



**Workforce Committee on Innovation Meeting
Wednesday, November 9, 2022 at 11:00 a.m.**

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Phone Conference ID: 585 197 416#

AGENDA

- I. Welcome and Opening Remarks Mr. Jay Holloway, Committee Chair
- II. Approval of Minutes from May 26, 2022 and August 24, 2022* Mr. Holloway
- III. Virtual Reality Survey Results..... Ms. Tamara Lewis
- IV. Other Business/Adjourn..... Mr. Holloway

*Denotes voting item

**Governor’s State Workforce Development Board
May 26, 2022 Workforce Committee on Innovation Meeting Minutes**

Members Present:

Mr. Jay Holloway
Col. Craig Currey
Ms. Felicia Johnson

Members Excused:

Mr. Archie Maddox

Welcome and Opening RemarksMr. Jay Holloway, Committee Chair
Mr. Jay Holloway, Committee Chair, called the meeting to order at 11:00 a.m. A quorum was present.

Approval of Minutes from February 24, 2022*Mr. Holloway
Mr. Craig Currey motioned to approve the February 24, 2022, meeting minutes. Ms. Felicia Johnson seconded the motion, and the Committee unanimously approved the minutes.

Review of PY’21 Committee PrioritiesMr. Holloway
Mr. Holloway shared a progress report on the Committee’s priorities for the Program Year (PY) 2021.

- The priority to distribute publications relevant to talent development and strategic planning was completed. SWDB members were added to the Trends publication distribution list. Other publications relevant to the board or committee priorities will be shared as identified.
- The Darla Moore School of Business was commissioned to conduct an economic and workforce analysis emphasizing rural areas of the state. The analysis will be available in PY 2022's first quarter.
- Create LMI training for board members: Staff is identifying resources for the development of training.

Virtual Reality in Workforce DevelopmentMs. Jackie Taylor
Ms. Taylor presented the growing use of Virtual Reality (VR) in workforce development in SC and across the nation as a viable addition to career exploration and training needs. VR utilizes technological advancements to simulate a 3D image or environment that allows the user to interact “seemingly real or physical way” utilizing special head equipment and gloves.

In alignment with the board priorities, including addressing rural needs, and strategic outreach to employers, VR can be experienced through the Be Pro Be Proud 18-wheeler mobile workshop. The Be Pro Be Proud workshop has eight immersive simulators used to expose high school students across SC to the skilled trade professions as a means of career exposure. Virtual Reality can be used as a “hands-on” method of learning while addressing barriers such as access while offering cost efficiencies through exposure to occupations. Critical employer training can be supported through virtual reality. Training in a virtual environment vs. using raw materials is more cost-effective and reduces waste.

Taylor provided examples of how other states are using Virtual Reality. States such as Alabama and Arkansas have been using virtual reality to familiarize potential workers with entry-level skills. In Oregon, local workforce development areas have used virtual reality training for healthcare workers on the proper use of PPE related to COVID-19.

*Denotes voting item

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A plan to complete a statewide scan to see how VR is used in workforce development in the following program year is being developed. The scan will show how it is implemented and the capacity of virtual reality in the workforce.

The committee discussed how the Be Pro Be Proud (BPBP) mobile workshop is currently used and how it can be expanded from providing interests in career pathways to actual certification. During the first quarter meeting of PY’22, a representative from Greenville will present how Greenville/Upstate uses VR training.

Workforce Development Month.....Ms. Jackie Taylor

Ms. Taylor shared that SC would join in the celebration of National Workforce Development Month in September. There will be numerous opportunities to engage job seekers and, employers, the general public through job fairs and workshops, and local areas will nominate workforce development professionals for recognition.

Other Business/Adjourn.....Mr. Holloway

The Committee did not discuss any other business.

Remarks:

Director Ellzey said the economy is still doing great. UI claims are decreasing, while the Participation Rate (PR) is increasing.

Ms. Michelle Paczynski expressed that a strong economy means SC will receive less federal funding for workforce development. The LWDA areas will receive approximately \$3M less federal dollars next year. While simultaneously, the SWDB has approved approximately \$10M in discretionary funds over the last two years. The correlation between the state board and local boards is very important. It adds value when we see initial investments into promising practices and focus on innovation, positioning the workforce to be nimbler. The conversation

Mr. Holloway reminded Committee members of the SWDB meeting on June 28, 2022, at 11:00 am, followed by lunch and a Strategic Planning Session. Everyone is encouraged to attend in person. The meeting adjourned at 11:35 am.

*Denotes voting item

**Governor’s State Workforce Development Board
August 24, 2022 Workforce Committee on Innovation Meeting Minutes**

Members Present:

Mr. Jay Holloway
Ms. Felicia Johnson

Members Absent:

Mr. Craig Currey

Welcome and Opening RemarksMr. Jay Holloway, Committee Chair

Mr. Jay Holloway, Committee Chair, called the meeting to order at 11:00 a.m. A quorum was not present.

Review of Committee Priorities.....Ms. Jackie Taylor

Ms. Jackie Taylor reviewed the Committee’s PY’22 priorities, which developed from the June 28th SWDB Strategic Planning Session, recommendations from the Executive Committee carry-over priorities from PY’21.

- Rural Engagement: Economic and Workforce Analysis
 - The Darla Moore School of Business has drafted an analysis. The finalized analysis will be presented to the full board during the 1st Quarter meeting on September 28, 2022.
- LMI Training for Board Members
 - DEW’s LMI Division is developing training for Board Members. The training will be added to the SWDB Portal by Q4 of PY’22.
- Shared Case Management System to Support Intake, Referral and Co-enrollment
 - Staff has begun researching options along the continuum of a shared case management system. Staff will report on research by Q3 of PY’22.
- Investments for in-demand training
 - During the current program year, an analysis will be conducted to identify current and projected labor shortages in critical industries. The findings will enable targeted training investments to build a workforce for those industries and occupations.
- Career exploration and training through virtual reality
 - Staff has completed preliminary research and drafted a survey for release in Q1 of PY’22. The findings will be presented to the Committee in Q2 of PY’22.

Virtual Reality in Workforce DevelopmentMs. Johnnie-Lynn Crosby

Ms. Johnnie-Lynn Crosby, Regional Director of Business Solutions for the Greater Upstate Region, explained how the Upstate Local Workforce Area SC Works centers are currently utilizing virtual reality (VR) in workforce development and how they hope to implement the technology in the future.

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The Greater Upstate Region's use of virtual reality started as a career exploration tool for K-12 students, funded by a National Science Foundation grant, in partnership with a VR provider to build content for a local auto manufacturer.

SWDB Reentry Navigator Grant funding was utilized for virtual reality training of incarcerated inmates. The training allowed for easier placement of individuals into employment with self-sustaining wages upon release. During the PY’21, Continuous Improvement and Resiliency Grant funding was used to purchase the TransfrVR headsets. These headsets are preloaded with 27 simulations that students can use to explore different occupations. Simulations allow the students to see the skillsets required while also seeing what the environment is like for that occupation.

Ms. Crosby provided examples of how the TransfrVR headsets are being used for career exploration in partnerships with Greenville County and Spartanburg High Schools, local community colleges, Greenville Technical College, and Career Development Departments.

The Greater Upstate Region is looking to add employer workshops, led by the TransfrVR provider, to educate business partners about training options. Embedded company logos would pop-up during the training, marketing opportunities for employment to the applicants.

Ms. Crosby explained that funding is necessary to support the sustained use of VR. Through the creation of opportunities for corporate sponsorship, business partners will be able to finance the continued and expanded use of virtual reality technology in the Greater Upstate Region.

Discussion: The committee discussed how to expand the use of virtual reality in the Department of Corrections statewide. Ms. Dana Wood, who led the Reentry Grant, advised that it was successful in the Upstate county jails, but COVID prevented the advancement into the corrections facilities.

The headsets are now leased to ensure they keep updated equipment at \$2k per year, including updates and maintenance.

Mr. Holloway noted that DEW has hired a Workforce Development Intern, Tamara Lewis, to dedicate much of her time to support the Workforce Committee on Innovation by researching current use of VR in Workforce Development. A statewide survey was developed that will further assess workforce and education partners’ current and desired use of VR in Workforce Development. Outcomes of her work will be presented to the Committee this Program Year.

Featured Promising Practice Ms. Ann Skinner

The SC Works Success page on SCWorks.org recognizes the achievements and innovation of SC Works professionals and services across the state. Ms. Ann Skinner, Workforce Development Director, presented on the Upper Savannah areas’ Internship Program, submitted to the SC Works Success page.

Ms. Skinner advised that recent graduates need four items:

- Their degree.
- A portfolio of examples of their work.
- People or mentors to help them navigate their careers.
- A principle or purpose for doing the work.

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Participation in internships provides the intern with access to resources, support, and feedback. At the end of a successful internship, they leave with a portfolio showing the completed project and the opportunity to build relationships with mentors or others in the industry. She shared that it is vital to have a mid-term check-in with the intern on their project deliverable.

Ms. Skinner showed the video created by the intern from Lander University. The video is currently used to encourage other businesses to participate in internships.

Other Business/Adjourn.....Mr. Holloway

Mr. Dan Ellzey provided a quick update on the state’s labor force with 75,000 more people working than pre-pandemic and a record number of job openings at 100k+ jobs. Mr. Ellzey reminded the Committee that September is Workforce Development Month.

Mr. Holloway reminded Committee members of the 2022 Workforce Symposium and that Committee members will be requested to use the Board Portal to access meeting materials for future committee and board meetings.

The approval of minutes from May 26, 2022, will be carried over into the next committee meeting due to a lack of quorum. The next SWDB meeting is September 28, 2022, at 11:00 a.m. The meeting adjourned at 11:42 a.m.

Virtual Reality in Workforce Development

Tamara D. Lewis

Workforce Development Intern

South Carolina Department of Employment and Workforce

Virtual Reality Research Findings

What is Virtual Reality?

Virtual Reality (VR) is the computer-generated simulation of a three dimensional image or environment that can be interacted in a seemingly real way



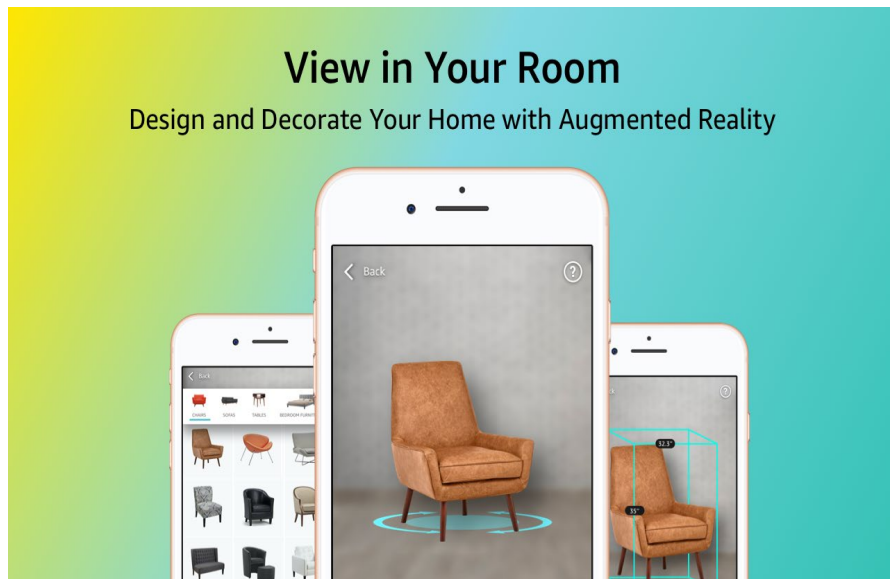
Different Types of Virtual Reality

Desktop Virtual Reality : is computer based and no special equipment is needed.

Augmented Reality : is more interactive than Desktop VR, but is less interactive than Immersive VR. Augmented Reality overlays virtual information on a view of the real world.

Immersive Virtual Reality : Immersive VR usually involves headsets and tracked controllers. Immersive VR fully encapsulates users into the virtual environment, and thus participants feel as if the experience is real.

Different Types of Virtual Reality cont.



Debunking Myths about Virtual Reality

Virtual reality is **NOT** a video game

Virtual Reality is **NOT** artificial intelligence

Virtual Reality in the Workplace

Verizon: used virtual reality to train their employees on armed robbery protocols. Through the training simulation, associates were able to reenact being held at gunpoint, while at work, in order to process proper ways to prioritize safety and minimize harm.

Walmart: has trained over a million of its employees worldwide using virtual reality. The primary focus for Walmart's VR training are their frontline workers, such as cashiers and sales associates. Walmart has reported that their onboarding training has been more efficient since introducing VR to the corporation.



Virtual Reality in the Workplace cont.



George Washington University Hospital (Washington, D.C.) has recently introduced an advanced virtual reality tool for neurosurgery and thoracic surgery.

Precision Virtual Reality by Surgical Theater enables surgeons to virtually explore a patient's brain and body prior to performing a procedure.

Virtual Reality in Alabama

- The Alabama Industrial Development Training (AIDT) agency partnered with Lockheed Martin, an aerospace company, in order to deploy VR simulations in high schools across the state. Students were able to explore the day to day operations of Lockheed Martin by using VR goggles and controllers, and the training modules provided by Lockheed Martin
- Roughly 40% of the companies that AIDT has partnered with utilize TRANSFR to recruit, train and assess their employees.
- As of 2022, AIDT has thirty eight mobile VR training units that are deployed and serve residents of Alabama statewide, in addition to their 549 VR headsets which are also in circulation.



Virtual Reality in Arkansas

- The Arkansas Division of Workforce Services also partnered with TRANSFR in 2021 to distribute headsets to fourteen community colleges and to the Northwest Arkansas Council, a workforce development organization in the state.
- As a state, Arkansas struggled with lack of awareness in regards to jobseekers obtaining career opportunities across the state. The program they initiated reached over two hundred students in the first year, and students were able to use VR technology to explore career opportunities that were offered to them.



Virtual Reality Usage in South Carolina

In 2020, South Carolina unveiled the “**Be Pro, Be Proud SC**” initiative, which includes a 53-foot, double expandable 18-wheeler.

The mobile workshop includes various VR simulators, such as forklift operations, welding, and truck driving.

The bus gives students an opportunity to explore career trade.



Virtual Reality in South Carolina cont.

In 2015, the Upstate Local Workforce Development Board pioneered an initiative called **Operation Educate**.

Operation Educate is a re-entry program at Spartanburg County Detention Center that focuses on preparing incarcerated individuals for careers in manufacturing.

The program uses VR to offer immersive experiences in a manufacturing environment. Because many participants have never been in a manufacturing facility, the exposure they receive through Operation Educate makes them more comfortable and more likely to seek employment in this sector.

Through this program, inmates are able to develop their soft and hard skills that will ultimately increase their career readiness and make them more marketable to employers.

Virtual Reality in South Carolina cont.

Professors at the University of South Carolina (USC) use virtual reality to enhance teaching and learning.

USC's Center for Teaching Excellence uses Virtual Reality, Augmented Reality, and 360-degree videos to transform their educational system on campus.



Virtual Reality Survey Analysis

Virtual Reality Survey Overview

- SC DEW released a survey in order to learn more about the interest and usage of VR in the state. The survey was in circulation for 3 weeks.
- While in circulation, 57 responses were received. **All 46 counties throughout the state were represented within those responses .**
- The survey was distributed to public partners involved in Workforce Development.

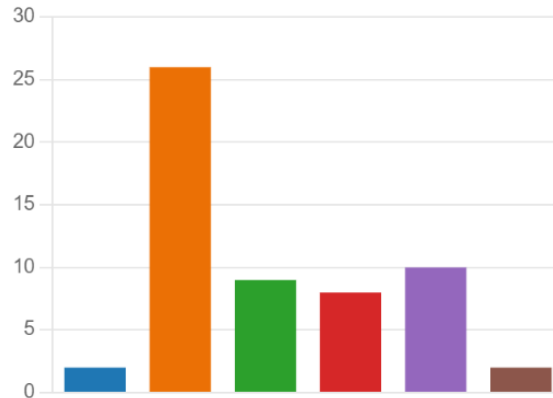
Survey Data

Adult Education Providers were the most represented organization type, accounting for 45% of the responses.

5. Select **one** of the following options that best describes your organization?

[More Details](#)

● CTE Provider	2
● Adult Education Provider	26
● Post-Secondary Education Instit...	9
● Local Workforce Development B...	8
● Workforce Development Service...	10
● State Administrative Entity	2



Survey Data cont.

7. Is your organization **currently** using virtual reality?

[More Details](#)



8. Has your organization used virtual reality in the **past**?

[More Details](#)



- **73%** of survey participants reported that their organization is not currently using Virtual Reality
- Of those who indicated their organization is not currently using virtual reality, **10%** of respondents indicated that VR was used in the past.

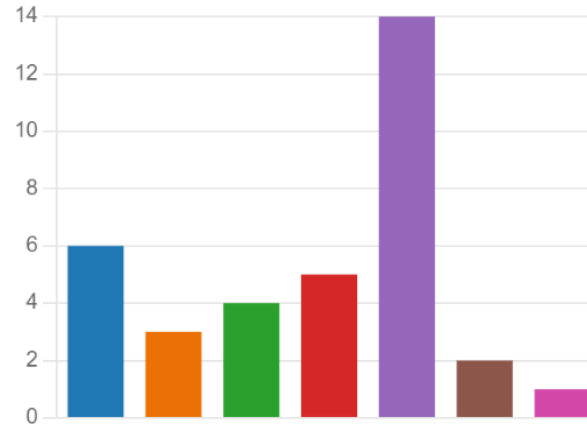
Survey Data cont.

Based on the survey data, organizations are most likely using Virtual Reality for **career exploration** and **skills training/instruction** .

10. For what purpose is/was virtual reality used by your organization? Select all that apply.

[More Details](#)

● Technical skills training	6
● Training that results in a credent...	3
● Soft skills instruction	4
● Academic instruction	5
● Career exploration	14
● Work-based learning	2
● Other	1



14. What limitations does your organization face when implementing virtual reality? Check all that apply.

[More Details](#)

● Budget restraints	35
● Accessibility concerns	17
● Software underdevelopment	12
● No limitations	7
● Other	12



15. If the limitations were overcome, how likely is it that your organization would implement or expand virtual reality?

[More Details](#)

● Very likely	30
● Somewhat likely	16
● Neither likely nor unlikely	7
● Somewhat unlikely	1
● Very unlikely	0



Survey Data cont.

- **Budget Restraints** were at the fore front of the list when participants were asked about limitations.
- Over **80%** of all survey participants responded **“very likely”** or **“somewhat likely”** when asked how likely is their organization to implement/expand VR is limitations were overcome.

Survey Participants Elaborate on the Scope of VR Usage Within Their Organizations

“Job seekers use VR at the SC Works offices and partner agencies to explore multiple career options. This assists them in the development of their individual employment plan and career path planning. **This is usually in a workshop setting for 1-2 hours max.”**

“Our advanced manufacturing center had a virtual reality studio, as a business unit and revenue producer...**The studio developed VR welding tools for instruction** and supported several customers with VR development.”





“We have only been using VR for about six months...career exploration for participants has been the primary use. We envision the VR system [to] **offer work-based learning experiences** when on-site may not be an option or feasible. Additionally, we feel that the **VR equipment could serve as a recruiting tool for WIOA participation.”**

Survey Data cont.

74% of respondents cited Increased access to training or career exploration as a programmatic outcome achieved by their organization using virtual reality

12. Indicate the programmatic goals or outcomes achieved by your organization through the use of virtual reality.

[More Details](#)

 Reduced training costs	3
 Increased access to training or c...	14
 Increased employer satisfaction	1
 Other	1



Additional Survey Feedback

“Corrections education is one of my main job functions. **VR can be very beneficial in the correctional setting, providing access to opportunities restricted from traditional presentation.** ”

“There is a **wow factor** that comes with virtual reality..**it does enhance the teaching and learning environment .**”

“**Problem is always financial** and then annual software renewal cost to maintain. So initial purpose is all the **bells & whistles** for full simulation experience for the student then downgrades to **bare bones.**”

Virtual Reality Cost Analysis

Factors affecting cost of VR implementation:

- Type of VR used (360° or full VR)
- Complexity of content
- Costs of VR headset and controllers
- Use of Extended Reality System (XRS) to manage content
- Program design
- Application development
- Content development
- Reputation of vendor

It is recommended that companies consider a “Pilot Program.”

Conclusions based on Survey Results

The interest of Virtual Reality implementation/expansion is evident, based on the responsiveness of survey participants.

However, apprehension is stemming from budget restrictions, accessibility concerns, and general lack of knowledge surrounding VR.

VR is still in an exploratory state, especially regarding Workforce Development.

A next step to promoting more VR usage statewide is education.

Thank you!