Students' Perceptions of 3D/4D Sonography Following a Simulation-Based Workshop

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Abstract: Developing proficiency in advanced diagnostic techniques like 3D/4D sonography can be challenging for students. To bridge this gap, educators designed an instructional workshop incorporating simulation-based training to enhance students' understanding of and proficiency in 3D/4D sonography. Students completed surveys before and after the workshop to self-report their perceived ability to produce and evaluate 3D/4D images and their familiarity with clinical applications. Results revealed statistically significant improvements in students' confidence and familiarity with 3D/4D sonography after completing the workshop. These findings underscore the value of simulation in teaching advanced sonographic techniques, particularly those not commonly encountered during routine clinical education.

Keywords: 3D/4D sonography, simulation-based education, instructional workshop, medical imaging pedagogy, advanced sonographic techniques, clinical education gaps

Career Pathways: Insights from Program Directors and Faculty on Hiring, Promotion, and Readiness

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Abstract: Anticipated shortages among imaging and radiologic science educators highlight the need for actionable solutions. This study examined employment trends, qualifications, and workforce needs through two exploratory surveys. Result revealed that degree advancement and specialized training were key for transitioning into educator roles. Indicators of readiness included experience, knowledge, and confidence, though many participants expressed uncertainty about their preparedness. Outcomes included a career pathway tool for educators and the identification of mentorship as a critical driver of professional growth. Regular workforce surveys, funding for educator preparation, and standardized career pathways are recommended to address workforce challenges and support the development and advancement of imaging and radiologic science educators.

Keywords: career pathways, imaging and radiologic science education, workforce development, mentorship, employment trends, faculty development, professional readiness

Exploring the Effects of Gamification on Student Engagement, Outcomes, and Perceptions

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Abstract: Gamification and game-based learning are active learning strategies that enhance student engagement. This study examined the effects of gamification and game-based learning on online allied health students' engagement, learning outcomes, and perceptions. Comparisons were made between a traditional online course and a gamified course incorporating a Fliphunt and an escape room. The results were mixed with student engagement and test scores not showing significant differences, but student perceptions demonstrated that gamification successfully improved student engagement. These findings highlight the potential of gamification to enhance online education, even when measurable outcomes remain unchanged. Future research on the implementation of gamification and game-based learning in online courses is recommended.

Keywords: gamification, game-based learning, active learning, online education, allied health education, radiologic sciences, student engagement, learning outcomes, educational technology

A Staged Approach to Self-Directed Learning in Medical Terminology for Health Professions Students

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Abstract: This article explores the implementation of a staged self-directed learning (SSDL) model with 20 students enrolled in an online health professions medical terminology course. Data sources included written reflections, class materials, and a research notebook. The analysis followed a systematic process to evaluate students' progression from dependent learners to self-directed individuals equipped with tools for independent learning. Although some students found learning medical terminology over-whelming, the SSDL model facilitated reflection and the discovery of effective strategies to overcome challenges. This approach also promoted problem-solving, an essential skill for success in health professions.

Keywords: self-directed learning, health professions, medical terminology, language of medicine, independent learning strategies, online learning, adult education