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Assessment 3: Technology Implementation Plan

EDTC 815 – Advanced Administration & Supervision of Technology

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Introduction:

ABC School, a K-5 public school in NJ is facing the challenge of not meeting the required yearly progress in the math section of the New Jersey Student Learning Assessment (NJSLA). The NJSLA is a statewide assessment that evaluates students' progress in English Language Arts (ELA), mathematics, and science based on the New Jersey Student Learning Standards (New Jersey Department of Education, n.d.). Each assessment is typically administered in computer-based (CBT) format and the mathematics assessments emphasize the application of skills and concepts, as well as the ability to solve multi-step problems that involve abstract reasoning, real-world problem modeling, precision, perseverance, and the strategic use of tools (New Jersey Department of Education, n.d.). The ABC School faces significant challenges in mathematics achievement, as the standardized test scores showed 45% of students performing below grade level. To address these concerns and to support our diverse student population, the school administration, entrusted me with the responsibility of increasing the students' achievement in mathematics.

In response to this challenge, I assembled a team of teachers, parents and administration personnel to thoroughly evaluate potential adaptive learning platforms. We used the "Hexagon tool" to evaluate platforms like DreamBox, Prodigy Math and IXL Math learning platforms. The Hexagon Tool is a useful tool that teams can use to thoughtfully evaluate how well initiatives align with and are suitable for implementation in their specific context (Caballero, 2023). Our team considered various indicators such as need, evidence, fit, resources, readiness and capacity as suggested by Blasé, Kiser & Van Dyke (2013). Each platform was rated based on a 5-point Likert scale on all the indicators. After thorough examination, it is our recommendation to implement the IXL Math Learning platform combined with classroom-based technology like

laptops or tablets. This comprehensive solution will provide personalized learning opportunities and enhanced differentiation capabilities for all students. Integrating this supplemental software would boost student performance and help develop important life skills. According to Stanford et al. (2010), when students develop expertise in technology, it can be valuable in various aspects of their lives. This would be a significant benefit for all the students in our school.

Research Review:

IXL is designed to provide individualized practice, which is especially helpful for students who need help in understanding or work at their own pace. The platform covers a wide range of math topics, which can be particularly useful since the students in ABC School have diverse learning needs. It provides a highly personalized learning experience with adaptive learning technology that tailors practice to individual students. The platform's built-in multilingual support and accessibility features make it particularly suitable for our ELL students and those with special needs. A research report by IXL (2020), posits that IXL is an ideal tool for schools focused on improving achievement among ELL and special education populations. IXL Math enables efficient student grouping according to their competency levels, allowing teachers to provide targeted remediation or enrichment (Donnelly, 2021). IXL's skills are aligned to the New Jersey Student Learning Standards providing comprehensive coverage of math concepts and applications (IXL, 2024), which makes it a good fit for our school. The true strength of IXL lies in its ability to use data to identify which students are struggling and which are excelling, facilitating differentiated assignments. For instance, teachers can track students' engagement with the program by reviewing metrics such as the number of questions answered, time spent on the platform, and the number of standards mastered (Donnelly, 2021).

Additionally, IXL is cloud-based and doesn't require complex hardware, making it relatively easy to implement as long as students have access to devices and the internet (IXL, 2024). There's solid evidence that adaptive learning platforms like IXL can lead to improvements in student achievement, especially when used consistently (Donnelly, 2021; Bashkov, 2021; Empirical Education, 2013). Many schools have reported increased student engagement and mastery of math skills using IXL (Donnelly, 2021). According to a study conducted by The IXL effect (n.d.), there was a strong positive correlation between IXL usage and school performance as IXL schools outperformed non-IXL schools in both math and ELA in New Jersey. A study by Mary Hargis found that "grade-level cohorts that used IXL Math outperformed comparable non-IXL cohorts on the 2022 NJSLA math assessment" (Hargis, 2023, p. 5). In terms of usability, IXL is relatively easy to use for both students and teachers. The platform's dashboard offers clear tracking of student progress, and the adaptive nature of the platform makes it engaging for students. A study by Ramani & Patadia (2012) explains that computer assisted instruction enables teachers to provide a variety of learning experiences by offering numerous examples and illustrations to reinforce concepts. IXL also offers a variety of support resources, including tutorials, training, and a help center. They also provide a support team for troubleshooting. For these reasons, the team recommends the use IXL for increasing the achievement of students in mathematics in the ABC school.

Cost:

In order to facilitate the seamless integration of IXL Math into ABC School's curriculum and instruction, we recommend using one-to-one tablets or laptop computers in mathematics classrooms, leveraging their built-in accessibility features and supporting multiple learning modalities. The cost of the annual subscription for IXL learning is $299 per 25 students which

translates to about $6000 for licensing for ABC School's 500 students. The pricing not only grants teachers and students access to the IXL math learning platform but covers the cost of the initial training that will be required for all the teachers and staff. All students at ABC school already have access to one – on – one laptops and tablets so the school does not need to spend any additional funds on those. Thus, IXL Math platform offers a personalized and cost-effective solution for students while also ensuring that essential training is provided, maximizing the overall investment of the school in improving math skills.

Implementation Plan:

According to Frazier and Hearrington, "an effective logic model is often helpful with planning both the implementation and the assessment portions of your implementation" (Frazier & Hearrington, 2024, p. 37). Using a logic model helps clarify how IXL can be integrated into a school to increase student achievement. By outlining the inputs or necessary resources (funding, devices, internet, IXL licenses, teacher, student data etc.), activities (training teachers, setting learning goals, incorporating IXL into instruction, monitoring progress etc.), expected outputs (number of students using IXL, hours spent on IXL, skills mastered, progress reports etc.), desired outcomes (increased engagement, improved mastery of skills, increased confidence etc.) and impact (improved academic performance across all students) will effectively show how IXL can support personalized learning, improve skills mastery, and ultimately lead to higher academic success for students.

Implementing the IXL Math platform will comprise of three phases and will begin with the technical preparation. The technology department of the school will assess and upgrade network capacity, configure the laptops and tablets, integrate the IXL platform with the school systems, and create necessary user accounts for teachers and students. The second phase will concentrate

on professional development for teachers. As Frazier and Hearrington (2024) note, teachers are at the forefront of implementing changes in the classroom and their professional development empowers them with the knowledge, skills, and mindset needed to successfully implement changes. Professional development for teachers will include comprehensive training divided into six sessions and will be embedded within the school's academic calendar. These sessions will include teachers, instructional coaches, media specialists and other staff and will cover platform fundamentals, differentiation strategies, data analysis, and support for diverse learners. These training will be instrumental in empowering teachers and administrators with the essential skills and knowledge to successfully integrate IXL Math platform into the curriculum. Ongoing support will continue through monthly Professional Learning Communities (PLCs), tech support office hours, and refresh training sessions. The classroom implementation phase will begin at the beginning of the school year and continue through the academic year. Teachers will start with 20-minute daily sessions, gradually extending to 30-45 minutes as students and teachers become more proficient with the platform. Regular data review of performance and adjustment of student pathways will ensure optimal learning outcomes for all students.

Evaluation:

Measuring the impact of IXL Math learning platform is imperative in order to understand how well it supports student learning and improves performance in math. Before implementing IXL, we will collect baseline data on student performance (e.g., test scores, grades, diagnostic assessments). This allows for a comparison of progress over time. IXL's " Student Summary report" provides detailed reports and analytics on student performance, which can be used to track progress toward achievement goals (IXL Official Blog, 2024) . This report is simple to print or to email to the families, allowing them to easily track their child's progress at any time.

It’s an ideal tool for having meaningful discussions and showcasing growth during parent-teacher conferences and IEP meetings (IXL Official Blog, 2024). IXL's initial diagnostic test provides a personalized starting point for each student and reassessing students periodically will measure growth in areas identified as weak or needing reinforcement.

Additionally, comparing standardized test scores from before IXL implementation to scores after using the platform for a period of time will provide a measure of broader achievement changes in math. Also, monitoring the percentage of students who reach mastery levels on IXL in critical math skills and examining how well students progress through the IXL skill levels will be helpful. A consistent progression from easier to more challenging concepts will indicate that students are acquiring new math skills and applying them successfully. Feedback will be gathered from the teachers on the platform’s utility and ease of use will provide valuable insights into how they are using IXL and whether they believe it’s helping improve student understanding. Teachers can also provide insights into how IXL supports differentiated learning and helps identify students who need additional support. Classroom observation can be done to measure how students are engaging with IXL during independent or guided practice.

Conclusion:

By implementing IXL Math platform, we can provide personalized, adaptive instruction that meets the diverse needs of all students, ultimately increasing mathematics achievement across the board. This comprehensive plan represents a necessary investment in our students' mathematical future. With careful planning and a strong focus on professional development, this initiative will lead to significant improvements in student achievement and engagement across our student population.

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