TECHNOLOGY INTEGRATION PROJECT GRANT PROPOSAL

Name of Applicant: Alex Swan, MMS Technology Committee

District/School: Cobb County School District/McClure Middle School

Date: April 26, 2021

Total Cost of Project: $3480.00

Title of Project: Virtual Reality: The Future of Education

To what organization will you submit this grant application in the future? The McClure Middle School Foundation

I. Why is this project important (In 2-3 paragraphs, describe the need for the project and its relevance to the shared vision for instructional technology)?

Our Technology Committee would like to ask our school foundation to purchase ten (10) 64 GB Oculus Quest 2 Virtual Reality Headsets for our school for teachers to use to augment their instruction in new and exciting ways. Various national studies have shown that 90% of educators agree that VR technology is an effective and engaging way to provide differentiated and personalized learning experiences for students. When students are focused and engaged, they more easily retain and remember what they are learning. VR headsets are a great way to create an "experience" for students while they are learning that they can be excited about and help renew their desire to learn after such a difficult time in education.

This grant request ties in very closely to my shared vision for instructional technology. The first goal of my vision focuses on creating a technology committee that will work together for the good of the teachers and students of McClure and provide them with as many means of technology as possible to help them teach and learn in an engaging and productive way. A committee will guarantee that the resources requested, evaluated, and purchased will benefit the school as a whole and will also include input from outside stakeholders, such as the McClure Middle School Foundation and businesses who donate funds and services. This project would

also actively involve our ITTS and help her build more positive relationships with our teachers and would also address my vision's views regarding diversity since all students would have access to and the ability to equally enjoy the VR headsets in their classrooms.

II. What would you like to accomplish (In 2-3 paragraphs, describe the project and list instructional objectives/project outcomes.)?

Our committee would like to purchase the Oculus VR headsets to be used by the classroom teachers to enhance their instruction in an immersive and fun and engaging way. The teachers can sign up through the ITTS to use the VR headsets in a variety of ways ranging from participating in virtual field trips to showing how geometry works or the inside of a cell in 3D. Instructional objectives in every subject can be met: the art teacher can take her students to France to tour the Louvre, the PE coaches can have a group of students play a soccer match inside on a rainy day, the music teachers can visit the Sydney Opera House, the science teachers can have their students look at cell structures and microorganisms in 3D or explore the ocean floor, the math teachers can have their students learn about geometry with 3D shapes that can be viewed in a new and exciting way, and I (the technology and engineering teacher) can have my students visit the greatest engineering marvels of our time and view the world from the top of the Hoover Dam or the Eiffel Tower.

As far as the project outcomes are concerned, I would like to see the students and teachers at our school get more excited about implementing technology devices into their lessons and open their minds to other devices that could be available to them and bring their classrooms to life. I want all stakeholders involved to want to try out and share their experiences with this project and not just see it as more work or something else the school has purchased that they are "supposed to use." I would like to see the benefits of successfully using educational technology come to life at McClure through better student engagement and increased test scores and assessments. VR equipment is proven to help with memory retention and recall. Studies show that students who learn in an immersive environment show a 10 percent increase in retention compared to students who learned the same material in a traditional environment. These VR headsets could surely

open the door to more educational technology when students and teachers see their learning impacted in so many positive ways.

III. In what ways is this project an example of exemplary technology integration (In 2-3 paragraphs discuss your project regarding one or more of the following: LoTi, SAMR, TPACK, TIM, etc.)?

I have chosen to discuss this project regarding the TPACK model because I particularly like how the framework impacts teachers in positive ways. The Pedagogical Content Knowledge aspect is important because the VR headsets are meant to compliment the instruction and build upon the lessons and knowledge the teachers are already using. The content that the teachers are already familiar with and the standards that they are already required to teach will not have to be changed. They can continue to teach the material they know and are comfortable with, but also find new ways to introduce the material and have the students become immersed in the lesson through a new kind of educational technology: the VR headsets.

Technological Pedagogical Knowledge is also important because if the teachers are also already familiar with choosing and using technology that will properly enhance their lessons, then they will more easily be able to look at their lessons and choose ones that will work well with the headsets, which in turn will make it much easier to implement them into a few lessons in a new and exciting way.

And finally, the Technological Content Knowledge brings the teachers together and encourages them to support each other through professional development, sharing resources, and helping and modeling for each other as the VR headsets are introduced. This will encourage them to use their strengths and weaknesses to help one another grow in the content knowledge area.

IV. How will you complete the work? (Describe how the project will be completed.)

A. Describe how the instructional objectives/project outcomes will be met (2-3 paragraphs).

The instructional objectives/project outcomes that can be met with Oculus VR headsets are practically endless. Because they can be used in virtually every subject at our school to augment instruction, I am hoping that all teachers will want to try them at least once in the first year we have them. The Technology Committee will encourage this by training the teachers on the benefits of immersive education and having the Lead Teachers of various subjects from the committee create and model lessons that can be easily used in their colleagues' classrooms. We will provide incentives to teachers who try the VR headsets out, submit their experiences for others to see, and share the instructional objectives they were able to meet.

The committee will also ask students to discuss their reactions and to the VR headsets and share how this helped them learn. The data collected will be compiled and evaluated to see how well the project outcomes were met and what could be done the following year to improve on their use.

B. Describe the time involved (project length including amount of time each day/week; include a timeline for planning and implementation).

The length of the project will be ongoing throughout the school year depending on how often the VR headsets are used and the support needed to use them. The grant will be written and submitted at the end of the previous school year so that it can be approved, and so the headsets can be ordered and set up for the upcoming year. Teachers will be provided by the ITTS with training videos on how to use, care for, and implement the VR headsets into their lessons that they can watch and review on their own time as needed depending on if and when they want to implement them. The ITTS will also be available to answer questions the teachers may have and to come into the classroom and demonstrate how to use the headsets at the teachers' request by reserving his/her services. Lead teachers on the Technology Committee will also redeliver instruction as needed and model for others as needed. At the end of the school year, the Technology Committee will put together and share a summary of lessons submitted by teachers on how the VR headsets were successfully used, as well as send out a survey to gather suggestions on how the school can improve on how they are implemented into the following school year to even better enhance instruction.

C. Describe the people involved (grade level/subject & # of students, teachers and/or staff, other stakeholders).

All staff and students in all 3 grade levels at McClure will have to opportunity to benefit from this project and use the VR headsets for instruction by reserving them through the school ITTS. The Technology Committee, the ITTS, administration, and the Foundation will also be highly involved throughout the year to make sure that the VR headsets are being properly and effectively used for instructional purposes and that all teachers/students are receiving equal access to them.

D. Describe any professional development that you or others will complete prior to implementing the grant.

To reduce the cost of PD so that the money requested can go completely to purchase as many VR headsets as possible, the Technology Committee has specifically chosen a brand of headsets that are very user friendly and easy for both students and teachers to use and enjoy. There are resources available online to support the implementation of the headsets in just about every subject imaginable! The teachers will be provided with general instructions and training if requested, but will be responsible for researching and creating lesson plans for their specific subjects using their favorite resources and sites available with immersive lesson plans, such as classVR.com. The ITTS and the lead teachers on the Technology Committee will also be available to help if needed. If more intensive training is requested by the teachers when surveyed at the end of the first year of use, the school's PD fund can be used to provide more training if necessary.

E. Describe the materials needed for the project (provide links to relevant websites; include a written description of how the technology/ies will benefit students).

The materials needed for this project will include 10 (ten) 64 GB Oculus Quest 2 VR headsets and 10 (ten) Oculus Quest 2 carrying/storing cases to keep them safe and clean between

uses and while traveling around the school. These materials will be ordered from Oculus.com. The Oculus app is also needed to easily set up the devices for the first time and can be done with a PC or phone by the ITTS or technology teacher. The VR headsets will benefit the students by providing them with a new and immersive type of instructional technology that will allow them to bring their learning to life in a new and exciting way. Multisensory experiences that are provided are proven to drive student engagement and can help connect learning to the authentic world even during times when visiting places outside of the classroom just aren't possible. Memory retention and recall has also shown to improve when students use VR headsets for immersive learning.

V. What is the timeline for assessing accomplishments and objectives/project outcomes (In 2-3 paragraphs, describe the program evaluation procedure. Explain how each objective will be measured and how success will be determined.)?

As stated previously, the timeline for assessing this project will be ongoing throughout the school year. Because the opinions, feelings, and reactions of all involved will be important to the Technology Committee, data will be collected regarding the use and benefits of the VR headsets throughout the year and preferably each time they are used.

Although the committee will assess the success of the project all year long, the objectives met, and overall outcomes will be assessed with a capstone review at the end of the year that has been described above. Objectives will be measured by the frequency of use of the headsets, the ease of use/proper training, whether they were able to be successfully implemented into existing lessons/subjects taught, and whether or not they would be used again to support lessons in the classroom. Success will be determined in similar ways and will also look closely at data collected by teachers on how student achievement was impacted when VR headsets were used compared to the same lessons when they were not used.

VI. How will the students be impacted by the project (In 2-3 paragraphs, include details regarding how the impact on students will be assessed and reported to students, parents, teachers, and others.)?

I believe that one of the most exciting aspects about this project will be how the students will be impacted. Because we have not used this form of educational technology at our school before, the students will be excited to try it and learn in a new way, especially if they have had experience with VR headsets before outside of the classroom. The committee will work together using the assessments and outcomes outlined above to create a visual/interactive compilation of lessons using the VR headsets, interviews with students and teachers, graphs showing increased student achievement, and how the use of the headsets will continue to be improved upon to both report to all stakeholders involved and to hopefully collect more support and funds to purchase more VR headsets for the school.

VII. What is the proposed budget? Include information on the following:

A. Materials/Supplies/B. Equipment needed — 10 (ten) 64 GB Oculus Quest 2 VR headsets and 10 (ten) Oculus Quest 2 carrying/storing cases. A PC or phone would also be needed to download the app to set up the headsets, but the school already has access to these.

C. Total Cost of Proposed Project (include a line item for any required professional development) — No PD that would need funding would be needed this first year. The cost of the equipment would be $3,480 plus tax and shipping.

D. Additional Funding Sources — If the project is successful, additional funding may be requested the following year from the Foundation and other business partners to purchase more VR headsets and maintain existing headsets. The school Professional Development funds may also need to be used for more intensive training on use if requested by teachers when the project is assessed.

VIII. List your supporting references.

See below

References

Bambury, S. (2019, October 29). *10 Key Benefits of VR in Education — VRFocus*. VR Focus. Retrieved April 26, 2021, from https://www.vrfocus.com/2019/03/10-key-benefits-of-vr-in-education/

TeachThought Staff. (2020, May 18). *10 Reasons to Use VR in the Classroom*. TeachThought. Retrieved April 26, 2021, from https://www.teachthought.com/technology/ 10-reasons-use-virtual-reality-classroom/

Zimmerman, E. (2019, August 22). *AR/VR in K–12: Schools Use Immersive Technology for Assistive Learning*. Ed Tech Magazine. Retrieved April 26, 2021, from https://edtechmagazine.com/k12/ article/2019/08/arvr-k-12-schools-use-immersive-technology-assistive-learning-perfcon