Title: *Immersive Virtual Reality for Science & Career Exploration*
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Audience: Grades 3–12 teachers, campus instructional staff, SPED & CTE partners, and district curriculum leaders
Innovation Plan Foundation: DeSoto ISD VR Plan

3 Column Table

BHAG (Big Hairy Audacious Goal) – Overarching Course Goal

Within three years, DeSoto ISD will establish an immersive, districtwide VR-powered learning ecosystem where students in grades 3-12 engage in virtual science explorations and career simulations that strengthen engagement, deepen TEKS-aligned conceptual understanding, and increase career self-efficacy. This system will ensure equitable access to hands-on, real-world learning experiences for all students, especially special education, multilingual, and underserved scholars; regardless of zip code, socioeconomic status, or disability.

Learning Goals	Learning Activities	Assessment Activities
1. Understand and explain how immersive VR supports TEKS-aligned science concepts and career exploration experiences. (Foundational Knowledge)	• VR orientation module with sample simulations. • Mini-lesson: "Instructional Power of VR" featuring exemplars from your innovation plan. • TEKS unpacking + VR mapping activity.	• Pre/post knowledge checks on VR design principles, TEKS alignment, safety, and instructional value. • Teacher reflection logs identifying at least two science concepts and one career domain enhanced by VR.
Apply VR tools to design and implement an immersive science or career exploration lesson aligned with TEKS and district expectations. (Application)	• Hands-on VR content exploration (science simulations, career modules). • Lesson design studio with coaching. • Implementation lab: teachers teach a VR mini-lesson, then revise using peer feedback.	• Completed VR-enhanced lesson plan aligned to TEKS. • Classroom implementation with walkthrough/peer feedback cycle. • Evidence of student engagement through exit tickets, short quizzes, or work samples.
Analyze how VR experiences support different learners (SPED, multilingual, underserved, gifted) using UDL	• UDL & accessibility workshop. • Review VR comfort modes, pacing options, sensory supports.	• Accessibility checklist completed for one VR lesson. • Teacher narrative describing how VR will

principles and accommodations. (Integration)	• Small-group case study analysis using student personas.	support at least three learner profiles.
Evaluate the effectiveness of VR-enhanced lessons using engagement data, student feedback, and short TEKS-aligned assessments. (Human Dimension & Caring)	• Data protocols (Before/After comparison). • Reflective discussion: "How did VR change student understanding?" • Survey design mini-session (student feedback focus).	• Teacher-created impact report summarizing student engagement, learning outcomes, and equity benefits. • Data dashboard comparing outcomes from traditional vs. VR-enhanced lessons.
Develop confidence and motivation to act as a VR integration champion on campus, supporting peers and modeling best practices. (Human Dimension)	• Teacher roundtable: "What VR made possible for my students." • Peer mentorship practice (coaching scripts + observation notes).	• Reflection journal on mindset shifts and teacher identity as an innovator. • Participation in a peer-led micro-coaching cycle.
Create pathways for students to transition from consuming VR to creating VR content (virtual field trips, career modules, lab models). (Integration & Creating)	• Guided VR creation workshop. • PBL cycle: "Design a Virtual Field Trip" or "Create a Career Day Simulation." • Showcase gallery walk.	• Student-created VR products (evaluated with rubric). • Teacher evidence of integrating VR creation tools (CoSpaces, Tinkercad-to-VR, etc.).
Commit to sustaining the VR ecosystem by collaborating with district C&I, IT, SPED, and CTE teams to ensure access, equity, and longevity. (Caring & Learning How to Learn)	• Sustainability planning. • Cross-department collaboration session. • Long-term VR roadmap design.	• Teacher plan outlining long-term VR usage, co-teaching opportunities, and equipment maintenance routines. • Submission of a leadership action step (ex: propose a VR integration PLC).

Learning Environment – Situational Factors (Worksheet 1)
Aligned to the DeSoto ISD VR Innovation Plan for Science & Career Exploration
(Using Fink's Self-Directed Guide framework)

1. Specific Context of the Teaching/Learning Situation
Type of learning environment:
Districtwide professional development and instructional implementation initiative focused on integrating Virtual Reality into science and career exploration for Grades 3–12.

Delivery format:
Blended professional learning (in-person workshops, coaching cycles, VR simulations, asynchronous resources).

Class size / group size:
Varies by campus; typical PD sessions range from 10–40 teachers. Classroom VR sessions occur in small groups of 5–12 students using rotating stations (pilot year)

Time structure:
- *Year 1:* Pilot in secondary science + CTE; TEKS-aligned VR lessons delivered quarterly.
- *Year 2:* Expansion to additional campuses with ongoing PD and coaching.
- *Year 3:* Full integration + student-created VR experiences

2. General Context of the Learning Situation
Institutional context:
DeSoto ISD is a mid-size North Texas district serving a diverse student population with a high percentage of economically disadvantaged learners. The district is guided by strategic goals around CCMR, STEM readiness, and equitable access to high-quality instruction.

Relevant policies and curriculum expectations:
- Alignment with TEKS Science, CTE standards, and CCMR goals
- Integration with Special Education accommodations and UDL principles
- Technology integration consistent with ISTE standards (ISTE, 2021)
- District push toward student-centered instructional models

Organizational environment:
The district values innovation, maintains strong CTE/STEM pathways, and has a documented history of implementing technology-driven instructional improvements (e.g., recent grant-funded STEM initiatives)

3. Nature of the Subject
Academic fields involved:

- Science (Grades 3–12)
- Career & Technical Education (CTE)
- Digital media / STEM electives
- Special Education accessibility and differentiation
- Technology integration

Key characteristics of the subject:
- Highly visual and spatial content (ecosystems, anatomy, engineering, simulations)
- Performance-based learning tasks
- Real-world applications requiring problem-solving and conceptual modeling
- Rapidly evolving digital tools requiring continuous teacher learning

4. Characteristics of the Learners
Students (ultimate beneficiaries):
- Diverse in cultural, linguistic, and socioeconomic backgrounds
- Many lack access to physical field trips, labs, or enrichment experiences
- Significant SPED population with needs for visual supports, repeated practice, and safe exploration environments
- Many students highly motivated by hands-on and technology-enhanced learning

Teachers / Instructional staff (the primary learners in PD):
- Varying technology proficiency levels
- Need relevant, hands-on PD to build confidence in VR integration
- Desire for ready-to-use TEKS-aligned VR resources
- Motivated by seeing measurable impact on student engagement and understanding

Leaders / Administrators:
- Focused on CCMR readiness, academic growth, and equity
- Will evaluate success using achievement data, engagement data, and implementation metrics

5. Characteristics of the Teacher
Facilitator / Designer:
- Jasmine Handsome: Special Education Instructor and Innovation Designer
- Experience with SPED, UDL, accessibility, science integration, coaching, and technology
- Guides teachers through hands-on VR exploration, lesson design studios, and reflective coaching cycles

Teaching responsibilities in this initiative:
- Provide VR simulations and exemplars
- Model TEKS-aligned VR lessons
- Lead data review and reflection sessions

- Ensure SPED accessibility and multilingual learner support
- Oversee Year 1–Year 3 implementation milestones

6. Special Pedagogical Challenges
Challenges & considerations:

- Teacher hesitation due to unfamiliar technology
- Classroom management during VR use
- Motion sickness considerations for some students
- Ensuring device sanitation and charging routines
- Aligning VR experiences tightly to TEKS (not using VR as a novelty)
- Ensuring equitable access across all schools
- Designing for accessibility: comfort modes, pacing, sensory accommodations, visual supports (Radianti et al., 2020; Yang et al., 2025)

Mitigation strategies already built into the innovation plan:

- Short VR cycles with preview videos
- UDL-aligned supports and SPED accommodations
- Teacher coaching + co-teaching
- Districtwide lesson bank
- Clear routines for device management
- Student tech ambassadors program (Year 2–3)

7. Additional Environmental Factors
Community context:

- Many families have limited access to enrichment experiences due to cost or transportation.
- Strong community desire for STEM readiness and workforce pathways.
- Parents express interest in career exposure opportunities early in K–12.

Technology infrastructure:

- Adequate wireless coverage
- District IT support available but requires clear protocols for troubleshooting
- VR hardware requires responsible rotation and storage routines

Equity considerations:

- VR serves as a tool to *level the playing field*
- Must ensure accessibility for SPED, EL, and underserved students
- Implementation must avoid "only some campuses get it" inequity by building a 3-year expansion plan

Questions for Formulating Significant Learning Goals
Aligned to my VR Innovation Plan & BHAG

A year (or more) after this course is over, I want and hope that students will be better prepared for College, Career, and Military Readiness (CCMR) because immersive VR science and career experiences helped them connect academic learning to real future opportunities.

My BHAG for the Course

My Big Hairy Audacious Goal (BHAG) for this course is to design and implement a districtwide immersive VR learning ecosystem that strengthens students' College, Career, and Military Readiness (CCMR). Through VR-enhanced science explorations and career simulations, I aim to create equitable, memorable, and TEKS-aligned learning experiences that deepen conceptual understanding, increase student engagement, and expand access to real-world career pathways. Ultimately, I want students, especially those who are underserved, multilingual, or receiving special education services; to become more confident, curious, and future-ready because VR helped them see, experience, and connect to possibilities beyond the classroom.

1. Foundational Knowledge Goals
What key information do learners need to understand?

- The purpose of integrating VR into science and career exploration.
- TEKS-aligned science concepts that VR can enhance (ecosystems, force & motion, anatomy, engineering processes).
- Basics of VR hardware, safety, comfort modes, and classroom management procedures.
- District expectations for instructional innovation and CCMR alignment.
- Principles of Universal Design for Learning (UDL) and accessibility.
- Research-based benefits of immersive learning (Coban et al., 2022; Radianti et al., 2020).

Why is this important?
Teachers must understand *why* VR matters before they can implement it meaningfully.

2. Application Goals
What skills will learners need to practice?

- Designing TEKS-aligned VR lessons.
- Operating VR equipment safely and confidently.
- Managing student rotations and small-group VR stations.
- Facilitating inquiry-based learning through virtual labs and simulations.
- Collecting and analyzing student engagement and learning data.

What kinds of thinking are required?

- Problem-solving (selecting appropriate VR experiences).
- Critical thinking (evaluating VR impact vs. traditional methods).

- Creative thinking (co-creating VR content with students).

Why is this valuable?
This ensures VR is used as a *tool*, not a toy, deepening learning rather than distracting from it.

3. Integration Goals
What connections should learners make?

- Linking VR lessons to TEKS, CCMR competencies, and real-world experiences.
- Combining VR with existing instructional strategies (inquiry, PBL, labs).
- Integrating VR accessibility features with SPED accommodations and EL supports.
- Connecting VR science concepts to VR career simulations.
- Understanding how VR aligns with district goals and equity initiatives

Why does this matter?
Integration ensures VR transforms learning rather than becoming an isolated "event."

4. Human Dimension Goals
What will learners learn about themselves?

- Their capacity to become instructional innovators.
- Confidence with new technologies.
- Awareness of personal strengths and growth areas in facilitating immersive learning.
- A deeper sense of professional identity as learning designers, not just content deliverers.

What will learners learn about others?

- How different students respond to VR-based inquiry.
- How SPED, multilingual, and underserved learners benefit uniquely from immersive environments.
- How collaboration with other teachers, IT, and CTE enhances instructional design.

5. Caring Goals
What new feelings, values, or interests might learners develop?

- Appreciation for immersive, hands-on, equitable learning.
- Greater commitment to student-centered instruction.
- Motivation to bring real-world experiences to students who may never access them otherwise
- Interest in STEM, digital innovation, or instructional coaching roles.

Why is this important?
Caring goals shift teacher behavior from "compliance" to "commitment."

6. Learning How to Learn Goals

What should learners understand about the learning process?

- How to independently evaluate emerging technologies for instructional value.
- How to iterate VR lessons based on student feedback and academic data.
- How to collaborate across departments (C&I, CTE, SPED, IT) to sustain innovation.
- How to support students in creating their own VR experiences.

Why does this matter?

This ensures the VR ecosystem is sustainable, scalable, and constantly improving, fulfilling the BHAG.

7. Overarching Significant Learning Goal (Synthesis)

Educators will design and implement immersive VR-based science and career exploration experiences that deepen student understanding, strengthen engagement, and ensure equitable access to real-world learning opportunities aligned with DeSoto ISD's long-term goals.

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