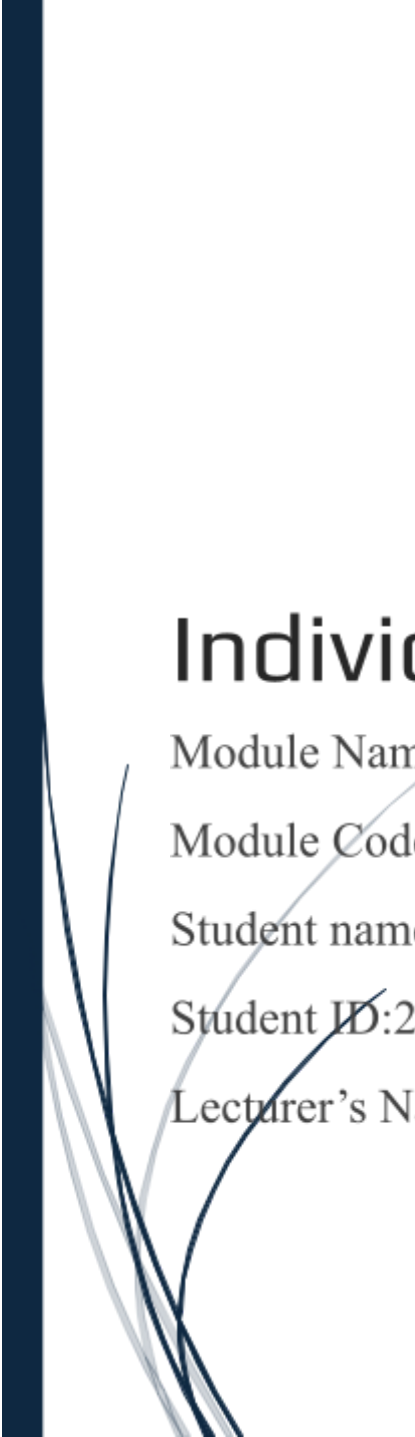




# Individual Report

Module Name: Digital Skills and Research Methods

Module Code: LCHS 4007

Student name: Warley Do Amaral

Student ID: 2417999

Lecturer's Name: Ramzi Djemai

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# Section 1: Introducing the Research Paper and Topic Development

*(Approximately 350 words. Introduce your chosen paper, describe the topic, identify who the research is about and explain why it matters in UK health and social care.)*

## 1.1 Paper Details (Title, Author(s) and Year of Publication)

*In this report, we will review a paper that was written in 2023 in the Journal of Advanced Nursing. The title of the paper authored by Konstantina Martzoukou, Errol Sadullah Luders, Jane Mair, Petros Kostagiolas, Neil Johnson, Fiona Work and Crystal Fulton is “A cross-sectional study of discipline-based self-perceived digital literacy competencies of nursing students”.*

## 1.2 Main Topic or Problem Explored in the Paper

*The research aims to establish how students rate their digital literacy skills and identify crucial capabilities gaps, which affect their academic performance and future practices[cite: 1]. Despite the accelerated development of digital health solutions in different health environments, healthcare curricula have always had difficulties incorporating the relevant training in digital skills within their respective disciplines[cite: 1]. Unlike considering technology only from the aspect of its technical application, the paper addresses many areas of digital capabilities, such as information evaluation, digital research, digital innovation, and digital identity management[cite: 1]. Authors aim to establish which areas the students feel competent in and which of them have significant gaps and evaluate the impact of demographic variables, such as age and program type on students' perception of their abilities[cite: 1].*

### 1.3 Who Is the Research About?

*The subjects for this study were students undertaking courses in Higher Education from the School of Nursing, Midwifery and Paramedic Practice in a Scottish university (Robert Gordon University, Aberdeen)[cite: 1]. Specifically, the nursing students were the main target group of this study. These included mainly undergraduate students of nursing in Adult, Children/Young People and Mental Health fields as well as postgraduate and return to practice groups[cite: 1]. It is important to consider the nursing students for this study since they form the future healthcare workforce that will have to work in the complex digital health environment[cite: 1].*

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

*Digital literacy is an essential criterion that will ensure that safe, effective, and efficient healthcare delivery is possible in the UK health and social care sector[cite: 1]. The nursing professional standards stipulated by the Nursing and Midwifery Council (NMC) clearly require that nurses of the 21st century be competent in the usage of technology in the storage, communication, and application of clinical information securely[cite: 1]. Moreover, strategic guidelines for NHS England and Scotland emphasize the importance of the digital revolution in order to cut down administrative burdens and increase patient benefits[cite: 1]. Nevertheless, healthcare professionals may experience difficulties in being prepared for digital technologies due to the fact that they learn through trials and errors rather than structured education on digital literacy in Higher Education[cite: 1].*

## Section 2: Understanding the Purpose and Research Question

*(Approximately 100 words. Identify what the researchers wanted to find out.)*

### 2.1 Research Question(s) or Objectives

*The key objectives of the research were to:*

*Develop the digital competency instrument, initially developed for general use, to be specific to nursing and healthcare education by working with academics and students[cite: 1].*

*Determine nursing students' self-reported level of digital competence in a number of different functional and behavioral domains, with particular interest in the difference in digital confidence by age groups and courses pre- or post-registration [cite: 1].*

*Obtain qualitative insights about the development of students' digital skills and the role that these skills play in overcoming their academic difficulties [cite: 1].*

*Formulate evidence-based guidelines for the implementation of discipline-specific digital literacy training in the nursing program [cite: 1].*

## Section 3: Understanding the Research Methods

*(Approximately 800 words. Define the three research approaches and then apply them to your chosen paper.)*

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

When we look at how research is carried out in health and social care, the methods used generally fall into three main groups – picked depending on exactly what the study is trying to find out:

Quantitative Research

This is all about measuring things using numbers. It uses structured tools like standard questionnaires or clinical trials, then applies statistics to make sense of the information. This lets researchers test out ideas and see if what they find in a smaller group applies more widely to everyone.

*Example:* Working out how many patients in different age groups have had their flu jab, so we can compare vaccination rates across different generations.

#### Qualitative Research

Instead of numbers, this focuses on words, accounts and personal experiences. It's all about understanding how people feel, why they act the way they do, and what things mean to them – using methods like one-to-one conversations, group discussions, or spotting common themes in what people share.

*Example:* Speaking to care home staff about how they manage and how they feel emotionally when things get tough or pressures mount.

#### Mixed-Methods Research

Just as it sounds, this brings both approaches together: it measures how common or how big something is using numbers, then digs deeper to explain *why* it's happening that way.

*Example:* Asking people to score how satisfied they are with their care, then holding a discussion group to find out exactly what made them give that score.

## 3.2 Research Methodology Used in Your Chosen Paper and Why

*The research paper uses mainly a cross-sectional quantitative study design with qualitative open-ended survey text box entries[cite: 1]. The researchers used a cross-sectional quantitative study design as it gave them an opportunity to obtain a standardized snapshot of the self-reported digital competencies of the sample of 182 participants[cite: 1].*

*The use of 5-point Likert rating scale questions made it possible to obtain numerical data, which allowed for performing descriptive analysis and non-parametric testing, such as Mann-Whitney U-test and Kruskal-Wallis tests[cite: 1]. Such quantitative methods were necessary for analyzing statistically significant differences between subgroups in terms of demographic characteristics, such as the difference between confidence of Generations Z and X and pre- and post-registration courses[cite: 1]. The inclusion of open-ended text boxes helped provide qualitative data to interpret the reasons behind the score obtained in the surveys, like learning through trial and error method[cite: 1].*

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

### *Definitions and Differences*

*Primary Data: Fresh data collected first-hand by the researchers directly for meeting their unique research purposes (e.g., custom survey, experimental measurements, direct interview)[cite: 1].*

*Secondary Data: Information already collected earlier by other researchers or government agencies, or any health organization for some other primary purpose, which is being re-analyzed (e.g., national statistics, medical reports, literature reviews)[cite: 1].*

Characteristic:    *Primary Data*

*Secondary Data*

|              |                                                                               |                                 |
|--------------|-------------------------------------------------------------------------------|---------------------------------|
| Collection:  | Direct collection by                                                          | Pre-existing external sources & |
| Source:      | the research team                                                             | databases                       |
| Specificity: | Purposefully designed                                                         | Collected for some other        |
|              | for the current study goals                                                   | purposes                        |
| Examples     | Custom survey,   Census data, hospital audit reports   clinical trial results |                                 |

#### *Application to the Chosen Paper*

*In Martzoukou et al. (2023), all the main findings depend only on primary data collected directly by the research team[cite: 1].*

*Method of Collection: The primary quantitative data were collected with the help of an online survey available on JISC Online Surveys site, sent via university emails to 1,200 nursing students during November and December 2021[cite: 1]. This survey evaluated 14 distinct*

## Section 4: Conclusion

*This report is a critical analysis of the study conducted by Martzoukou et al. (2023) concerning self-assessment of digital literacy skills of nursing students[cite: 1]. Section 1 provides a general overview of the research that pointed out that, although the nursing students have to function effectively in digital health care environments, there are*

considerable competencies' discrepancies [cite: 1]. Section 2 described the main research goals related to developing a discipline-specific self-assessment instrument and analyzing differences in statistics by age group and course registration levels [cite: 1]. Section 3 provided information about the cross-sectional quantitative research design used in the study and data collection procedure [cite: 1].

Consequently, reviewing this research leads to the identification of important concepts of research methodology, for example, the difference between gathering primary data and synthesizing secondary, matching quantitative methodologies to demographic comparison hypotheses, as well as maintaining high standards from an ethical and statistical point of view [cite: 1]. In addition to that, the research stresses the importance of incorporating formal training in digital literacy within health curricula instead of applying trial and error approach [cite: 1].

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