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The perceived usability of desktop VR for practicing preoperative handovers using ISBAR among nursing students

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ABSTRACT

Virtual reality (VR) is an evolving teaching method (Jacobs et al., 2022). However, there is no VR solution for practicing systematic and precise communication, which is a crucial nursing competence during handovers when patients undergo surgery (Gordon, 2018). It is recommended to use the identification-situation-background-assessment-recommendation (ISBAR) approach, which is evidence-based and recommended for communicating patient information between healthcare providers (Shahid & Thomas, 2018). VR has great potential to improve learning outcomes (Foronda et al., 2020; Kyaw et al., 2019). Therefore, a preoperative ISBAR desktop VR application (henceforth *application*) was developed for undergraduate nursing students to practice handovers. This study evaluated the perceived usability of this application solution involving nine second-year undergraduate nursing students aged 22–29 years at a university in Norway. The participants completed the System Usability Score (SUS) (Brooke, 1996). The students found the application to be a highly motivational learning tool and said it provided interactive learning experiences that were engaging and close to practice. The mean score on the SUS was 83 out of a possible 100 (standard deviation 18.8), which translates to *excellent* usability (Fig. 1), which means that nursing students found it easy to complete tasks efficiently and effectively.

Video to this article can be found online at https://doi.org/10.1016/j.sctalk.2023.100140.
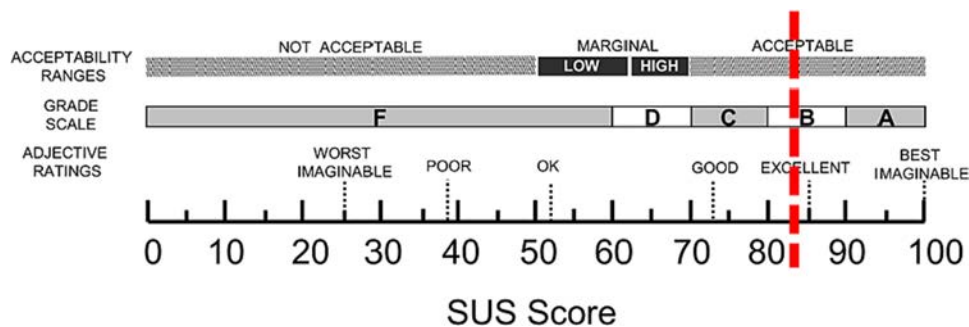
Figures and tables

Fig. 1. The vertical dotted red line (83 on the 0–100 scale) shows the mean system usability score (SUS) (*n* = 9) (reproduced with permission from Bangor et al., 2009).

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Further reading

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Eva Mari Andreasen is a Research Fellow and Assistant Professor at the Department of Health- and Nursing Science at the University of Agder in Norway. Before she started her Ph.D. in 2020, she worked as a nurse in medical, surgical, pediatric, and psychiatric wards. As a part of her Ph.D., she has, together with her research group, developed a desktop virtual reality (VR) simulation learning activity for undergraduate nursing students to learn the identification-situation-background-assessment-recommendation (ISBAR) handover approach when patients undergo surgery. She won the regional Researchers' Grand Prix in 2022 in Norway.

Rune Høigaard is a Professor in Sport Science in the Department of Sport Science & Physical Education at the University of Agder in Norway. He also holds a position as Visiting Professor at the Norwegian University of Science and Technology and is Head of Sports Psychology at Olympiatoppen Sør [Olympic center South]. His primary field of research is sport psychology, particularly group dynamics, leadership, and coaching in sports. He has many years of practical and research experience working with athletes and teams in various sports, including at World Class level, and working with clients in both public and private organizations. He has published over 100 scientific articles in national and international journals and has authored ten books relevant to sport psychology.

Helen Berg is an Associate Professor at the Department of Health Sciences in Ålesund, Norwegian University of Science and Technology. Her main research interest is use of simulation-based training for health professionals and students. She has taken part in developing several VR applications for practicing clinical skills. She has extensive experience with project management related to competence enhancement in healthcare services and healthcare education using traditional simulation, in-situ simulation, and VR simulation.

Aslak Steinsbekk is a professor in behavioral sciences in medicine and health service research at the Department of Public Health and General Practice, Norwegian University of Science and Technology. His main research activities at current centers around health service research with a focus on the patient perspective and how patients experience the complete package of services they use. He is awarded the status as Excellent teaching practitioner at NTNU (Merittert underviser) and PI on several research and development project in medical and health science education including the use of virtual reality (VR).

Kristin Haraldstad is a professor in health sciences at the Department of Health and Nursing Science, University of Agder, Norway. Kristin has extensive research experience within the field of nursing and public health, especially related to quality of life, mental health and health literacy in children and adolescents. She has experience with project management related to public health, health care education and use of technology. She is the leader of the research group Heifa (Health and quality of life in a life course perspective).