Creating Equitable Pathways to Future Careers with Technology

Introduction

The skilled trades are facing a crisis. Demand is increasing, but the supply keeps decreasing. At the same time, the proportion of high school students who earn three or more credits in occupational education, which can provide an introduction and pathway to a skilled trade, has dropped.¹ That means thousands of students are missing opportunities to learn about and pursue high-paying and rewarding careers.²

Fortunately, this can change. Technology and simulations could be the answer to expanding trade-related programs and providing more opportunities to students in the most efficient and economic ways. New technology can provide hands-on and cost-effective virtual learning opportunities within the trades to not only expose students to high-demand skill sets safely but also increase equity in schools by removing barriers to learning materials, increasing resources available to students and supplementing their education.

Skilled Trades Shortages

The skilled trades include over 11 million workers in the United States, and there are more jobs created in these industries every day. Labor market data show a clear and steady need for more trades workers over the next decade, with 1.3 million job openings annually through 2028.³ Additionally, these jobs generally pay better than those in services. At a time when income inequality and the wealth gap among upper-income families and middle- and lower-income families is increasing,⁴ providing basic skills education can create a promising future for the country's working and middle class.

Even though the trades can be a ticket to a sixfigure income, many students, or their parents, see them as low paying or unprofessional, which means you have to find ways to get students engaged, increase enrollment and show how fulfilling a trades career can be.

There are entire categories of work that are shrouded in mystery, and it is time to demystify and destigmatize them.

Even more importantly, technology can increase equity in schools by removing barriers to learning materials, providing supplemental quality instruction, and simulating real-world experiences in a safe and supportive environment while also controlling costs. Bridging the gap between the classroom instruction and on the job experience is a great way to establish equity.



Building Momentum in the Classroom

Technology can play a substantial role in not only providing learning opportunities about highdemand trades but also making it fun, and when a class is fun, students want to be there. Online simulations, for example, allow students to master skills in an engaging, hands-on format that will capture their attention. It also gives students the opportunity to explore careers in the skilled trades by offering virtual field-like scenarios right in your classroom. You can even create activities to inspire students by giving them competitive, game-like experiences that help them build trades skills and retain critical knowledge.

Plus, online 3D simulations and virtual reality learning provide an accessible way to expose students to trade-related career paths earlier by allowing them to explore the skilled trades in a low-risk and controlled environment.

By incorporating digital simulations into your curriculum, you can provide equal access to learning resources. It may not be feasible for every school to purchase materials, such as heavy-duty equipment or costly consumables for students to work on. However, with simulations, all students can have access to lifelike learning scenarios and tools. Simulations can also help students learn safety procedures more confidently by giving them a safe, no-fail environment to apply learning methods before they practice on real equipment.

With this kind of technology, students have the ability to better understand and retain skilled trades knowledge by having on-demand access to learning environments outside of the traditional classroom setting.

Students sometimes progress at different rates, and the ability to access materials outside of the classroom can allow students to seek out additional practice in a comfortable setting. They can easily complete assigned courses at home, build their confidence, and be better prepared for their classroom assignments and lab projects. Flexibility is also essential for students who have busy schedules or want to take advantage of other learning opportunities. "When students are able to practice in a virtual environment, they can learn a lot of lessons safely without going through the experience of being injured."

-MICHAEL MCDERMOTT, ADMINISTRATIVE DIRECTOR INDIANA COUNTY TECHNOLOGY CENTER





Creating Custom Learning Paths

Carefully curated and chosen digital content provides powerful, customized learning experiences for students. In traditional classrooms, materials and experiences are gauged toward the normative middle, which may overlook other students' needs, reducing their ability to engage, learn and achieve, but that is changing.

With digital technology, you can create differentiated instruction to address students' unique needs and provide multiple ways for students to learn or demonstrate understanding. When combined, these approaches help drive increased student engagement and success rates and narrow the gap among different groups in educational outcomes Digital learning experiences also help students progress at their own rate or seek out additional learning to keep up with the class. Simulation-based activities give students access to unlimited practice so they can build skills both inside and outside of class time. Learners can often become embarrassed if they aren't moving at the same pace as their peers.

The ability to access personalized, on-demand practice outside of the classroom can help them build confidence and receive help in the privacy of their own home.





Online 3D Simulations and Virtual Reality

Digital transformation trends have heavily impacted educational opportunities and will continue to do so. With more than 3.5 billion people have access to the internet⁵ and more than 5 billion are estimated to have a mobile device of some type, such as a smartphone.⁶ Digital transformation has improved accessibility to learning opportunities, lessons and educational programs for students of all ages no matter where they live. Several key digital transformation trends are enhancing equitable pathways in education.⁷

3D simulations and virtual reality have become an increasingly important component of technology across all sectors, including education. Students can experience the material they learn before applying it to realworld situations, making them more comfortable and better prepared for their future careers.

Other highly skilled, hands-on workers, including military personnel,⁸ surgeons⁹ and aircrew¹⁰ have been using simulation and VR training for years because it's one of the best forms of training.

Before trainees go up in a multi-million dollar airplane, they need to know how to react under various scenarios. Similarly, medical students don't start out performing surgeries on real people. They use simulations to train and practice scenarios safely in "real-world" environments.

The challenge with bringing this kind of highly skilled simulation training to other industries -- and the educational environment -- is that it has traditionally been very expensive to implement. But now there's technology from Interplay Leaning that makes it affordable and accessible for skilled trades students.

When coupled with classroom learning, simulation and virtual reality training is highly effective. It engages students with field-like scenarios, enables more training repetitions, results in fewer errors, and delivers higher learning retention.¹¹





Take a Step in the Right Direction Today

A push for higher education has come at the same time as many schools removed vocational arts programs from high schools, which has added to the critical shortage of skilled workers in the U.S. Expanding trade-related training programs and increasing enrollment will not only provide additional learning opportunities for your students but also help the U.S. minimize the skilled trades labor shortage. You can equip your students with the knowledge, skills, and industry certifications needed to start a skilled trades career after graduation. Virtual learning experiences can help you build equitable pathways and give all students the resources they need to build a long-term career. More importantly, technology can scale with students' needs and abilities, creating customized learning paths that can meet a wide range of students' needs.

About Interplay Learning

At Interplay Learning, we help you prepare students for successful futures. We offer more than 300 hours of online expert-led instruction and hands-on simulations that:

Align With Your Curriculum

Easily integrate 3D simulations into your current curriculum. Our curriculum mapping saves you time and energy so you can focus on your students' success.

Reinforce Classroom Lessons

Get students ready for upcoming labs and reinforce lectures with interactive activities to better prepare them for skilled trades roles upon graduating.

Track Student Outcomes

As part of our digital learning platform, we offer assessments, so you can track and manage and student outcomes.

Integrate With Your LMS

With the ability to integrate into your current LMS, you can create custom learning paths specific to your students' needs. Our award-winning video and simulation-based courses for the essential skilled trades help students learn methods and critical thinking skills needed to begin careers post-graduation. By leveraging our immersive learning platform, SkillMill, educators can give students hands-on learning from any device or in virtual reality to create a more impactful learning experience.



Appendix

[1] National Center for Career Statistics

[2] <u>Forget College. Skilled Trades Are the Future of the U.S. Economy</u>

[3] <u>Breaking Ground: A First Look at American High</u> <u>School Skilled Trades Education, Lisa Soricone</u>

[4] Pew Research Center

[5] Our World in Data

[6]<u>Smartphone Ownership Is Growing Rapidly</u> Around the World, but Not Always Equally

[7] <u>Top Eight Digital Transformation Trends in</u> <u>Education</u>

[8] <u>Virtual, Augmented Reality Tech Transforming</u> <u>Training</u>

[9] <u>Research: How Virtual Reality Can Help Train</u> <u>Surgeons</u>

[10] <u>Alaska Airlines One of First US Airlines to Use</u> <u>Virtual Reality in Pilot Training</u>

[11] Real Learning in a Virtual World, Deloitte





Create More Pathways to the Skilled Trades with Interplay Learning

Contact: sales@interplaylearning.com