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MODULE: DIGITAL SKILLS AND RESEARCH METHODS

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Section 1: Introduction to the research paper

Title of the research paper

The research paper taken under discussion is “*A cross-sectional study of discipline-based self-perceived digital literacy competencies of nursing students* “

The Authors

The authors of the research paper are *Konstantina Martzoukou, Errol Sadullah Luders, Jane Mair, Petros Kostagiolas, Neil Johnson, Fiona Work and Crystal Fulton*

The year of publication

The research paper that is considered for discussion is published in the year 2024.

The main problem that is explored in the paper

The present skills that nursing students in the UK possess reveals the fact that there is an uneven digital literacy among the frontline professionals in healthcare and social care, the nurses. COVID 19 pandemic has depicted the fact that digital literacy and skills among the nurses can be regarded to be very crucial in order to cope up with the informatics and efficiently handling the digital technologies (Martzoukou *et al.*, 2024). However, it is seen that the incorporation of digital skills in the healthcare curriculum is a very slow process which may in many cases overlook the necessary changes in behaviour, skills and results that are crucial for healthcare sector professionals. This calls for an evaluation of the students in the healthcare sector to check their competency in handling technology to the maximum effect for the patients.

Who is the research about

The research is basically an institutional project that aims to explore the digital literacy skill development among the students. The research particularly focuses on the data that is obtained from the participation of the nursing students.

Importance of the topic

The research is particularly considered crucial because it focuses on the cruciality of mixing digital literacy within the academic program of the nursing students as it can prepare the nursing students for a comprehensive healthcare of the patients (Loconi *et al.*, 2026). The “*National Health Service in the UK*” has identified the six primary digital skills that are develops out of up of skills, behaviours and attitudes that tend to incorporate not only proficiency in technology but also in *collaboration, communication and participation, development of the self* and research for the workforce in the social and health care sector (Martzoukou *et al.*, 2024). However, it is seen that although there is a widespread existence of digital technologies to use, there still prevails a very low confidence among the students in the healthcare sector to implement digital technology in their working principles (Loconi *et al.*, 2026). This again

highlights the need to add digital skills in the curriculum so that a digital literate future workforce can be developed in the healthcare and social care sector.

Section 2: Understanding the research questions

Identification of the research questions

The main problems or the objectives that the research explores in the paper are the following. Firstly, the research repurposes the present “general self-assessment digital competency survey tool in such a manner that reflects the digital skills that are required in specific disciplines

Secondly the research explores the digital knowledge of the nursing students in various study curriculum by the way of applying the repurposed tool for survey.

Thirdly, the research explores the witnessing of increasing the digital knowledge and obstructions that the students face by discussing with the students.

Fourthly, the research explores the various recommendations that can be provided to the students regarding their digital competency and collate useful digital literacy training resources (Martzoukou *et al.*, 2024).

Section 3: Understanding Research methodology

Explaining Quantitative, Qualitative, and Mixed-Methods

Quantitative-

Quantitative research is focused on collecting and analysing numerical data. It recognises patterns, tests ideas, and makes predictions with its core goal to be objective and produce results that could be applied to large groups of people. It usually involves three main methods that are surveys and questionnaires, experiments, and correlation studies (Ghanad, 2023). This method answers questions like ‘how much’ and ‘how many’ along with establishing a cause-and-effect relationship.

Qualitative-

Qualitative research is aimed at exploring human behaviour, opinions, and motivations. It is known to be using non-numerical data such as words, images or observations and answers questions such as ‘why’ and ‘how’ instead of ‘how many’ (Lim, 2025). Moreover, it has the potential of offering deep context regarding complex experiences.

Mixed-methods-

Mixed-method research combines both numbers and stories or experiences that are both quantitative and qualitative data in one study. Therefore, it uses the strength of both the approaches and provides complete as well as deep answers to the questions (Gronmo, 2023). It can offer more flexibility while designing the research.

The research method used in this research

As regarding the research methodology, a cross-sectional empirical study design has been incorporated in this research taken under consideration. As regarding the data collection, Quantitative data has been collected with statistical analysis through descriptive statistics and thematic analysis has been done for the survey data.

Explanation of the chosen method

The research has incorporated a cross-sectional quantitative research design. A quantitative cross-sectional design has been implemented as it enabled the researchers to collect numerical data from a population sample at a specific point of time. It acts as an observational snapshot as it tends to quantify the variables in order to determine the prevalence, compare demographic groups and establish statistical correlations (Baumeister *et al.*, 2026). The research design comprises of two parts. The first part comprises data regarding the initial consultation with the academic staff, subject expertise and nursing students who provided insights and subject specific repurposing of an existing general survey instrument. This data has been analysed statistically in the form of descriptive statistics. The second phase comprised conducting a survey to a sample of students in the nursing, midwifery and paramedical sector to collect quantitative data regarding their digital knowledge and awareness. This data offered further qualitative insights by thematic analysis. The advantages of the implementation of this method are that it is considered to be cost and time effective as the subjects are surveyed only once. This makes the implementation of very few resources as compared to longitudinal studies (Oranga and Matere, 2025). Secondly, this method allowed the researchers to analyse a lot of variables simultaneously in a very effective manner. Thirdly, the cross-sectional quantitative research enables the easy formation of hypotheses for the research by identifying the trends in digital literacy among the healthcare nursing students. Based on the researcher's method of work it can be said that the researcher has implemented positivism as the research philosophy as it assumes an objective reality that is independent of the researcher and is measured through empirical observations and numerical data in the study. The synergy between positivism and cross-sectional quantitative design has proved to be very practical in this research as positivism demands that the concepts are broken down into measurable variables (Chirico, 2023). On the contrary, the design aligns with the philosophy by systematically observing the variables to statistically significant claims. The research approach implemented in the study can be said to be Deductive as it helped the authors in co-designing the digital skills assessment tool with the employees and find out the view of the students and enhance further interpretation and explanation regarding the particular obtained results.

Difference between primary and secondary data collection methods

Primary data is regarded to be the information that is original and first hand and is collected by the author to address the specific research problems (Chirico, 2023). Secondary research on the contrary is regarded to be the existing information that was previously gathered by someone else for another purpose. Primary data is collected directly from the subjects through Surveys and Questionnaires, Interviews, focus groups and observation. Secondary data on the contrary arises out of government and public records, Academic journals and publications, Organisational internal data and market reports.

In this research, primary information was gathered from the period of November to December of the 2021 through a survey strategy of question airing that was applied to the students enrolled in nursing, academic staffs and subject experts. Added to this primary data was also collected from the students of nursing, regarding their digital competencies.

Section 4: Conclusion

Summary of the research paper

Based on the discussions and analysis of the findings in the concerned research paper, it can be concluded that students are required to develop both technological skills added to attitude and behaviour. These behavioural and technological aspects of the students are considered to be very crucial because they are the future professionals in the healthcare sector. Thus, it can be regarded that the staff and educators who are involved in the healthcare sector should compulsorily employ the perception of dualism in digital knowledge and skills and focus on the cruciality of long-term digital learning.

Reflection on the learning

Based on the research work, I have become aware of the necessity of digital awareness and skills that have become very important for people working in the healthcare sector. From the findings of the research, I have come to know the parameters of the methods to implement digital tools and develop digital knowledge and how to stay updated with the digital tools. Added to this, I have also come to know about the strategies to develop to combat the challenges in adopting digital skills. All of these learning can greatly enhance my digital skills and help me in my future academic persuasion or in my workplace.

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