

Innovations in Nursing Education at the Intersection of a Changing Learner and a Changing System

Valerie Howard, EdD, MSN, RN, CNE, ANEF, FAAN¹ 

¹ School of Nursing, University of North Carolina at Chapel Hill

Keywords: Valerie Howard, UNC School of Nursing, nursing workforce, North Carolina, nursing education, universal design, technology-enabled learning, virtual reality training, well-being frameworks

<https://doi.org/10.18043/001c.163027>

North Carolina Medical Journal

Vol. 87, Issue 2, 2026

Schools of nursing face unprecedented pressures related to workforce shortages, learner diversity, and health system complexity. This commentary explores key challenges confronting nurse educators and highlights emerging innovations (partnerships, simulation, artificial intelligence, technology-enabled learning, universal design, and a well-being framework) that show promise in preparing a resilient, practice-ready nursing workforce.

Innovation at the Intersection of Nursing Education and Health Care

Nursing education stands at the convergence of two dynamic systems, higher education and health care, which are both undergoing substantial disruption. Health systems face persistent workforce shortages, rising patient acuity, rapid technological change, and challenges in access and outcomes.¹⁻³ Concurrently, schools of nursing educate an increasingly diverse population of learners whose expectations, learning preferences, and lived experiences differ significantly from prior generations.⁴

Today's nursing students span generations, cultures, socioeconomic backgrounds, and professional pathways. Many balance employment, caregiving responsibilities, and financial stress while pursuing rigorous academic preparation. Learners are accustomed to digital environments, expect flexibility and relevance, and seek educational experiences that recognize them as engaged learners rather than passive recipients of content.⁴ These realities challenge traditional assumptions about how, where, and when nursing education occurs.

Faculty and academic leaders face parallel pressures. Clinical placement capacity remains constrained, faculty shortages persist, and regulatory and accreditation demands continue to intensify. Simultaneously, schools are called upon to expand enrollment, improve retention, advance inclusion, and prepare graduates for increasingly complex, interprofessional practice environments.^{1,5} In this context, educational innovation is no longer optional but essential to enhancing learner outcomes and sustaining both nursing education and the profession itself ([Table 1](#)).

Table 1. Mapping Innovations in Nursing Education to Examples and Outcomes

Innovation Area	Examples (UNC–Chapel Hill School of Nursing)	Documented / Intended Outcomes
Academic–practice partnerships	Tar Heel Academic Practice Partnership (TAPP); New Graduate Nurse Residency Program; Mobile Health Clinic	Improved alignment of academic preparation with clinical practice expectations; strengthened transition-to-practice support; enhanced nurse retention; expanded community-based clinical learning and service impact
Simulation and virtual reality (VR)	High-fidelity and VR-enhanced simulation across curricula; interprofessional education simulation experiences; Workplace Violence Simulation Training Program	Enhanced clinical judgment, communication, teamwork, and safety skills; preparation for high-risk, low-frequency clinical events; increased learner confidence and readiness for practice
Technology-enabled and mobile learning	Distance-based nurse practitioner programs; School-wide iPad Initiative; Collaborative Online International Learning (COIL)	Expanded access for working, rural, and widespread learners; improved flexibility while maintaining accreditation and competency standards; strengthened global and cultural competence
Artificial intelligence (AI)-enabled learning and communication	AI-assisted communication coaching tools; faculty-guided AI literacy and ethics initiatives	Improved professional communication; increased ability to critically evaluate AI-generated clinical information; greater awareness of ethical and responsible AI use in nursing practice
Access, inclusion, and universal design for learning	Digital accessibility and universal design initiatives; faculty development for inclusive pedagogy and disability inclusion	Reduced structural and learning barriers; improved engagement and psychological safety; proactive support for learner variability across programs
Collective well-being and relationship-centered education	Office of Well-Being; structured PhD mentoring models	Increased institutional support for learner and faculty well-being; strengthened professional identity formation; support for retention and sustainability of the nursing workforce

Innovation 1: Academic–Practice Partnerships as Foundational Drivers

Academic–practice partnerships (APPs) have emerged as foundational drivers of nursing education and workforce innovation rather than supplemental mechanisms for securing clinical placements. “The AACN/AONL Academic–Practice Partnership Playbook,” from the American Association of Colleges of Nursing (AACN) and American Organization of Nursing Leadership (AONL), frames APPs as human-centered, co-designed systems that integrate education, practice, research, and workforce development with shared accountability for outcomes such as practice readiness, workforce sustainability, and innovation.¹

Central to this model is the AACN/AONL’s “Shared Vision for Integrating Nursing Education and Practice,” which emphasizes five domains: human-centered care, competency-based education, workforce sustainability, innovation, and advancement of nursing science.¹ Competency-based education (CBE), guided by the 2021 AACN Essentials, serves as a critical thread for these partnerships by shifting emphasis from time-based education to demonstrated competence across domains of practice.⁶ APPs create the conditions under which CBE can be implemented across academic and clinical environments. The following examples outline ways that the University of North Carolina at Chapel Hill School of Nursing (UNC-CH

SON) is implementing the innovation. People identified in the exemplars are affiliated with either UNC-CH SON or UNC Health and are acknowledged with credentials at the end of the commentary.

University of North Carolina at Chapel Hill (UNC-CH)

Exemplars

The Tar Heel Academic Practice Partnership (TAPP) brings together the UNC School of Nursing (SON), UNC Health, UNC Medical Center, and UNC Health Rex to co-design nursing education aligned with workforce needs. Created by Lorie Rhine, Chief Nurse Executive at UNC Health; Dr. Valerie Howard, Dean of the SON; and Dr. Jacci Jacobs, VP and CNO at the UNC Medical Center; and coordinated by Dr. Lori Byrd, Associate Dean for Strategic Partnerships and Practice of the SON, the TAPP integrates academic leaders, faculty, nursing executives, interprofessional clinicians, and researchers to co-create strategies that respond to real-time practice and education challenges, including recruitment, retention, and resiliency in the nursing profession.

The New Graduate Nurse Residency Program exemplifies APP-driven transition-to-practice innovation through collaboration between the SON and UNC Health. The yearlong residency integrates structured mentorship, service-line-specific education, and longitudinal professional development aligned with AACN standards. Faculty engagement is central. Dr. Nancy Jo Thompson serves as the liaison, aligning transition-to-practice coursework and leadership development with clinical expectations. This partnership supports workforce readiness, reinforces evidence-based practice, and contributes to nurse retention during a critical career transition.

The UNC School of Nursing Mobile Health Clinic integrates APPs, interprofessional education, and community engagement. Established in 2016 by Dr. Marianne Cockroft and sustained by Dr. Jean Davison, the nurse-led clinic provides free screenings, education, and referrals for uninsured and underserved populations through partnerships with community organizations. Importantly, the clinic is intentionally structured as a clinical learning environment. Undergraduate and graduate students engage in population-focused screening, chronic disease management, and patient education, while nurse practitioner students assume advanced assessment and teaching roles. The clinic functions as a living laboratory for public health nursing, exposing learners to social and structural determinants of health while advancing equitable, human-centered care.

APPs are most effective when they support shared ownership of education, workforce development, research, and innovation.

Innovation 2: Simulation and Virtual Reality as Core Learning Strategies

Simulation is now a cornerstone of current nursing education, supporting experiential learning while protecting patient safety. Evidence demonstrates that simulation, when paired with intentional design, evidence-based pedagogy, and reflective debriefing, can enhance clinical judgment, confidence, and competence without jeopardizing outcomes, particularly when clinical placements are limited.^{5,7,8} The North Carolina Board of Nursing supports the use of evidence-based simulation, developed in alignment with standards, for up to 50% of clinical experiences in pre-licensure programs.

Virtual reality (VR) extends simulation's reach by enabling immersive engagement with complex or rare clinical scenarios using headsets or computer-based platforms. VR has demonstrated value in enhancing self-confidence, skill acquisition, learning outcomes, perspective taking, and engagement.⁹ Simulation and VR can also advance equity and cultural humility through scenarios that surface structural determinants of health and ethical dilemmas.^{3,10}

UNC-CH Exemplars

High-fidelity and VR-enhanced simulation supports practice in complex decision-making, teamwork, and communication. Dr. Elizabeth Stone's integration of headset-based and computer-based VR allows learners to rehearse challenging clinical situations in psychologically safe environments, enhancing self-efficacy and clinical reasoning while complementing hands-on simulation rather than replacing it.

Interprofessional education (IPE) simulation, led through the Office of Interprofessional Education and Practice and supported by Dr. Meg Zomorodi and Dr. Jennifer Alderman, brings together learners from nursing, medicine, pharmacy, social work, dentistry, and public health. The work is intentionally designed to help prepare a collaborative ready workforce through didactic and simulation experiences. The geriatric IPE simulation engages learners from additional professions, emphasizing communication, role clarity, and shared decision-making. The immersive "Can You Hear Me Now?" simulation focuses on communication challenges in technology-mediated care. The Partnership for Population Health (P4P) IPE activity focuses on rural population health and how teams can address needs in rural communities.

The Workplace Violence Simulation Training Program, developed collaboratively by SON, UNC Hospitals, UNC Health Rex, and the North Carolina Future of Nursing Action Coalition, addresses workplace violence through scenario-based learning.¹¹ Supported by the AARP Health Equity

and Nursing Innovation Fund and the UNC Health Ingram Institute, the program uses standardized patients (trained actors) to create an environment for nurses to practice their de-escalation skills, thus enhancing safety.

Realizing the full benefit of simulation requires sustained institutional investment, faculty development, and evaluation, recognizing that faculty expertise in experiential pedagogy is as critical as physical infrastructure.

Innovation 3: Technology-Enabled and Mobile Learning

Technology-enabled learning strategies, including distance-based programs and mobile learning, are reshaping nursing education to better meet learner needs. Evidence suggests that e-learning and blended models are comparable to traditional instruction when intentionally designed, developed with standards for online learning, and aligned with learning outcomes.^{12,13} These approaches promote flexibility, program access, and just-in-time learning while preparing students for technology-rich practice environments.

UNC-CH Exemplars

Distance-based nurse practitioner (NP) education, implemented by faculty in 2025 under the leadership of Dr. Rebecca Hill and Dr. Carrie Palmer, transitioned all Master of Science in Nursing (MSN) and Doctor of Nursing Practice (DNP) NP programs to online delivery for content with periodic on-campus immersions for skill validation. Anchored in competency-based education, this model expands access for working nurses statewide, particularly in rural and underserved communities, while maintaining quality and rigorous clinical, accreditation, and competency standards. Clinical placements remain regionally based, strengthening local workforce pipelines, meeting regional workforce needs, and providing access to advanced practice care for North Carolinians.

The EmpowerEd iPad initiative, led by Dr. Maureen Baker, exemplifies intentional mobile learning. Standardized access to iPads for all students supports just-in-time use of clinical guidelines, medication references, and evidence-based resources. Purposeful curricular integration ensures iPads function as tools for clinical reasoning, documentation practice, and structured reflection rather than simple content delivery, promoting equity and pedagogical coherence, which has earned the SON an honorific designation as an Apple Distinguished School.

Collaborative Online International Learning (COIL) represents a scalable and equity-focused innovation in global nursing education. Led by Dr. Lisa Woodley, the COIL initiatives integrate international, intercultural collaboration directly into undergraduate and graduate curricula through sustained partnerships with global institutions. Rather than relying on physical travel, COIL embeds jointly designed learning modules, case-based discussions, and collaborative projects into existing courses, enabling students

to engage with international peers and faculty online while examining culturally responsive care, global health systems, and social determinants of health, preparing future nurses to practice effectively in a global environment.

Innovation 4: Artificial Intelligence-Enabled Learning and Communication

Artificial intelligence (AI) represents an emerging educational frontier. Scoping reviews indicate that AI-enabled tools can enhance learner engagement, communication skills, and individualized feedback when implemented thoughtfully.¹⁴ Ethical considerations related to bias, privacy, and academic integrity necessitate deliberate governance.¹⁵

UNC-CH Exemplars

Use of AI-assisted communication-coaching tools helps students and clinicians improve clarity, confidence, and effectiveness in professional communication. Specific software programs are used instructionally by faculty like Dr. Baker to provide AI-enabled analysis of spoken communication. These tools offer learners feedback, allowing them to rehearse presentations, patient education, handoffs, and professional interactions independently. For nursing students, repeated practice in psychologically safe environments can reduce anxiety and build professional presence.

AI literacy projects led by Dr. Kandyce Brennan advance responsible AI integration through faculty development, ethical dialogue, and case-based learning, centering on the ethical and sustainable use of AI to enhance health decision-making, improve health literacy, and address misinformation, particularly in rural and underserved communities. Brennan developed an unfolding prioritization assignment in which students evaluate a simulated ambient-listening summary and charted nurse-to-nurse handoff, appraise an AI-generated clinical situation, and determine priority assessments and patient education needs. The same activity also engages students in creating custom AI agents to assist with laboratory interpretation, helping them understand how thoughtful design and effective prompting contribute to the development of higher-quality AI tools. Collectively, this activity is intended to strengthen students' ability to critically evaluate AI-supported clinical information, recognize the limits of AI outputs, and apply sound clinical judgment, communication, and patient-centered decision-making in postpartum nursing care. This work emphasizes AI as a complement to, rather than replacement for, clinical judgment and relational teaching, particularly in underserved contexts.

Innovation 5: Access, Inclusion, and Universal Design for Learning

Educational innovation must address structural barriers to student success.³ Encouraging and removing barriers to facilitate academic progression from practical nursing (PN) and associate degree (ADN) programs to baccalaureate and graduate degree-completion programs will strengthen our profession.¹ Universal Design for Learning offers a proactive framework for supporting learner variability and reducing reliance on reactive accommodations.¹⁶

UNC-CH Exemplars

Institution-wide and school-level digital accessibility initiatives ensure that learning materials, simulations, and digital platforms meet accessibility standards. Dr. Jessica White leads digital accessibility and inclusive course design initiatives across undergraduate and graduate programs, partnering with faculty to anticipate learner variability. This work is complemented by Stephanie Guzman, Instructional Designer, who supports operationalization of accessibility standards across learning platforms.

Faculty development grants and instructional design support, focused on inclusive pedagogy and Universal Design for Learning (UDL), are reinforced by Dr. LaTonia Chalmers' Dean's Pilot Grant, "Building SON Capacity for Disability Inclusion." This project advances proactive, institution-level strategies designed to build shared understanding, improve instructional practices, and promote universal accessibility across nursing programs to support students with disabilities.

Innovation 6: Collective Well-Being and Relationship-Centered Education

Educational innovation increasingly encompasses learner, faculty, and staff well-being. Persistent stress, burnout, and moral distress, accelerated by the COVID-19 pandemic, threaten not only clinical educational quality but nursing workforce sustainability, as experienced nurses reduce work hours or leave the profession altogether.² Nursing faculty shortages exacerbate this issue. Retaining qualified nurses and faculty is therefore a professional, educational, and policy imperative.

Leadership scholarship emphasizes the importance of relational leadership, civility, and emotionally intelligent communication in supporting engagement and intention to stay.⁴ Addressing burnout and supporting well-being are therefore not ancillary to educational innovation; they are foundational strategies for retaining a skilled nursing workforce, sustaining professional identity formation, and ensuring the continuity and quality of nursing education and patient care.

UNC-CH Exemplars

The Office of Well-Being, led by Dr. Cheryl Giscombe, Chief Wellness Officer at the SON, embeds evidence-based wellness as an institutional commitment with initiatives supporting student resilience, faculty wellness, and healthy work environments. Programming includes mindfulness, movement-based activities, wellness spaces, and integration of well-being into meetings, school operations, and curricula. Importantly, these efforts are embedded within the life of the SON rather than positioned as optional add-ons, signaling that well-being is a shared organizational priority.

Structured mentoring further reinforces relational teaching. The PhD program's mentoring model, led by Drs. Jessica Williams and Jada Brooks, treats mentoring as a collective, program-level responsibility aligned with competencies. Through individual and cohort-based mentoring, this structured approach enhances psychological safety, reduces ambiguity, and mitigates isolation—common risks in research-intensive doctoral training—by fostering transparency, collective accountability, and consistent support across cohorts. By embedding mentoring within continuous program evaluation and curriculum alignment processes, the PhD program advances a human-centered model of doctoral research education that balances scholarly rigor with well-being, reinforcing a culture in which students are supported to thrive academically and professionally.

Conclusion: Innovating with Intention

Innovation in nursing education is not the adoption of isolated tools, but the intentional redesign of systems to meet the realities of contemporary learners and health care environments. Academic–practice partnerships, experiential and technology-enabled learning, inclusive design, and attention to well-being together create conditions for sustainable excellence. When grounded in evidence, equity, and collaboration, these innovations prepare nurses who are not only clinically competent, but adaptable, reflective, and ready to lead.

Acknowledgments

Dr. Valerie Howard is the Chair-Elect of the Board of Directors for the American Association of Colleges of Nursing (AACN). The views, analyses, and conclusions expressed in this article are those of the author and do not necessarily reflect the official policy or positions of AACN.

The author gratefully acknowledges the faculty, clinical partners, and nurse leaders whose leadership, scholarship, and practice innovations are highlighted in this commentary. Their collective work exemplifies the collaborative and interdisciplinary efforts required to advance nursing education and practice. In particular, the author recognizes: Jennifer

Alderman, PhD, RN; Maureen Baker, PhD, RN; Kandyce Brennan, DNP, CNM; Jada Brooks, PhD, RN; Lori Byrd, DNP, MSN, RN, CNE; LaTonia Chalmers, DNP-TCN, APRN, PMHNP-BC, APHN-BC, HWNC-BC; Marianne Cockroft, PhD, RN; Jean Davison, PhD, RN; Cheryl Giscombe, PhD, RN, PMHNP-BC, FAAN; Stephanie Guzman, MA; Rebecca Hill, PhD, DNP, FNP-C, CNE, FAAN; Jacci Jacobs, DHA, MBA, RN, NE-BC; Carrie Palmer, DNP, RN, ANP-BC; Lorie Rhine, MSN, RN, NE-BC; Elizabeth Stone, PhD, RN; Nancy Jo Thompson, DNP, MSN-Ed, RN; Jessica White, PhD; Jessica Williams, PhD, RN; Lisa Woodley, PhD, MSN, RN, CNE, CHPN; and Meg Zomorodi, PhD, RN, CNL.

All concepts, interpretations, and conclusions presented in this manuscript reflect the original intellectual work, judgment, and scholarly vision of the author. During the preparation of this work the author used Microsoft Copilot to assist with language refinement, organization, and editing of manuscript text. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

Declaration of Interests

The author reports no conflicts of interest or financial support.

Correspondence

Address correspondence to Dr. Valerie Howard, UNC School of Nursing, Campus Box 7460, Chapel Hill, NC 27599 (howardv@unc.edu).

Published: June 30, 2026 EDT.

© North Carolina Institute of Medicine



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CCBY-NC-SA-4.0). View this license's legal deed at <https://creativecommons.org/licenses/by-nc-sa/4.0> and legal code at <https://creativecommons.org/licenses/by-nc-sa/4.0/legalcode> for more information.

REFERENCES

1. American Association of Colleges of Nursing, American Organization for Nursing Leadership. Academic–Practice Partnership Playbook: From Shared Vision to Action. 2025. <https://www.aacnnursing.org/Portals/0/PDFs/Academic-Practice-Partnerships/AACN-AONL-Academic-Practice-Partnership-Playbook.pdf>
2. National Nursing Workforce Survey. National Council of State Boards of Nursing. 2023. <https://www.ncsbn.org/research/recent-research/workforce.page>
3. Sumpter D, Blodgett N, Beard K, Howard V. Transforming nursing education in response to the Future of Nursing 2020–2030 report. *Nurs Outlook*. 2022;70(6):S20-S31. doi:[10.1016/j.outlook.2022.02.007](https://doi.org/10.1016/j.outlook.2022.02.007)
4. Thompson SA, Miller KL. Disruptive trends in higher education: Leadership skills for academic nurse leaders. *J Prof Nurs*. 2018;34(2):92-96. doi:[10.1016/j.profnurs.2017.11.008](https://doi.org/10.1016/j.profnurs.2017.11.008)
5. Badr Naga BSH, Hayajneh F, Othman EH. Enhancing clinical training in nursing education: Overcoming barriers and exploring innovative solutions. *Int J Nurs Educ*. 2025;17(3):2-9. doi:[10.37506/my5pfk28](https://doi.org/10.37506/my5pfk28)
6. American Association of Colleges of Nursing. The Essentials: Core Competencies for Professional Nursing Education. 2021. Accessed April 2026. <https://www.aacnnursing.org/Portals/0/PDFs/Publications/Essentials-2021.pdf>
7. Hayden JK, Smiley RA, Alexander M, Kardong-Edgren S, Jeffries PR. The NCSBN National Simulation Study: A longitudinal, randomized, controlled study replacing clinical hours with simulation in prelicensure nursing education. *J Nurs Regul*. 2014;5(2):S1-S64. doi:[10.1016/S2155-8256\(15\)30062-4](https://doi.org/10.1016/S2155-8256(15)30062-4)
8. Mancini ME, LeFlore JL, Cipher DJ. Simulation and clinical competency in undergraduate nursing programs: A multisite prospective study. *J Nurs Educ*. 2019;58(10):561-568. doi:[10.3928/01484834-20190923-02](https://doi.org/10.3928/01484834-20190923-02)
9. Vogelsang L, Wright S, Risling T, et al. Exploring the use of immersive virtual reality in nursing education: A scoping review. *Clin Simul Nurs*. 2024;97:101648. doi:[10.1016/j.ecns.2024.101648](https://doi.org/10.1016/j.ecns.2024.101648)
10. Blodgett N, Howard V, Phillips B, et al. Developing virtual simulations to confront racism and bias in health professions education. *Clin Simul Nurs*. 2022;71:P105-111. doi:[10.1016/j.ecns.2022.03.009](https://doi.org/10.1016/j.ecns.2022.03.009)
11. Kellish A, Kim S, Kenyon-Flatt B, et al. The role of academic–practice partnership in developing workplace violence prevention simulation training. *Nurse Leader*. 2025;23(3):256-261. doi:[10.1016/j.mnl.2025.03.002](https://doi.org/10.1016/j.mnl.2025.03.002)
12. Li C, He J, Yuan C, Chen B, Sun Z. The effects of blended learning in nursing education. *Nurse Educ Today*. 2019;82:51-57. doi:[10.1016/j.nedt.2019.08.004](https://doi.org/10.1016/j.nedt.2019.08.004)
13. George PP, Papachristou N, Belisario JM, et al. Online eLearning for undergraduates in health professions. *J Glob Health*. 2014;4(1):010406. doi:[10.7189/jogh.04.010406](https://doi.org/10.7189/jogh.04.010406)
14. Cucci F, Marasciulo D, Romani M, et al. The contribution of artificial intelligence in nursing education: A scoping review of the literature. *Nurs Rep*. 2025;15(8):283. doi:[10.3390/nursrep15080283](https://doi.org/10.3390/nursrep15080283)
15. 2025 Thought Leaders Assembly. *Examining the Potential of AI to Transform Nursing Education*. American Association of Colleges of Nursing; 2025. <https://www.aacnnursing.org/Portals/0/PDFs/Reports/Thought-Leadership/AACN-2025-Thought-Leaders-Assembly-Summary.pdf>

16. Doyle AJ, O'Toole M, Cassidy D, Condron CM. Universal design for learning in simulation-based health professions education. *Adv Simul (Lond)*. 2025;10:33. doi:[10.1186/s41077-025-00361-3](https://doi.org/10.1186/s41077-025-00361-3)