Technology Implementation Plan

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Introduction

The recent published score for Partnership for Assessment of Readiness for College and Careers (PARCC) for the Stone School District continues to develop a trend in which middle-grade students are still struggling to meet New Jersey average math score expectations. Steps are taken to address this issue, but more needs to be done to increase student's success.

The Stone School District's mission is to improve math test scores among the middle-grade students over the next two years through the following: (a) the implementation of educational software, (b) the revision of current teaching pedagogies, and (c) increasing professional development resources. The district is on board with the acquisition of educational technologies to implement this critical mission and to bring achievements for students.

Needs Assessment

Stone School District needs to perform a needs assessment of the middle-grade math program. The evaluation will address the probable cause and to narrow the area for improvement, including technology architect, additional technology tools and resources for staff and teachers, and to include further professional development as required. School administration and technology coordinator can use the School Technology Needs Assessment (STNA) to collect data to assist in finding areas needed for improvement in the uses of technology in teaching and learning activities (SERVE Center, 2007). This survey conducted through a five-point Likert type scale address sections for the technology use environment, professional development, teaching and learning, and the impact of technology (SERVE Center, 2007).

Also, the Hexagon Tool (Appendix A) helps school administrators to evaluate new and ongoing interventions via six parameters: need, fit, resource availability, evidence, readiness for

replication and capacity to implement (Blase, Kiser, & Van Dyke, 2013). The implementation team uses this tool to guide their discussions and evidence gathering throughout the implementation process, have a greater understanding of the new or existing practice of how it will connect to the current work and context, and the tool used as a gauge to assess suitability and practicality (Blase, Kiser, & Van Dyke, 2013).

Implementation Plan

The implementation team tasked to address the changes to help improve the math learning process among Stone's middle-grade students. The team made of teachers, school administrators, district board members, the principal, and technology coordinator and staff. The team objective is to evaluate the new and existing programs and practices and to have an open discussion in regards to the six contextual fit and feasibility parameters defined by the Hexagon Tool. The Hexagon Tool has two different indicators:

Program Indicator

The program indicators covered the following areas: evidence, supports, and usability. These indicators identified program or practice demonstrates evidence, supports for implementation, and usability across a range of circumstances (Blase, Kiser, & Van Dyke, 2013).

Implementing Site Indicator

The implementing site indicators covered the following areas: population need, fit, and capacity. The assessment specifies conditions and requirements for a strong match to need, fit, and capacity for the identified program or practice (Blase, Kiser, & Van Dyke, 2013).

Program Indicator: Evidence

Are there published reports and research data available to demonstrate the effectiveness of the practice? What results expected from the execution of the method? Is there practice-based evidence to indicate the efficacy for all diverse learners, including students with special needs and English Language Learner (ELL). Is there a theory or learning model that demonstrates how the practices contribute to short term and long term outcomes.

Program Indicator: Support

Is there a subject matter expert who can assist with the ongoing implementation? Is there a detailed breakdown of the costs associated with the program or practice implementation? Are there additional resources and support available to the program or practice? What is the cost of the training materials? Is professional development related to this program established? Is there guidance and support for administrative policies and procedures? Is there a recommended orientation to bring on board key stakeholders, staff, and partners?

Program Indicator: Usability

Is the program or practice clearly defined with a purpose and the intended audience? Is there a listing of prerequisites for the program to allow for more effectiveness? Is there an assessment to measure whether the staff is following the practice as noted? Has the program or method been adapted for use within diverse learners? Are there recorded data from previous successful replications and any notation of problems encountered during the replication?

Implementing Site Indicator: Need

The site indicator addresses the steps taken to identify the need and how the new program, practice, or technology implementation will address the specific needs of the intended

stakeholders. The stakeholders include students, teachers, staff administration, and the involved community.

Implementing Site Indicator: Fit

Does the program or practice fit with the priorities of the implementing site? Does the program or training impact the values of the community? How does the new plan or training provide along with existing initiatives? Are there additional steps taken to fit the diverse group of learners?

Implementing Site Indicator: Capacity

This indicator addresses the cost associated with running the program or practice. Can the current school budget, resources, and staff requirements support the new initiative? Is there existing staff at the implementing site that meets these requirements? What administrative practices and leadership developed to support the use of this program? Do team has the resources available to them for collecting and using data to monitor ongoing improvements?

Assistive Technology

Assistive technology helps students who have learning disabilities. Whether learners have dyslexia, physical impairments, or cognitive problems, these assistive tools help learners to compensate for their learning disabilities. For instance, Freckle has valuable teaching resources for differentiation and inquiry-based learning (Renaissance Learning Inc., 2019). Students have options to complete teacher assigned assignments or practice independently to enhance their knowledge and skills. Also, teachers can customize printable worksheets and activities to address specific student's needs — a pre-assessment tool to evaluate and gauge current student knowledge and assign more practice as needed.

Proposed Plan

After going through the needs assessment survey and using Hexagon Tool to identify educational technology that fits the need for the community of learners. The district decided to go with Freckle.

The Freckle software is an enterprise software as a service platform that provides differentiated instruction to learners (Renaissance Learning Inc., 2019). The customizable lessons cover math from K-12, and their assessment test aligned with PARCC. The rollout fits the needs of the district, within the budget cost, an excellent support team, the product has been tested and used by numerous other New Jersey schools district, and there are existing professional development courses readily available. The capability to address additional learners and to have additional resources and tools available for instructors for a diverse group of learners.

Budget

The budget will cover the initial implementation cost to tie with the existing school technology infrastructure and any additional expenses needed to upgrade to support the Freckle software for two years. The implementation will be broken down into two stages: implementation and go live. The budget accounts for equipment, initial setup, staff training, professional development, service, and support contract for the term of the rollout. The budget covers 5000 students and 200 teachers within the district — a typical budget allocation formula listed below from Frazier & Hearrington (2017).

Budget Allocation Formula

Equipment: 35%

Software: 15%

Contracts and service 10%

Professional Development: 20%

Support: 10%

Upgrades and Miscellaneous: 10%

Professional Development

Professional development needed for staff and teachers. Training required to be familiar with the new technology platform and for teachers to seamlessness incorporate it into their lesson plans. The district needs to allocate resources for training and professional development for new hires and existing ones who are seeing the software for the first time, and additional support for teachers with ELL and exceptional learners to guide the diverse learning group.

The Kirkpatrick Taxonomy

To evaluate the effectiveness of professional development and training provided to increase the math score in the Stone School District. The Stone School District will use the Kirkpatrick Taxonomy (Kirkpatrick, 1994); this framework offers a four-level strategy to evaluate the effectiveness of training courses.

Level 1: Reaction.

Gauge how the participants responded to the training. The participants take a survey to identify whether the conditions for learning were present. The feedback allowed for modification and adjustment of the practice.

Level 2: Learning.

Evaluate what the participants learned from the training. Quizzes or tests used for assessment include one before and one after the training. These assessments performed to measure whether the training provided met the objective and goals.

Level 3: Behavior.

Assessment occurs after the training and determines whether or not the training intervention changed the behavior of the trainees. Job behaviors assessed through surveys or interviews with supervisors. Training is practical if bad practices eliminated and to help the trained individual to excel.

Level 4: Results.

Evaluate training met the stakeholders' expectations. The goal is to determine the return on the practice.

Conclusion

The Stone School District is on top of addressing to improve the weak PARCC math scores among the middle-grade students. As the district implemented the new educational technology software Freckle, improvement should be seen after the first year rollout, as evidenced by past deployment in other school districts. If results are not met, adjustment both to learning and educational software made accordingly.

References

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SERVE Center. (2007). School technology needs assessment (STNA): Interpreting STNA data - STNA version 3.0. Retrieved from https://www.fi.ncsu.edu/wp-content/uploads/2013/05/School-Technology-Needs-Assesment-STNA.pdf

Appendix A

The Hexagon Tool Exploring Context

The Hexagon Tool
Exploring Context

The Hexagon Tool can be used as a planning tool to evaluate evidence-based programs and practices during the Exploration Stage of Implementation.

See the Active Implementation Hub Resource Library
http://implementation.fpg.unc.edu

EBP:			
5 Point Rating Scale: High = 5; Medium = 3; Low = 1. Midpoints can be used and scored as a 2 or 4.			
	High	Med	Low
Need			
Fit			
Resource Availability			
Evidence			
Readiness for Replication			
Capacity to Implement			
Total Score