximately 200 students over capacity this year and so our need is profound." (For another school) The current Kuna High

School capacity is 1,600 students which means that there are 1,800 students enrolled (Appendix H1 Online Articles).

An article from the March 6th, 2017 Idaho Statesman highlights the need for more schools for all grades. The full article has been attached in Appendix H3, an excerpt however notes that "Kuna school officials anticipate 1,000 new homes in Kuna over the next three years. The district has 10 schools. New students will enter a district where many schools already are either at or above capacity, so the district's plan calls for expansion at the elementary, middle and high school levels.

The bond and additional levy that was passed by tax payers in March, 2017 will pay to:

- Build the first third of a new high school to reduce overcrowding at Kuna High, including new classrooms and professional-technical space. \$25 million.
- Convert Teed Elementary to a middle school for grades six to eight; expand Kuna Middle School, which now has grades seven and eight, to include sixth grade. \$6 million.
- Add four new classrooms at Silver Trail and Reed elementary schools, other building updates. \$5 million.
- Other maintenance. \$4 million" (Idaho Statesman Article 136832393).

By converting Teed Elementary School, which currently houses grades 4-6, into a middle school, nearly 200 students in grades 4-5 will be displaced. This is a fact that was not accounted for in the bond or the levy reported plan. The district will begin rezoning meetings on Thursday, October 12th, but this does not solve the problem for these students and families. They are going to be relocated into already crowded elementary schools.

The following tables project growth for the elementary schools currently in Kuna:

Table 10
Projected Resident Elementary Students by Attendance Area

		AC	TUAL		PROJECTED RESIDENT STUDENTS									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
K	44	39	1.40	r 51	49.7	49.9	51.8	50.8	50.6	50.6	50.7	50.9	50.7	50.7
1	60	45	46	50	54.1	52.7	52.9	54.9	53.9	53.7	53.6	53.8	54.0	53.8
2	43	64	49	47	53.0	57.3	55.9	56.0	58.2	57.1	56.9	56.8	57.0	57.2
3	56	44	64	55	49.3	55.6	60.2	58.7	58.8	61.1	60.0	59.7	59.7	59.9
4	61	54	49	68	57.2	51.3	57.9	62.6	61.0	61.2	63.5	62.4	62.1	62.1
5	56	57	55	48	66.6	56.1	50.3	56.7	61.3	59.8	60.0	62.2	61.1	60.9
6	65	58	61	61	51.4	71.3	60.0	53.8	60.7	65.6	64.0	64.2	66.6	65.4

	Attendance Area Silver Trail ES													
		ACT	UAL		PROJECTED RESIDENT STUDENTS									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
ĸ	67	68	75	54	60.8	69.3	76.8	85.7	90.1	96.2	102.6	107.4	112.5	118.1
1	84	73	70	77	64.1	75.1	82.8	94.6	100.1	104.6	111.0	115.8	120.7	126.4
2	60	93	76	69	88.6	79.2	89.6	101.7	110.3	116.1	120.8	125.7	130.7	136.2
3	81	67	97	80	81.8	106.7	95.7	110.9	120.0	129.1	135.3	138.5	143.7	149.4
4	84	86	77	100	93.5	99.5	124.9	117.3	129.7	139.4	149.0	153.8	157.3	163.1
5	84	76	85	87	109.3	106.6	111.7	141.3	130.1	142.7	152.4	160.5	165.3	169.2
6	90	92	79	90	101.9	129.8	125.9	135.6	163.4	151.5	165.0	173.6	182.3	187.9
K-6	550	555	559	557	600.0	666.2	707.4	787.1	843.7	879.6	936.1	975.3	1,012.5	1,050.

Table 10
Projected Resident Elementary Students by Attendance Area

		ACI	UAL		PROJECTED RESIDENT STUDENTS									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
к	61	62	56	54	55.5	57.0	59.5	60.9	62.1	63.6	65.3	65.9	64.9	64.9
1	- 32	61-	24.71	· × 69 ×	63.7	65.2	65.7	70.2	71.4	72.8	74.5	75.0	73.8	72.7
2	65	75	50	78	71.2	65.7	66.2	68.2	72.3	73.6	74.9	75.4	74.3	73.1
3	78	72	79	53	88.2	80.5	73.5	75.6	77.5	82.0	83.4	83.5	82.2	81.0
4	69	82	66	76	55.3	89.9	81.3	75.9	77.7	79.6	84.0	84.2	82.7	81.4
5	56	70	81	75	83.6	61.5	97.1	89.6	83.5	85.4	87.4	90.8	89.2	87.6
6	69	60	74	71	77.1	85.4	62.5	99.3	91.5	85.5	87.4	88.2	89.9	88.3

		ACT	UAL		PROJECTED RESIDENT STUDENTS									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
K	104	96	90	123	120.9	124.7	128.4	128.4	129.4	130.3	131.9	132.8	131.6	131.6
1	100	113	100	97	133.9	134.8	135.7	141.5	141.6	142.2	143.2	144.0	143.4	142.1
2	119	103	124	101	101.9	143.3	141.1	143.9	150.0	149.7	150.3	150.4	149.7	149.1
3	102	115	114	119	101.0	104.7	142.8	142.3	145.1	150.8	150.4	150.2	148.9	148.2
4	99	108	122	121	127.2	111.1	112.0	154.2	153.7	156.3	162.3	160.9	159.2	157.8
5	95	104	103	122	122.0	131.1	112.1	114.6	156.9	156.1	158.6	163.7	160.9	159.2
6	85	103	107	113	130.4	133.4	139.9	121.6	124.4	168.7	167.9	169.6	173.5	170.6
K-6	704	742	760	796	837.3	883.1	912.0	946.5	1,001.1	1.054.1	1.064.6	1,071.6	1,067.2	1,058.

		ACT	UAL			PROJECTED RESIDENT STUDENTS									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
к	70	66	71	62	62.7	63.7	66.1	65.6	64.9	64.8	65.0	65.2	65.0	65.0	
1	80	68	69	66	61.0	61.3	61.4	63.8	62.4	61.6	61.6	61.8	62.0	61.8	
2	83	85	72	69	68.9	63.5	62.9	63.1	64.5	63.0	62.2	62.2	62.4	62.6	
3	75	80	95	71	70.5	70.1	63.8	63.4	62.5	63.8	62.4	61.6	61.6	61.7	
4	68	78	75	97	72.5	71.7	70.3	64.3	62.7	61.9	63.2	61.7	61.0	61.0	
5	90	70	77	75	99.2	74.4	72.6	71.4	64.3	62.7	61.9	63.2	61.7	61.0	
6	82	86	71	82	77.2	101.1	75.3	73.7	71.4	64.3	62.7	61.9	63.2	61.7	

Figure 6: Kuna Elementary Project Growth

Desire from the community for additional education options is evident. There is currently a program at Kuna Middle School, similarly modeled to what Pi STEM is offering, called Synergy. It is a group of learners using a problem-based learning format and use portfolios as assessment tools. At Kuna Middle School, the teams of students share the learning space of two classrooms and the cafeteria. Students have access to 4 core teachers (math, language arts, science and history) for the entire three blocks of time. The students will not move from class to class on the bell schedule. They will work independently and collaboratively and have learning time scheduled based on their individual need. For more information about their program, you can visit their team page as documented in appendix H1. There are currently ~120 students in the program with many more who had applied.

In a recent survey completed by KSD, nearly 36% of respondents expressed a desire to see STEM/STEAM integrated into each school within the district.

The only other local charter school, Falcon Ridge Charter School, is a K-8 school that uses a different model than Pi STEM as their educational philosophy. In their last lottery, Falcon Ridge had over 500 applications and now has nearly 300 students on a waiting list.

Community members were recently surveyed about their interest in a new charter school. Data from the two key questions asked is seen below. The full Survey Monkey analysis can be found in Appendix H3 Survey Monkey Data Analysis Report.

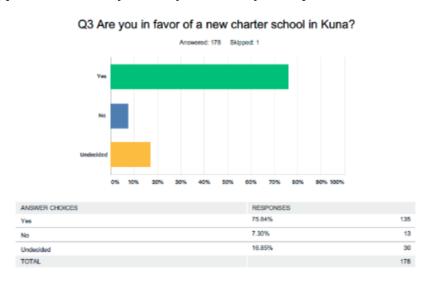


Figure 7: Community Survey Q3

you be interested in sending your kids to a charter school like this?

Answered: 177 Skipped: 2

Yes

No

127

No

6.78%

127

Undecided

21.47%

38

TOTAL

Q4 Project Impact STEM Academy's mission is to provide students with a personalized learning environment which focuses on critical thinking, collaboration, communication and connecting to the community. Would you be interested in sending your kids to a charter school like this?

Figure 8: Community Survey Q4

In addition to the community survey, Pi STEM has set up informational booths around the city of Kuna at several events, including local grocery stores, farmers markets, and events at local businesses. At these informational booths, Pi STEM shared information about the school with the public including the emphasis placed on technology and its function as a part of the curriculum as a whole. Interested parties have also filled out intent to enroll forms. Pi STEM currently has had over 110 students register their intent to enroll and Pi STEM has a goal to have 150 or more gathered by November 30th, 2017. The team at Pi STEM will continue to market the school through community events as well as door to door canvasing.

### **Strategies for Enrolling Underserved Families**

STEM offers students interactive, engaging (mind-on and usually hands-on) lessons when compared to traditional, lecture-based classrooms. By the very nature of being interactive and cross-curricular, STEM lessons allow for students who have previously not connected to their learning, connect to it.

According to 2012 statistics from the U.S. Department of Labor, minorities make up less than 5 percent of the STEM-based workforce. On college campuses, black and Latino students make up less than 20 percent of those studying in science- or math-based disciplines. An article written by Joseph P. Williams says, "Unless it ramps up STEM education for all students -- including kids who struggle to obtain it now -- the U.S., once dominant, will fall further behind the world in the fast-growing global technological economy."

The research has shown factors that affect minorities engagement include lunch programs, transportation, and before and after school programs. Pi STEM will strive to provide these important services for all students and families with these needs. Although Pi STEM understands that transportation and lunch options are expensive components for the first year of operation, Pi STEM is committed to providing these services. Additionally,

discussions are in progress with the Boys and Girls Club to provide before and after school programs within Pi STEM facility. The program director, Mrs. Colleen Braga, has supplied a letter of support and expressed her optimism to work with Pi STEM which is available in the appendices.

Pi STEM is committed to maintaining an inclusive student population reflective of the Kuna School District. Pi STEM will institute a recruitment program designed to educate and inform potential students and their families about its instructional program and to ensure that all Kuna residents are given an equal opportunity to enroll their children at the school.

Pi STEM will implement a recruitment campaign to ensure we are fully enrolled prior to our proposed August 2018 opening. We will continue to reach out to the community once the school is operational to maintain enrollment.

The recruitment program will include, but not necessarily be limited to:

- Promotional materials, such as brochures, flyers, advertisements and press kits in English as well as Spanish
- Weekly public meetings to introduce our program and answer questions
- Monthly STEM club opportunity for children and parents to participate in STEM activities organized by Pi STEM
- Secure letters of intent to enroll from interested parties and continue inclusion and communication with these individuals in regards to school operations and events (this data will be made available to PCSC)
- Founder/board visits to preschools, community centers, religious organizations, Chambers of Commerce and community organizations throughout Kuna to publicize the school
- Information booths and distribution of information at community events, community centers, local businesses, social service agencies, faith-based organizations, farmer's markets, grocery stores, and shopping centers to promote the school and to meet prospective students and their families
- Distribution of promotional material to local businesses as well as more lengthy discussions with business owners to gather input
- Open house and school tour visits (once appropriate) on a regular, on-going basis to offer opportunities for prospective students and their families to learn more about the curriculum
- Information is being distributed through door-to-door canvasing, particularly in underserved areas.

# **Virtual and Blended Programs**

#### **Rationale**

In educating a new generation of digital learners who are natives to the everyday use of technology, integrating a digital platform for learning becomes practically a necessity. Digital natives have a better understanding of the digital tools that are shaping our world and economy than any other generation before them. Any child that was born after the year 1980

is considered to be a digital native because they have always known a world that has had digital tools and a form of the internet. Just being born during the digital age, though, does not mean that a digital learner properly understands how to use digital tools.

Pi STEM believes that proper training in becoming responsible digital citizens is paramount to the future success of our students. In order to do so, students at Pi STEM will be taught to use digital tools to demonstrate their learning and a learning management system where they will access a large part of their curriculum. Using these tools does not mean that Pi STEM's students will have little contact with teachers though. In fact, with the proper use of digital tools, the time that teachers spend with students becomes richer and more impactful through the use of roles of mentorships, project-based learning and student demonstrations of their learning.

Where the model of blended learning is still new to education, studies has shown that for certain students, the model is very effective. Just as the traditional classroom setting is not appropriate and fit for all students, the blended learning model is not appropriate for all students, either. To determine whether a blended learning model is effective when compared to a traditional, face-to-face model, researchers have investigated learner characteristics/background such as self-regulation, computer competence, workload management, social and family support, attitude towards blended learning, gender and age (Kintu, 2017).

It has been noted, that when regarding knowledge construction, effective learning occurs where learners are actively involve (Nurmela, 2003). To have an effective blended learning model, it would be required for students to initiate, discover and accomplish the processes of knowledge as a precursor to having face-to-face instruction with their teacher (Kintu, 2017). The blended learning model that Pi STEM will adopt in conjunction with Summit Learning, will provide our students the opportunity to prepare for face-to-face instruction so that the student will become more engaged with the teacher and the student's learning.

An environment that provides for effective blended learning is necessary when undertaking innovative pedagogical approaches through the use of technology and learning (Kintu, 2017) The open, and engaging environment of Pi STEM along with the flexible learning platform provided by Summit Learning, will provide the perfect learning environment for Pi STEM's students.

Even with the right learning environment along with having the correct technology, creating an effective blended learning program is not enough without addressing having the correct mindset for growth. Susan O. Moore, supervisor of blended learning at Meriden Public Schools (CT), breaks the implementation of blended learning into five stages which closely mirrors and supports Pi STEM's mission:

- 1. Build the capacity of staff members to support each other in the transition to a blended learning environment. Provide opportunities for staff to visit each other's classrooms and collaborate.
- 2. Allow teachers and students the freedom to fail and learn from mistakes.

- 3. Engage student experts to support each other and their teachers in learning new technologies.
- 4. Encourage students and teachers to take charge of their learning. Providing control over "time, place, path and/or pace" comes with responsibility. For example, a student might have access to digital content during the high school pep rally, but is that the best time and place to retain the information? Teachers may need additional training in using rotation models or creating digital content. "They need to model extending learning beyond the classroom," said Moore.
- 5. Take the first step. As Moore put it, "We have had several reluctant teachers who, after implementing their first blended learning lesson, wondered why they hadn't tried the approach sooner. (Thompson, 2015)"

## **Learning Management System**

Pi STEM intends to use the curriculum and Learning Management System (LMS) developed by Summit Learning. Pi STEM's Board of Directors investigated several LMS's, Edmodo, Moodle, Schoology, and It's Learning, and decide to choose the Summit Learning Platform because of how the platform supported the elements of Pi STEM's mission and for the tremendous amount of technical support and training that Summit Learning provides.

Summit Learning is a network of charter schools which originated in Silicon Valley, CA. Summit Public Schools is a leading public school system that equips all students to lead a fulfilled life. It operates 11 schools in California and Washington, and shares its personalized approach to teaching and learning - Summit Learning - with more than 330 schools across the country for free. Summit Learning forms the foundation on which Summit's successful schools were built, with its schools consistently ranking among the best in the nation. Historically, 99 percent of its graduates are accepted into at least one four-year college and complete college at double the national average. To learn more, please visit http://www.summitps.org/and www.summitlearning.org.

Summit Learning's education model places their students in a digital learning environment where their students learn content and skills as they work at a pace that is best for the individual student rather than the class as a group. This learning environment is blended between student's individual work in the Summit Learning Platform and project time with their teachers and fellow students.

The Summit Learning Platform acts as a digital filing cabinet where students access content material, store project and mentoring materials and academic assessments. After school hours, students will have access to the platform where they can work as fast or as slowly as they choose through their content curriculum and projects. Students will work with their teachers to create goals for their work through the LMS where student progress can be tracked through a powerful data analysis portal. Both teachers and students are able to make real-time decisions on the assistance that the students need in order to be successful in their course studies.

Summit Learning combines core values, what science tells on how students learn best, and cutting-edge research into a school experience that is tailored to every community's needs.

Summit Learning builds the curriculum, content delivery and assessment based upon three pillars to the student experience:

- Project-based learning-students spend the majority of their time working alongside teachers and classmates on rich, real-world projects
- One-on-one mentoring-students meet weekly with a mentor to ensure daily actions and progress align with long-term goals
- Individualized pathways-Students are empowered to set goals and deeply understand content by consuming it in a way that is best for them

Summit Learning offers a free program to help teachers along their journey where they can collaborate with a community of educators on personalizing learning. Transitioning from a traditional classroom to a personalized learning classroom requires hard work and a strong commitment by teachers and schools leaders. Creating a Summit Learning environment requires a fundamental change to the way teachers and students approach learning, so having enthusiasm and a growth mindset are critical. Everything from grading policies, to weekly schedules, to assessments, to how teachers and students spend their time will need to change to create a successful implementation that empowers teachers to meet the needs of every student.

The free Summit Learning Program includes:

- Summit Learning Platform- A free online tool that supports a personalized approach to teaching and learning for students, teachers and families
- Curricula and assessments- Standards-aligned, customizable projects and content for grades 4-12, made by teachers, for teachers
- Professional Development- In-person and on-demand professional development for Summit Learning educators
- Support and Mentorship-Ongoing support from the Summit Learning team, a dedicated mentor, and a nationwide community of Summit Learning educators

The Summit Learning Platform helps students connect their long term goals to their daily actions. Students move at their own pace to learn skills, apply those skills to real world projects and reflect on their learning.

The Summit Learning Platform contains curriculum developed by teachers in the classroom. It is a collection of meaningful projects, concept units and playlists of content and assessments that are included in the Summit Learning Platform. Summit Learning teachers have access to a complete curriculum in English, math, science, Spanish, and social studies for grades 4-12. Playlists of content (text, videos, and exercises) for each course allow students to choose how they learn best. Online on-demand assessments give teachers and students real-time data to use to improve teaching and learning.

The Summit Learning base curriculum is designed to be the model curriculum for the program and is built with flexibility in mind so partner schools can customize it to meet the expectations of their state standards, school values and student needs. Teachers can adapt or create new playlists and projects to meet their students' needs.

The Summit Learning Platform is designed to facilitate strong relationships between teachers and students through mentoring and ongoing feedback—and between students and their peers. For example, students work in teams to apply what they're learning to projects that mimic and solve real-world problems. Along the way, they develop strong collaboration, communication and critical thinking skills. The platform also provides teachers with the data to provided individualized instruction.



Figure 9: Summit Platform – Progression through Content

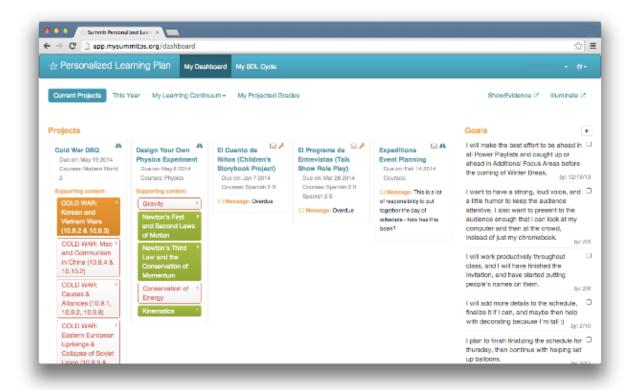


Figure 10: Summit Platform - Dashboard & Goals

Information pertaining to the outcomes of students currently using the Summit Learning Platform can be found at Appendix H1 Reports.

#### **Attendance and Course Credit**

Students working in a blended learning environment does not mean that they will be working in a vacuum separated from their teachers and cohorts. Though content is presented to students electronically, students will still provide evidence of their learning through writing, presentation, and other artifacts. Students will be assessed primarily through project work where they can fully demonstrate their understanding of the content that they are studying and skills of the tasks that they are being asked to perform.

Students will attend school in a brick and mortar building where they will have full access to technology, cohorts and teachers. Even though the school can track the time students spend on the LMS, attendance will be taken during the time that the student is in the building, not when they working outside the building.

# **Professional Development**

Through the Summit Learning, students will experience true personalized learning through a powerful platform that has been developed by teachers with engineering assistance with a partnership with Facebook and the Chan Zuckerberg Initiative. Summit Learning provides this platform free of charge to any that wish to use it. Summit Learning also provides training

and year-long assistance in using the platform through a grant application process. Pi STEM intends to apply for this grant in order to provide further professional development for staff and teachers.

Beyond the professional development opportunities through Summit Learning, Pi STEM will have a professional development program designed for a competency-based model. In order to effectively deliver competency-based education to our students, Pi STEM will also need to have a strategy to teach the teachers those same strategies.

Pi STEM's Executive Director will develop, either their own or vendor purchased, professional development program where the teachers will be allowed to have voice and choice in the professional development that they participate in. There will be core training that all teachers will be required to participate in, such as:

- Mission- how the educational model that Pi STEM has selected support the mission of the school
- Student safety protocols-fire drills, lockdown drills, classroom management requirements
- Educator ethical and legal training-Pi STEM educators need to have a good understanding of their ethical and legal requirements that come with being a teacher

Beyond that, Pi STEM teachers will have the opportunities to participate in additional professional development topics such as:

- Leadership-classroom vision and goal setting
- Strategy-planning content curation and design
- Results orientation-student products and classroom outcomes

Teachers will be evaluated using Charlotte Danielson's Framework for Teaching along with the Idaho Core Teaching Standards as required by the State of Idaho. The professional development at Pi STEM will support the teachers in their professional growth and growth towards becoming master teachers themselves.

#### **Student-Student-Teacher Interaction**

A student's day will be broken up into segments of time where the student will have the opportunity to interact with their teachers, cohorts as well as having the opportunity to work on content on their own.

Example of a student's typical day at Pi STEM

- 8:00-8:30 Arrival
  - -Student arrives at school and checks in with teacher in a home room setting for the news of the day and to set goals for the day
- 8:30-11:00 Personalized Learning Time

- -Students will study content material, request to take assessment, work on project material in preparation for Project Time
- -Student will have access to teacher and cohorts for small group instruction
- -Teacher will review data of student's work to determine if and what assistance is required for the student
- -Student will be allowed to take breaks as needed while being observed by teacher or paraprofessional
- 11:00-11:45 Break/Lunch
- 11:45-3:00 Project Time
  - -Students will work with teachers in small group practicing cognitive skills
  - -Students will work together to solve problems in a Project Based Learning environment
- 3:00 Student completes day

## **Technical Support**

Summit Learning provides excellent support in not only the platform technology but also competency-based educational best practices. Teachers will receive support from Summit Learning when they have questions about:

- Technical glitches and bugs
- Unsure on how to complete a task in the platform
- Having suggestions on how to make the platform perform better
- Needing coaching on personalized learning best practices

If technical issues arise, Pi STEM will have two avenues for providing support to faculty, staff, and students. The first level of support will be provided by the Executive Director. The Executive Director will ensure that the technology used in the classroom is working properly. While Pi STEM will strive to find a Director that is able to keep the technology running, we understand that some technical problems will be beyond their abilities. To overcome this, Pi STEM's second avenue will be to maintain a relationship with a local company to provide support on an as needed basis.

The local company will also be used to provide procurement and setup of classroom technology. They will make sure that each classroom has connections and devices needed so each student will be able to utilize the Summit Learning Platform and any other needed technologies. Please see appendix H1 for an example of such a contract that will be used for support and equipment.

The plan for the training of faculty and staff on the classroom technology will be as follows:

1. The Executive Director will develop a training plan for faculty and staff. This training will include day-to-day operation of all classroom technologies.

2. The Executive Director will provide a training on the Summit Learning Platform and how it is to be utilized in the classroom.

When faculty and staff have completed the training, they will then be prepared to assist students in utilizing classroom technology. Students will not begin utilizing the Summit Learning platform until grade 4, so technology training will have different phases for students:

- 1. In grades 1-3 students will have occasional technology use to familiarize them with how it will be used in the classroom. Each student will be introduced to the Summit Learning Platform.
- 2. In 4th grade the students will be official trained on how the Summit Learning Platform will be used in their coursework.
- 3. For students who enter the school beyond their 4th grade year, there will be special trainings provided to ensure that they will be at the same level as their fellow students.

Pi STEM understands that in the first few years of operation that all students, faculty, and staff will be unfamiliar with the technologies that will be used. The Directors of Education and Operations will provide extra training and support to make sure that everyone is brought up to speed on technology as soon as is feasible. Pi STEM Board of Directors will also work to ensure that the two Directors have the needed training to be able support all the students, faculty, and staff.

## **Assistive Technology**

During the development of an IEP, the team will consider special factors, including the need for the student to receive assistive technology devices and services. Assistive technology devices and services will be made available to the student as needed if required as part of the student's special education, related services, or supplementary aids and services. The IEP team will also make a case by case determination regarding whether the student requires access to an assistive technology device in the home or other settings outside of school for the student to receive FAPE. If the team determines the student may need assistive technology the student will be evaluated by an Assistive Technology Specialist and/or related services provider if needed. Based on the evaluation, an IEP team will determine whether the student requires low tech (highlighters, pencil grips, graphic organizers, color overlays, etc.) or high tech (computer, text to speech, speech to text, word predication, augmented communications, etc.) solution for the student to receive FAPE.

# **Appendices**

The Appendices have been broken out into a separate document. Please refer to the Word file Pi STEM Appendix V3.0 additionally attached on the provided drive.