

Increasing Achievement in English Using Minecraft Education

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Abstract

This technology plan outlines the implementation of Minecraft Education Edition as a transformative tool for enhancing language acquisition and academic achievement among Multilingual Learners (MLLs) and diverse learners within an urban school district, where 70% of the student population consists of MLLs. Based on standardized test data, the plan identifies specific challenges these learners face, emphasizing the need for targeted support in developing English language skills. By leveraging technology's interactive and immersive features, this plan presents a suitable solution for fostering engagement, collaboration, and creativity in the learning process. Furthermore, it highlights the unique needs of diverse learners, advocating for personalized learning experiences that accommodate varying abilities and learning styles. The proposed timeline, budget, and professional development initiatives are detailed to ensure effective implementation. Ultimately, this technology plan aims to create an inclusive educational environment that promotes equity and enhances the overall academic experience for all students, thereby contributing to improved outcomes and a greater sense of belonging within the classroom.

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Introduction

Current Problem Based on Incoming Students' Scores on Standardized Tests

The academic performance of incoming students, particularly Multilingual Language Learners (MLLs), poses a significant challenge. Santibanez and Umansky (2018) report that 38% of California students enter as MLLs, consistently scoring below average on standardized tests and exhibiting lower high school graduation rates. Similar trends are evident in other states, including Orange, New Jersey. These disparities highlight the need for targeted interventions to support MLLs in overcoming language barriers and enhancing their academic success.

Purpose of the Plan and Selected Subject Area

This technology implementation plan aims to enhance English achievement by integrating Minecraft Education Edition into the curriculum. Recognizing the unique challenges of MLLs, the plan aims to provide an engaging and interactive environment that fosters language acquisition and comprehension. The initiative seeks to promote broader academic success for diverse learners by creating an inclusive learning experience for students who struggle with traditional methods.

Overview of the Chosen Technology and Its Potential

Minecraft Education Edition offers a dynamic platform to address MLLs' needs and improve academic outcomes in English. The game's interactive nature enables students to visualize and manipulate language concepts through engaging virtual experiences. Immersed in a collaborative environment, students develop critical thinking and problem-solving skills while also enhancing their communication and comprehension. This innovative approach promotes immersive learning, teamwork, and cooperation, helping bridge the achievement gap for MLLs.

Identification of Need

Challenges in English Based on Standardized Test Data

Standardized test data reveal significant challenges for MLLs in English language acquisition. The National Center for Education Statistics (2021) notes that MLLs often score lower on reading comprehension, vocabulary, and writing assessments than native English speakers. Limited English exposure, varying proficiency, and academic language complexity contribute to these challenges, resulting in underperformance. Addressing these issues is critical for equitable educational opportunities.

Technology as a Suitable Solution

Interactive platforms like Minecraft Education Edition offer suitable solutions for MLLs' English challenges. Its immersive, engaging environment bridges language proficiency gaps by incorporating visual and auditory elements that enhance vocabulary and concept retention (Shin, 2013). Collaborative and creative features foster peer interaction and support, building confidence and a sense of belonging among MLLs.

Needs of Diverse Learners

Diverse learners, including MLLs and students with special needs, require tailored educational approaches. MLLs benefit from differentiated instruction, scaffolding, and collaborative learning (Gottlieb, 2016). For students with special needs, adaptive technologies enable personalized learning, accommodating varied abilities and learning styles (Rose & Meyer, 2002). Considering these needs is crucial for creating inclusive and equitable classrooms.

Technology Selection

Description of the Specific Technology

Minecraft Education Edition is an immersive software platform designed for educational use. It enables exploration and creation in virtual environments, supporting subjects such as English. Features include customizable worlds, collaborative multiplayer modes, and extensive educational resources. The platform is accessible across tablets, laptops, and desktops.

Justification for Selected Technology

Minecraft Education Edition's engaging, interactive nature enhances understanding of language concepts by making abstract ideas tangible. It fosters critical thinking, creativity, and collaboration through multiplayer projects. Its inclusive design suits diverse learners,

including MLLs and special needs students, aligning with goals to improve English achievement.

Overview of Similar Successful Implementations

Several educational settings report successful Minecraft Education implementations. Veteran educators and Minecraft Education provide prebuilt lessons, such as Language Arts modules focused on storytelling and collaborative projects (Microsoft, 2024). For example, NYC's John Dewey High School noted increased student engagement and improved language acquisition outcomes (NYC Department of Education, 2022).

Implementation Plan

Technology Department

Responsible for installing software, ensuring hardware compatibility, providing technical support, monitoring performance, and conducting maintenance and updates.

Administration

Tasked with securing funding, managing budgets, scheduling teacher training, and establishing policies to support classroom technology use.

Teachers

Integrate Minecraft Education into lessons, design projects promoting language skills, participate in professional development, and utilize self-paced modules from Minecraft Teacher Academy (Microsoft, 2024).

Costs

Time:

- Month 1: Secure funding and finalize software purchase

- Month 2: Install software and conduct initial teacher training
- Month 3: Begin classroom integration and ongoing support

People:

- Technology staff for installation and support
- Administration for funding and policy
- Teachers for curriculum integration and training

Money:

- Software licensing: \$3,000 (150 licenses at \$20 each)
- Training costs: \$1,500
- Maintenance and support: \$500 annually

Supporting Research and Theory

Constructivist Learning Theory emphasizes the importance of hands-on experiences (Piaget, 1973). Interactive technologies, such as Minecraft, enhance engagement and academic outcomes (Gee, 2003; Papastergiou, 2009). Collaborative learning environments support language acquisition for English Language Learners (Tharp & Gallimore, 1988).

Measures of Success

- **Standardized Test Scores:** Comparing pre- and post-implementation student performance
- **Formative Assessments:** Regular checks of language concept understanding and engagement
- **Teacher Feedback:** Surveys and interviews on experiences and student progress

Data will be collected and analyzed to evaluate improvements in achievement and engagement.

Conclusion

Implementing Minecraft Education Edition offers a comprehensive strategy to improve English achievement for MLLs and diverse learners. The plan addresses documented challenges with technology that fosters engagement, collaboration, creativity, and personalized learning. Supporting diverse learner needs ensures equity and inclusion. This initiative has the potential to transform educational experiences and outcomes, promoting a sense of belonging and academic success for all students.

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