Disrupting Nursing Education Using Extended Reality (XR), Artificial Intelligence, and Machine Learning (ML)

INPUTS	STRATEGIES	OUTCOMES			MEASUREMENT
• Funding from the RN Initiative • Extended Reality (XR) technology including augmented reality (AR), virtual reality (VR), mixed reality (MR), and holography and others • Artificial intelligence / machine learning (AI/ML) tool • Established assessment tools and methodologies • OSU faculty • OSU sophomore, junior, senior, and graduate prelicensure level students • Staff, experience, reputation, and relationships of the site team • International XR Consultant • Institutional support • Current College of Nursing fundraising • ACCN *Essentials*	• Implement competency-based education (CBE) delivered through XR simulation in the course and lab portion of the nursing program starting in students' sophomore year • Develop an adaptive clinical model informed by competency achievement • Implement AI/ML tool to support students in developing clinical decision-making competencies around patient decompensation • Develop faculty skills in delivering CBE • Evaluate available XR technology to determine the best mix of effectiveness and affordability • Utilization of the Metaverse in nursing education	**1–3 years** • Shared definition of practice readiness between academic and practice stakeholders identified • Model refined based on feedback • Participating students achieve expected competencies • Participating students are immediately practice-ready upon graduation and able to provide high quality, evidence-based patient care • Participating faculty have increased ability to deliver CBE and XR simulations	**3–6 years** • Technology utilized is integrated into the OSU curriculum and pedagogy is transformed • Global XR Technology Hub of Excellence, micro credentialing program, and annual conference established to support sustainability and scalability • Model shared widely through publications, presentations, and online resources • Model replicated by other nursing programs	**6–10 years** • Practice Changes: – Increased readiness for practice – Decreased onboarding time – Decreased attrition from profession – Integration of XR technology into nursing orientation and ongoing competency assessment • Academic Changes: – Increased ability to prepare nurses through CBE – Increased ability to educate and train utilizing XR, AI, ML technologies • Patient Changes: – Decreased disparities – Increased quality – Increased access	• Student experience and perceptions via periodic student feedback and the Lasater Clinical Judgement Rubric • Student's perception of practice readiness using the Casey-Fink Readiness for Practice Survey • Practice readiness survey from employers (TBD) • Faculty competency on the use of tools provided to evaluate student performance and the technology used in the project • Congruency between XR simulation demonstrated competency and clinical performance

External Factors:
Healthcare Environment, Political Climate, Regulatory Climate, Pressures on Academic and Practice Environments