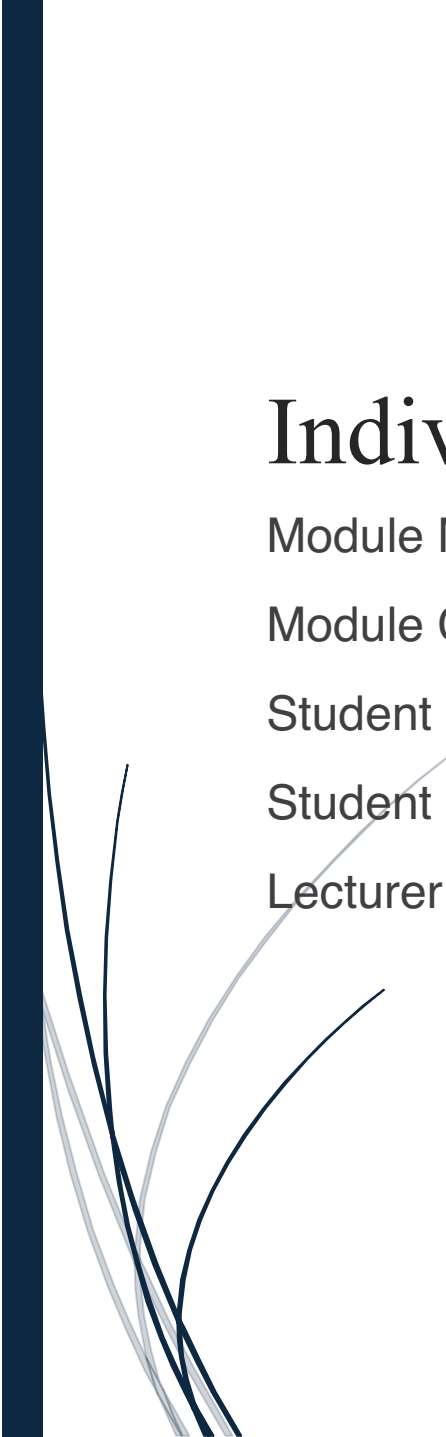




Individual Report

Module Name: Digital Skills and Research Methods

Module Code: LCHS 4007

Student name: Daurielis Altagracia Diaz Sanchez

Student ID:2544031

Lecturer's Name:Koushik modak

Table of Contents

Section 1: Introducing the Research Paper and Topic Development	1
2. Main Topic or Problem Explored in the Paper	1
3. Who Is the Research About?	1
1.4 Why Is This Topic Important in UK Health and Social Care?	1
Section 2: Understanding the Purpose and Research Question	2
2.1 Research Question(s) or Objectives	2
Section 3: Understanding the Research Methods	2
3.1 Overview of Quantitative, Qualitative, and Mixed-Methods Research	2
3.2 Research Methodology Used in Your Chosen Paper and Why	3
3.3 Primary and Secondary Data: Definitions, Differences, and Application to Your Paper	3
Section 4: Conclusion	4
References	4

Section 1: Introducing the Research Paper and Topic Development

1. Paper Details (Title, Author(s) and Year of Publication)

This report examines the paper A cross-sectional study of discipline-based self-perceived digital literacy competencies of nursing students, written by Konstantina Martzoukou, Errol Sadullah Luders, Jane Mair, Petros Kostagiolas, Neil Johnson, Fiona Work and Crystal Fulton. The paper was published in 2024 in the Journal of Advanced Nursing (Martzoukou et al., 2024).

2. Main Topic or Problem Explored in the Paper

The paper explores the digital literacy skills of nursing students and how confident they feel when using digital technology for their studies and future professional work. The researchers wanted to find out which digital skills students were comfortable with and which areas needed more development. The study looked at different areas, such as information literacy, digital research, digital communication, digital creation and digital innovation. It also considered whether students' digital skills were different depending on their age and whether they were studying on a pre-registration or post-registration course. The main problem identified was that students had some important gaps in digital skills, particularly in information literacy, digital research and digital innovation (Martzoukou et al., 2024).

3. Who Is the Research About?

The research is mainly about students studying Nursing, Midwifery and Paramedic Practice at a university in Scotland. There were 182 students who completed the online questionnaire, although most of the participants were nursing students. The students included different age groups and both pre-registration and post-registration students. Most participants were undergraduate students and many were in their first year of study. The researchers focused on these students because they are preparing for healthcare careers where digital skills are becoming increasingly important for learning, research and professional practice (Martzoukou et al., 2024).

1.4 Why Is This Topic Important in UK Health and Social Care?

This topic is important in UK health and social care because digital technology is now part of many areas of healthcare. Nurses need to use digital systems, communicate online, find reliable information and use research to support their practice. The COVID-19 pandemic also increased the use of online and digital ways of learning and delivering healthcare. Booth et al. (2021) explain that nursing needs to become more digitally prepared because technologies such as electronic health records, telehealth and other digital systems are becoming more common in healthcare. For this reason, nursing students need to develop

digital skills during their education rather than only learning them through personal experience or trial and error. Improving these skills can help future nurses feel more confident and use digital technology effectively when supporting patients and working with other healthcare professionals.

Section 2: Understanding the Purpose and Research Question

2.1 Research Question(s) or Objectives

The main aim of the study was to understand the digital skills of students studying nursing and related healthcare subjects. The researchers wanted to adapt an existing digital skills questionnaire so that it was more relevant to healthcare students. They also wanted to identify the digital competencies students felt they had and whether these differed according to their age or the type of course they were studying. In addition, the wider project explored how students developed their digital skills and the difficulties they experienced. The study therefore aimed to identify areas where students may need further digital skills support (Martzoukou et al., 2024).

Section 3: Understanding the Research Methods

3.1 Overview of Quantitative, Qualitative, and Mixed-Methods Research

Quantitative research focuses mainly on collecting and analysing numerical data. It is often used when researchers want to measure something, compare groups or identify relationships between different variables. For example, in health and social care, a researcher could use a questionnaire to measure how many patients are satisfied with a healthcare service. The results can then be presented using statistics and percentages. Creswell and Creswell (2018) explain that quantitative research is useful when researchers need to examine variables using numerical measurements and statistical analysis.

Qualitative research is different because it focuses more on people's experiences, opinions, feelings and views. Instead of mainly using numbers, researchers collect information through methods such as interviews, focus groups or open-ended questions. For example, a researcher could interview older people to understand their experiences of receiving care at home. The information can then be analysed to identify common themes or ideas. This approach can give a deeper understanding of people's experiences and the reasons behind them.

Mixed-methods research combines quantitative and qualitative approaches within the same research study. This means that researchers collect and analyse both numerical and non-numerical information and then bring the findings together to answer the research question. Creswell and Plano Clark (2018) explain that mixed-methods research can be useful when one type of data alone does not provide enough understanding of a research

problem. For example, a healthcare study could use a questionnaire to measure patient satisfaction and interviews to understand why patients had positive or negative experiences. Combining both types of information can provide a broader understanding of the issue

3.2 Research Methodology Used in Your Chosen Paper and Why

The research paper mainly used a quantitative approach and followed a cross-sectional research design. The researchers collected information from students using an online questionnaire between November and December 2021. The questionnaire asked students to assess their own digital competencies using a five-point scale, from novice to expert. This produced numerical data that could be compared between different groups of students. The researchers used descriptive statistics to present the results and also used the Mann–Whitney U-test and Kruskal–Wallis test to examine differences between students according to age and whether they were studying on pre-registration or post-registration courses. The questionnaire also included three open-ended 4 questions. These responses gave some qualitative information about how students developed their digital skills and the difficulties they experienced, and the researchers analysed these responses using thematic analysis. However, the paper itself describes the overall design as a cross-sectional quantitative study, and the main analysis is based on the quantitative survey data (Martzoukou et al., 2024). I think this approach was suitable because the researchers wanted to measure students' self-perceived digital competencies and compare the results between different groups. Using a questionnaire made it possible to collect information from a relatively large number of students and present their answers using numerical results. The open-ended questions were also useful because they allowed students to explain their experiences in their own words and provided more context to some of the findings. Therefore, the quantitative approach was appropriate for answering the main aims of the study, while the open responses added further understanding of the students' experiences.

3.3 Primary and Secondary Data: Definitions, Differences, and Application to Your Paper

Primary data is information collected directly by researchers for the specific research they are carrying out. It can be collected through questionnaires, interviews, observations or other methods depending on the research question. Secondary data is information that already exists and was collected by other people or organisations, usually for a different purpose. For example, researchers could use existing NHS records or government statistics as secondary data. The main difference is that primary data is collected first-hand for the current study, while secondary data has already been collected and is being used for a new purpose (Institute for Work & Health, 2015). In the chosen paper, the researchers collected primary data because they obtained new information directly from students for this particular study. Invitations were sent to approximately 1,200 students and 182 students completed the online questionnaire. The questionnaire collected information about students' demographics and their self-perceived digital competencies. It also included three open-ended questions about how students learned digital skills, how they kept their skills up to date and how digital skills helped them deal with academic challenges (Martzoukou et al., 2024). The researchers analysed the numerical questionnaire data using SPSS. They used frequencies, percentages, mean, median and mode to describe the results. They also used Mann–

Whitney U and Kruskal–Wallis tests to compare groups because the data did not follow a normal distribution. Cronbach’s alpha was used to check the internal consistency of the questionnaire. The open-ended answers were analysed manually using thematic analysis, with themes and subthemes identified from the students’ responses. This allowed the 6 researchers to understand both the numerical results and some of the experiences behind them (Martzoukou et al., 2024).

Section 4: Conclusion

In conclusion, this report has explored the research paper by Martzoukou et al. (2024), which investigated the self-perceived digital literacy skills of nursing students and students from related healthcare courses. The paper showed that although students felt confident in some general digital skills, there were areas that needed further development, particularly information literacy, digital research and digital innovation. The report also considered the aims and objectives of the study and explained how the researchers used a cross-sectional quantitative approach. Data was collected through an online questionnaire and analysed using different statistical methods. The open-ended questions were analysed using thematic analysis, which provided additional information about students’ experiences of developing their digital skills. The report also explained the difference between quantitative, qualitative and mixed-methods research, as well as the difference between primary and secondary data. Completing this report has helped me understand that choosing the right research method depends on what the researchers are trying to find out. I have also learned that it is important to look carefully at how data is collected and analysed before deciding whether a study is quantitative or qualitative. Another important skill I have developed is understanding how research evidence can be used to support health and social care practice. In my future studies and professional practice, these research skills will help me to find reliable information, understand research findings and use evidence more effectively when making decisions.

References

- Booth, R.G., Strudwick, G., McBride, S., O’Connor, S. and Solano López, A.L. (2021) ‘How the nursing profession should adapt for a digital future’, *BMJ*, 373, n1190.
- Creswell, J.W. and Creswell, J.D. (2018) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th edn. Thousand Oaks, CA: SAGE Publications.
- Creswell, J.W. and Plano Clark, V.L. (2018) *Designing and Conducting Mixed Methods Research*. 3rd edn. Thousand Oaks, CA: SAGE Publications.
- Kiger, M.E. and Varpio, L. (2020) ‘Thematic analysis of qualitative data: AMEE Guide No. 131’, *Medical Teacher*, 42(8), pp. 846–854.
- Martzoukou, K., Luders, E.S., Mair, J., Kostagiolas, P., Johnson, N., Work, F. and Fulton, C. (2024) ‘A cross sectional study of discipline-based self-perceived digital literacy competencies of nursing students’, *Journal of Advanced Nursing*, 80(2), pp. 656–672.

Polit, D.F. and Beck, C.T. (2021) *Nursing Research: Generating and Assessing Evidence for Nursing Practice*. 11th edn. Philadelphia: Wolters Kluwer.