**Educational Technology Needs Assessment**

Name

Institution

Course

Instructor

Date

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In current health care education systems, the incorporation of innovative learning technologies is crucial in producing proficient and confident nursing personnel. As the director of nursing education, the role is to determine the present use of simulation technology in the organization and where changes are crucial to better align with best practices and the organization’s strategic mission. Thus, this assessment highlights the significance of high-fidelity simulations in addressing the gap between theory and performance, ultimately enhancing patient care and staff competence.

**Current Use of Educational Technology**

Nurses in the current academic environment are leveraging simulation equipment, particularly manikins, as an essential technology in their nursing education. These manikins help mimic different real life clinical situations, which enables the nursing students to practice actual nursing scenarios in a controlled setting (Torres et al., 2022). The simulation exercises include diverse kinds of medical scenarios, from simple care to advanced interventions. This approach provides students with opportunities to practice critical thinking, clinical reasoning, and procedural skills while minimizing risks to patients. Furthermore, the use of manikins is an effective way to connect theories with practical experience, which, in general, improves the quality of education and prepares students for clinical practice.

However, there are still some gaps in the information that would give a more accurate account of the present use of simulation technology. For example, there is limited information on the number and length of simulation sessions, the simulation scenarios used, and the results of such sessions. In addition, this description relies on the assumption that the simulation equipment is equally available and used throughout the nursing education program. It also assumes that the instructors are well informed on the use of the technology.

**Current State of Educational Technology Use**

Currently, nurses in the academic environment utilize simulation manikins to model clinical situations and promote practical training. However, this method lacks some of the best practices though it is quite effective. The ideal state includes an effective integration of simulation technology with a well-planned curriculum, periodic feedback, and constant enhancement cycles. Other best practices involve the use of high-fidelity simulations, interprofessional collaboration, and debriefing sessions to foster critical learning.

Based on gap analysis, one of the most remarkable changes is the improvement of simulation fidelity. High-fidelity simulations provide more authentic and complicated situations, which enhance the applicability of skills in clinical practice (Hussein & Hirst, 2023). Another necessary change is the effective acquisition and evaluation of data collected from simulation sessions. Furthermore, integrating interprofessional education (IPE) within simulations may enhance students’ understanding of collaborative practice, which is a core part of patient-focused care. There may also be a need for new technology like advanced simulation software that provides more detailed analytics and immersive virtual reality (VR) simulations can offer richer learning experiences (Birkheim et al., 2023).

My conclusion are drawn from the comparison of current practices with the set practices in the nursing education. With the implementation of these best practices and integrating new technological solutions, the educational program can better address the performance disparities and enhance the overall competency of the students as well as the quality of the care provided to the patients.

**Metrics**

The metrics that are currently used to measure the effectiveness of simulation equipment in nursing education are student performance score, competency test, and certification exam pass rates. These metrics give a brief indication of the extent to which the students are absorbing the knowledge and skills that are taught through the use of simulations. Although these metrics are important, they are not completely adequate. The current metrics are mainly concerned with short-term impacts of education rather than the long-term effects on practice and patients.

To increase the quality, interpretation, and use of the data it would be beneficial for a comprehensive evaluation framework that includes short-term and long-term goals. This could entail monitoring how graduates perform in clinical contexts, patient satisfaction ratings, and adverse events reported to nursing staff. Secondly, the use of a combination of quantitative and qualitative methods of data collection can enrich the data. Performance data based on scores and rates should be supported by qualitative feedback obtained from interviews, focus groups, and journaling. Finally, the use of tools like advanced data analytics and learning analytics can offer more comprehensive and prescriptive information (Fernández et al., 2023). These tools help discover relationships between variables that are not easily distinguished using conventional statistical methods.

In summary, longitudinal designs may provide insights on the extent to which simulation-based education results in better clinical performance and patient outcomes over the long term. On the other hand, qualitative findings can reveal finer details of the context-specific factors that may affect the feasible use of simulation technology. Finally, learning analytics can capture students’ behavior with regard to the simulation technology, helping give feedback to the students and learning paths adjusted to their individual needs. Hence, a change towards the outcome-based metrics is in harmony with the major purpose of nursing education, to produce competent nurses.

**New or Existing Educational Technology**

The primary goal of the healthcare organization is to provide quality health care services, employee growth, and the development of innovative practices in nursing courses. Thus, the application of simulation equipment including manikins fits this mission perfectly as it aims to improve educational practice of nursing students while preparing them for clinical realities.

Further, the incorporation of high-technology simulation assists in professional growth through ongoing training of nursing staff. This is in line with the objective of the organization to ensure lifelong learning among its healthcare workers. Also, the innovative application of simulation technology shows a commitment to implement modern education technologies and processes, which is in alignment with the organization’s strategic goal of being an innovative healthcare educational institution. Collectively, there is congruency between simulation technology and the organization’s strategic mission showcased by the improved quality of patient care, staff development, and creativity.

**Recommendations**

Based on the analysis, there are several changes to be made in the current setup. First, there is a need to replace low-fidelity manikins with high-fidelity ones that can simulate more complex and realistic cases. Secondly, it is crucial to incorporate virtual reality (VR) simulations as an addition to the physical manikins, helping learners to exercise rare and important scenarios that could not be easily replicated in the typical simulation lab. As Clarke (2023) explain, through virtual reality (VR) simulations, students are able to engage with 3D experience, crucial to perfect care skills.

The other recommendation is a proper data analytics system to monitor the performance of students during simulations. This system should enable the measurement of specific learning skills, decision making processes and detect areas of deficiency. Frequent analysis of this data will enable educators to ensure that their teaching methods meet the needs of every student so as to improve the educational experience. Moreover, the inclusion of IPE sessions as part of the simulation curriculum would prepare students for collaborative practice. Tilley et al. (2022) supports that IPE is curriculum aspect for all healthcare education. These recommendations should enhance the quality of nursing education by increasing the realism, enabling ongoing performance enhancement, and encouraging teamwork.

**Conclusion**

The needs assessment of simulation technology in the nursing education program has identified the necessary improvements and potential developments. Recommendations such as the use of high-fidelity manikins, use of virtual reality simulations, and data analytics are effective and support the strategic mission of the organization. These changes are expected to benefit students, faculty, and patients by creating a more engaging learning environment, improving skills acquisition, and promoting collaboration between professions, which will result in better-prepared graduates and superior patient care.

**References**

Birkheim, S. L., Calogiuri, G., & Martinsen, R. (2023). Advancing immersive virtual reality-based simulation practices: Developing an evidence-based and theory-driven pedagogical framework for VR-based simulations of non-technical skills among healthcare professionals. *Interactive Learning Environments*, 1–13. <https://doi.org/10.1080/10494820.2023.2186896>

Clarke, E. (2021). Virtual reality simulation—the future of orthopaedic training? A systematic review and narrative analysis. *Advances in Simulation*, *6*(1). <https://doi.org/10.1186/s41077-020-00153-x>

Fernández-Olaskoaga, L., Catasús, M. G., Fontanillas, T. R., & Martínez, J. P. C. (2023). Learning Analytics: A view on the design and assessment of asynchronous online discussions for better teaching performance. *Education Sciences*, *13*(10), 1064. <https://doi.org/10.3390/educsci13101064>

Hussein, M. T. E., & Hirst, S. P. (2023). High-Fidelity simulation’s impact on clinical reasoning and patient Safety: A scoping review. *Journal of Nursing Regulation*, *13*(4), 54–65. <https://doi.org/10.1016/s2155-8256(23)00028-5>

Tilley, C. P., Roitman, J., Zafra, K. P., & Brennan, M. (2021). Real-time, simulation-enhanced interprofessional education in the care of older adults with multiple chronic comorbidities: A utilization-focused evaluation. *mHealth*, *7*, 3. <https://doi.org/10.21037/mhealth-19-216>

Torres, K., Evans, P., Mamcarz, I., Radczuk, N., & Torres, A. (2022). A manikin or human simulator—development of a tool for measuring students’ perception. *PeerJ*, *10*, e14214. <https://doi.org/10.7717/peerj.14214>