



Research article

Research in action-developing and evaluating a student research placement experience

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ABSTRACT

Background: Evidence based practice is essential in the provision of high-quality contemporary nursing practice. Yet nursing students often lack an understanding of the research process because applied research experience is rarely facilitated in undergraduate nursing programmes. Students research knowledge is mostly gained via classroom based theoretical teaching; however, it is a challenging subject to teach and is often evaluated poorly by students who find the subject uninteresting and difficult to apply to their clinical practice.

Aim: The aim of the study was to explore the experiences of student nurses after undertaking a nurse led primary research study placement.

Methods: The study explores the students' experiences of a research placement using a phenomenological approach with the data collection method of drawings and narration which were then subject to Interpretive Phenomenological Analysis as a data analysis method.

Settings: This study was undertaken with 18 nursing students who were enrolled in a United Kingdom university, who had recently participated in a nurse-led research study exploring the use of sensors to detect atrial fibrillation in members of the public in a supermarket.

Results: The following themes were developed by the researchers: *Practice makes perfect, Enhancing communication, Research attitude, Making a difference, Increased confidence, Enhanced skills, Researcher collaborations, The views of others.*

Conclusions: Students valued the research placement; the experience provided insight into the conduct of research in primary health and allowed students to learn about research in an experiential way which proved to be more effective than usual classroom methods. Students' communication skills were enhanced, through interacting with the public in a different way, who were keen to engage with them because of their student status.

1. Introduction

Research is an important aspect of a clinician's role (National Institute of Health Research (NIHR), 2019). Healthcare students and qualified staff must utilise and engage with research for their professional practice and academic studies (Lehane et al., 2019), but learning about this in a practical way may be superficial as nursing (and other) students rarely have the opportunity to gain hands-on research experience (Hashemiparast et al., 2019; Menzies et al., 2021).

This article reports on the experiences of student nurses after undertaking a nurse led primary research study placement.

1.1. Background/literature

Evidence Based Practice (EBP), defined as the integration of research to ensure high quality, safe, patient centred care (Kumah et al., 2022), is the cornerstone of contemporary clinical practice (Ross and Burrell, 2019). The United Kingdom (UK) Nursing and Midwifery Council (NMC) allude to the need for evidence-based decision making and understanding the knowledge base for one's practice in their standards of proficiency (NMC, 2023). Yet teaching research to undergraduate nursing students is often seen to be challenging for nurse academics, and in addition to this, research as a subject is perceived by students as uninteresting and boring (Ali, 2018).

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The Code of Ethics of the International Council of Nurses highlights the importance of nurses being able to be aware of and implement research results into their clinical practice (ICN, 2012). Similarly, the European Higher Education Area (EHEA) framework sets out the expected learning outcomes for students who are attempting to attain a Bachelor's degree with skills in finding, evaluating, referring and applying scientific information (Ministry of Education and Research, 2011). Despite the international educational guidelines and professional standard regarding research the teaching of EBP and research is often deemed to be poor, and clinical supervisors often lack the appropriate knowledge in practice to support student nurses to bridge the gap between evidence-based theory and practice. Despite these guidelines, it appears that teaching EBP in nursing education varies among nurse educators and universities, and that clinical preceptors may have insufficient knowledge needed to support students (Hornthvedt et al., 2018; Ryan, 2016; Florin et al., 2012; Fineout-Overholt et al., 2011). Recent research by (Hornthvedt et al., 2018) suggests that nurses are not effectively prepared to use EBP within their clinical practice.

To achieve professional requirements, nursing students must possess the ability to critically appraise research evidence and incorporate the findings from high quality research into their practice. Despite the long-held view that students would benefit from greater exposure to applied clinical research (Grønning et al., 2022; Menzies et al., 2021), their experiences of research are often limited, relying entirely on classroom-based teaching to develop an understanding of research principles. This approach may in part explain why non-medical healthcare research has not developed in line with other disciplines in the UK Higher Education sector Research Excellence Framework, with the most recent being 2022, and why Nursing (0 %) and Midwifery (0–5 %) were awarded so few UK National Institute for Health Research Fellowships, which is a funded PhD programme, compared to medicine (60–80 %) in recent rounds (NIHR, 2021).

The U.K. Council of Deans for Health (CoDH) recently advocated approaches that encourage students across pre-registration nursing and midwifery programmes to become research confident (CoDH, 2021). They acknowledge that learning about research is not just relevant for those who wish to have a career in clinical research or academia, but to all healthcare professionals who are required to provide evidence-based practice. Their views are supported by students registered on professional healthcare programmes who indicate a desire to better understand research: through being “hands-on” with research, rather than scrutinising research papers (Menzies et al., 2021). Whilst pre-registration nursing programmes often contain research methods or evidence-based practice modules, it is widely acknowledged that these do not prepare registrants with an appropriate understanding of the research process (Kelly and Watson, 2015; Brooke et al., 2015; Leach et al., 2016). Whilst the recent drive by the CoDH within the UK encourages students across pre-registration health programmes to become research confident, recommendations from the student perspective, includes earlier introductions into research in the form of smaller, group-based work together with more ‘hands-on’ learning rather than to traditional lecture-based learning (CoDH, 2021). Pre-registration nursing programmes across the world have incredibly challenging curricula, key constraints are that there is so much that students ‘have to achieve’ to complete in programmes, which often result in an overcrowded curriculum (Roberts and Leigh, 2020; Finnell et al., 2018; Brussow et al., 2019). In addition to this, patient facing placements are valued and favoured by students to build knowledge, skills, and confidence. However, it is widely accepted globally that the traditional placement circuit for student nurses is under strain and new innovative approaches are required for students to learn the breadth and depth of what is required as a nurse.

Research placements (like all practice learning experiences globally) are subject to the meeting the specific regulatory bodies standards. In the UK this is the standards for pre-registration nursing programmes (NMC, 2023). A research placement may vary in length and can be

situated in any setting where research, service evaluation or audit is conducted, such as clinical trials unit, clinical audit departments, a university setting or within a research organisation. The emphasis for learning on such placements is research, this may be achieved by working alongside research nurses, or those undertaking research as part of their role (Advanced Nurses Practitioners, Nurse specialists, Consultant nurses or others or as part of NHS research delivery teams). There is a paucity of literature which explores how student nurses benefit from research placements (Menzies et al., 2021). One paper from Canfield et al. (2023) describes the impact of a clinical research education program for medical students; however, no papers were identified describing similar examples from nurse education.

In a bid to address this deficit we introduced and evaluated a research placement for nursing students to allow them to gain experience in undertaking nurse-led research.

1.2. Aim

The aim was to explore the experiences of student nurses after undertaking a nurse led primary research study placement.

The research placement that the students undertook was alongside a researcher on a research project which was led from within the university but was conducted out in the field. The research placement project was a cardiac research project led from within the school's research centre (SHOPS-AF study) (Jones et al., 2022). SHOPS-AF is a feasibility study designed to investigate the effectiveness of a hand-held ECG device in screening for Atrial Fibrillation (AF) when embedded into the handles of supermarket trolleys. The research placement enabled students from the nursing undergraduate programmes an opportunity to collaborate with researchers during the participant recruitment phase of the research. Students were briefed about the research project and went out into the field (in this case in local supermarkets) under supervision to assist in the direct recruitment of participants to the SHOPS-AF study, explaining the research to potential participants, obtaining participant consent, and maintaining accurate records.

2. Methods

2.1. Design

The theoretical framework employed was constructivism. Constructivism is a process of idea sharing among individuals who learn through appraising and embracing knowledge (Fosnot and Perry, 2005). This is congruent with the research aims of examining the student perspective. A key product of constructivism is that following the research, action should be encouraged from it (Brown Wilson and Clisset, 2011), and we wanted to understand if this was a suitable method for students to learn about research.

This qualitative study utilised a phenomenological approach of a lived experience of this phenomenon, which was the undertaking of a nurse led research placement (van Manen, 1997). As such data was obtained through the unique data collection method of using drawings as creative artifacts. Artifacts have been used in other studies which examine the learning experiences of student nurses (Lyman et al., 2018).

Fig. 1 provides a diagrammatic overview of the research design.

There were 38 Nursing students who were enrolled in a UK university who undertook the research placement. Of this, 18 nursing students agreed to be part of this evaluation and it is their experience which is reported here.

2.2. Ethics

Ethical approval was granted from the University Research Ethics Committee (Reference 21/NAH/023). Students who had undertaken the research placement were contacted via their virtual learning platform and invited to participate in the study. We provided details of the study,

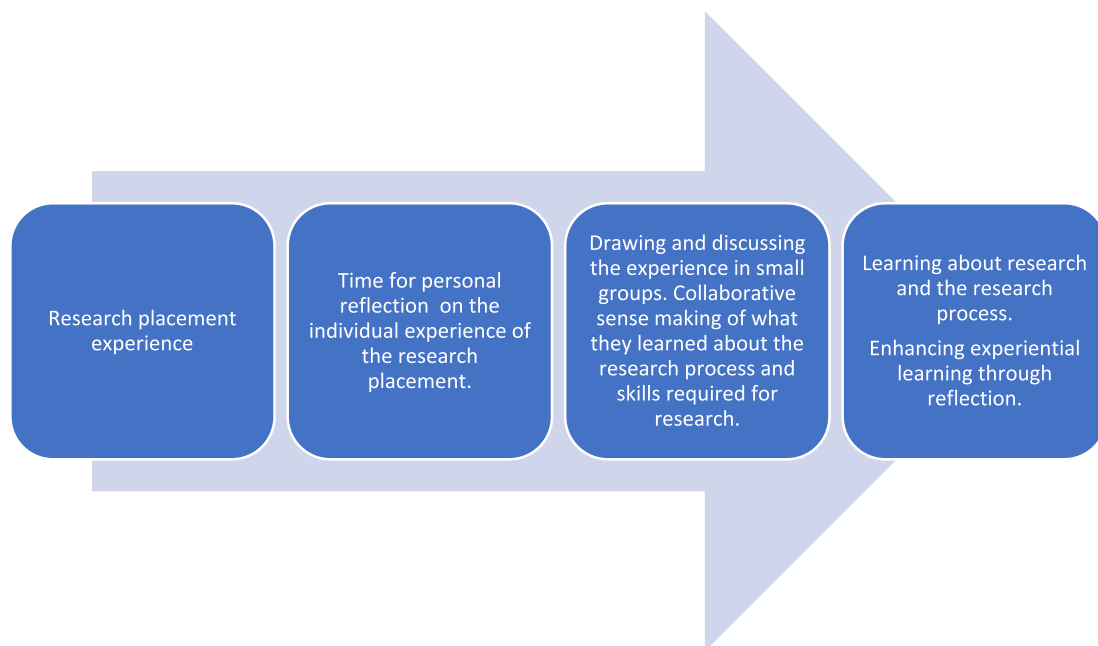


Fig. 1. Overview of research design.

which highlighted our desire to understand their experiences of the research placement. Participants were given the opportunity to discuss the research study with the researchers to gain further insight if they wished, but no one took this opportunity. Informed consent prior to the study was obtained. Students were free to refuse to participate without prejudice.

All consenting students were provided with information about the data collection process, and group dynamics and boundaries were discussed. The 18 participants were split into 4 smaller groups for the data collection exercise. We reiterated that the drawings were personal but reminded them of the need for professionalism. The students worked in groups so whilst anonymity was not possible their responses were anonymised prior to publication as they were all assigned a participant ID. Practical ethical consideration when employing this method of research includes informed consent, confidentiality, group dynamics and the participant preparation (Horne et al., 2017). This is congruent with other studies that have used this data collection method previously.

2.3. Participants

Of the 38 students who took part in the placement, 18 students agreed to participate in the evaluation of the research. Compared to men, more women participated in the study, which reflects the demographic mix of the population (Hung et al., 2019). The following demographic table displays the programme and sex, of participants (Tables 1 and 2):

2.3.1. Data collection

Data collection took place 21 weeks following the completion of the research placement. The reason for this was twofold: firstly, practicalities of the students having multiple assessments immediately after the placement and secondly to enable the students adequate time to reflect

Table 1 Provides the demographics of the participants.

Demographics	Number
Female student (pre-registration nursing mental health)	4
Female student (pre-registration nursing adult)	14

Table 2 Provides the number of participants in each group and their year of study.

Group	Number of students	Year group	Demographic (all female, age group)
1	5	Final year	21–30 × 4 31–40 × 1
2	5	3 × Second year 2 × Final year	21–30 × 3 41–50 × 2
3	5	2 × Second year 3 × Final year	21–30 × 2 31–40 × 1 41–50 × 2
4	3	1 × Final year 2 × Second year	21–30 × 2 31–40 × 1

upon their research placement learning experience.

Students met in a researcher facilitated group and were asked to provide a drawing to describe the experiences of participating in the research placement. Visual methods and the use of participant-generated images were used in this study as they empower participants as experts and can be helpful in developing collaborative researcher participant relationships (Rees, 2018). The approach aligned with our aims as drawings are ‘low-tech’ and cost effective, can enhance thinking, recall and storytelling (Rees, 2018) and are increasingly being used in healthcare research (Horne et al., 2017). Encouraging the students to draw their experiences, fosters collaboration and collaborative meaning or sense making, as students can facilitate the ‘telling’ and articulation of the experience; it offers a way of communicating rather than speech alone and a way of explaining complex experiences and making sense of what took place (Horne et al., 2017). The approach enables participants to discuss the complexity of the experience and promotes reflection (Rees, 2018).

Students were asked to provide a narrative to support their drawings to provide greater insight to those analysing the data to reduce the risk of misinterpretation. Given that the students were not artists, some of the drawings could have been interpreted incorrectly by the researchers and so the narrative was important. The narrative account was undertaken in a conversational way to allow students to feel relaxed and emphasises the importance of connected relationships between

researchers and students (Cardoso et al., 2022; McAndrew and Roberts, 2015). Woodhouse (2012) supports this method of data collection and highlights how important it is to work on the conversation of the drawings and how they were generated and the context that brought them into being rather than the drawings themselves.

As healthcare students are required to be reflective practitioners this also reinforced the relevance of choosing this approach to data collection. Additionally, we wanted the experience of participating in the evaluation of the research placements to function as a further research experience: exposing the students to another method of data collection. The research activity of drawing and discussion took approximately 1 h for each group. Each group discussion was video recorded to facilitate data analysis.

2.4. Data analysis

This research used Interpretive Phenomenological Analysis as the method of data analysis. The aim of Interpretive Phenomenological Analysis is an exploration of how participants make sense of the personal and social world, including experiences for participants (Smith and Osborn, 2008) and to explore in detail the personal and lived experiences of participants (Lyons and Coyle, 2007). Interpretive Phenomenological Analysis's theoretical underpinnings arise from phenomenology, and this further supported the rationale for why this method of data analysis was pertinent to this study. Small sample sizes suit the use of Interpretive Phenomenological Analysis (Lyons and Coyle, 2007); this coincides with our small sample size of eighteen participants.

Interpretive Phenomenological Analysis is a multi-stage approach, with each stage building on the next, allowing themes to be generated (Morrell-Scott, 2019). The process of analysis is an iterative and inductive cycle (Smith, 2007). Smith et al. (2009) suggest that whilst there is a general stage by stage approach for Interpretive Phenomenological Analysis, this can be used flexibly depending upon sample size and the experience of the researcher. Stage 1, consisted of the reading and re-reading of the transcripts, this was the watching of the recordings and the transcripts, making notes of initial thoughts, observations and reflections. Stage 2 was further notes of transcripts with relevant points highlighted. Stage 3 was the examination of transcript notes and highlighted points, here we looked for common connections between the notes. Stage 4 involved us exploring the common clusters link to for themes.

Data were analysed by two of the researchers independently who looked at both the drawings and the narratives several times; immersing themselves in the data. Both researchers analysed the data independently looking for patterns and recurring words, phrases, or ideas before agreeing on the emergent themes. This added validity within the process and has been used commonly as a method of data analysis and ensuring validation of results (Morrell-Scott, 2019). Agreed themes were identified as: Practice makes perfect, enhancing communication, Research attitude, making a difference, Increased confidence, Enhanced skills, Researcher collaborations, The views of others.

3. Findings

3.1. Practice makes perfect

All participants commenced the data collection by discussing the logistics of attending a research placement. Thoughts expressed by participants through their pictures and the narrative that they discussed in this theme included: the weather conditions, issues with equipment and breaks, data collection sites and associated challenges of this, and weather being significant in that it impacted the functionality of the equipment. Pictures of umbrellas and rain were drawn, and this was the participants way of demonstrating the weather which was then supported by the conversation around this. The challenges faced by

participants had benefits as this allowed the participants to problem solve and troubleshoot which they suggested was a positive experience. This sums up the idea that the practical experience of being involved in research has a double benefit - the participants understood research processes and logistics but also the idea that they need these research experiences in the journey of becoming skilled in research. In terms of preparing for the research placement, one participant described spending time 'researching about AF' (atrial fibrillation) and undertaking further 'training', they suggested that they did more preparatory work on this placement than they normally would to fill knowledge gaps because of elevated levels of interest stimulated by the research placement. This is an important finding because the suggestion is that this pushed participants to learn in their own time and to reinforce their learning in practice. The participants fed back that the learning that they took from this placement was more effective than other methods of learning about research, particularly about research ethics and methods, they felt it was easier to learn about research whilst doing it than from the teaching that they had previously had.

Fig. 2 provides completed visual representation from Group One.

Fig. 3 provides completed visual representation from Group Two.

3.2. Enhancing communication

Participants recognised that there may be differences in their own experiences as student nurses, although they had all undertaken community nursing placements where care is typically delivered in clients' homes, this was a very different experience. Participants acknowledged the skill required having to approach people in many ways: using a 'script' was ineffective; participants needed to adapt their approach to everyone, whilst making the same point, and this required enhanced communication skills. One participant also insightfully suggested that 'local knowledge' was required to successfully recruit participants, and that they recruited more participants than the research assistants due to their understanding of 'local knowledge' and because of their effective communication skills as student nurses where they could put people at ease.

Fig. 4 provides completed visual representation from Group Three.

3.3. Research attitude

A positive change of attitude towards research was evident in the participants. One participant stated: "I want to be involved in research" and described little prior understanding of research but felt that they learnt a lot more from working with the research assistants. Participants discussed how they had not had much practical research experience during their pre-registration programme and would not have considered a research career prior to this exposure but would now. Participants spoke of how the research placement changed their attitude to research and now when reading research papers, they were more relatable, enhancing their learning and increasing the likelihood of participating in future research. For participants the experience cemented research as an important part of nursing and they wanted greater availability of research opportunities. Seeing how primary research was conducted allowed the participants to understand the detail that is often described in clinical papers but is not fully understood and as a learning experience this has proved invaluable to the participants as a method of experiential learning of the research process. Following the research placement all participants participated in a debrief which provided the initial study outcomes and allowed participants to understand the impact of their contribution, this was positively received and was commented upon. They talked about 'closing the loop' which indicates the importance of sharing outcomes with participants to enhance the sense of ownership and pride in what has been achieved.

Fig. 5 provides completed visual representation from Group Four.

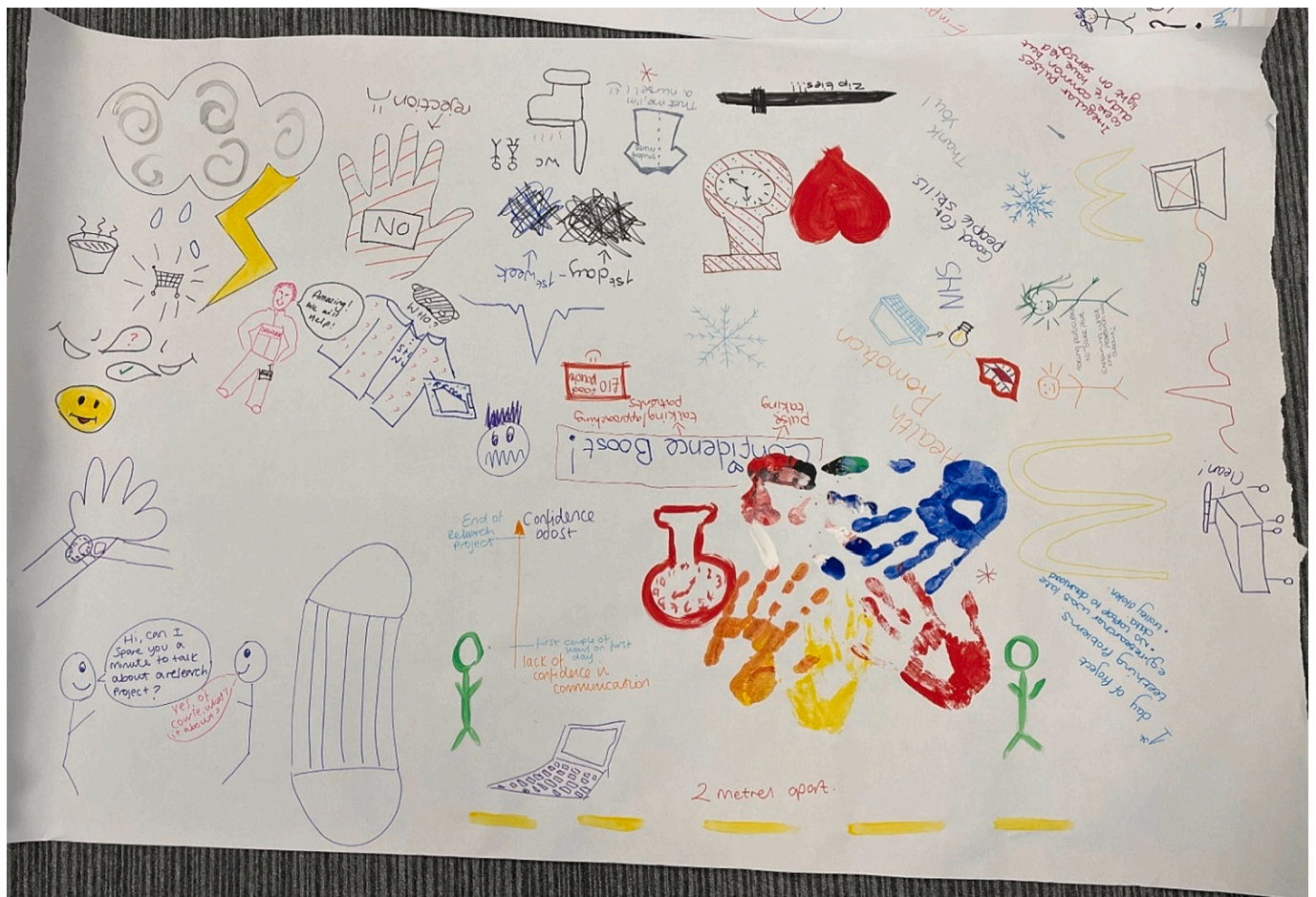


Fig. 2. Completed visual representation from Group One.

3.4. Making a difference

Participants spoke of personal pride in making a difference to the lives of individuals, indicating the applied nature of the research project: “I felt like I really achieved something, it made me feel good about myself”. Participants were able to see that the Shops AF project is preventative rather than curative which is not a frequent practice learning experience. Participants also recognised the potential for the reduction of the financial burden and future impact on health services through the research itself. As participants saw the research being undertaken first hand this gave them an understanding of the research process, which allowed them to feel more like this was also health promotion work rather than simply providing care, and as a unique learning experience that many student nurses do not have. As a result of participating in the project, one student has gone on to instigate a University student ‘Research Society’. This indicates that students have benefited from the placement and have become more interested in research than prior to it.

3.5. Increased confidence

Participants overwhelmingly identified increased confidence as the important part of their experience. Participants spoke about approaching the public, checking pulses, and recognising irregularities. They specified that whilst they routinely speak to patients in placement areas, approaching the public in this way was different and this had increased their confidence. Furthermore, some participants identified that their clinical practice since participating in the research study had been positively impacted as they felt more confident in recognising arrhythmia when obtaining manual radial pulses, rather than relying on

technology. Several groups also spoke of their increased confidence and knowledge in health promotion and being actively involved in delivering health promotion messages. The experiential learning here is so powerful for students and this may be due to the socialisation that the students have experienced both with the members of the public and the research assistants and researchers with whom they were working.

3.6. Enhanced skills

Prior to commencing the placement, the participants undertook a briefing day which explained the study protocol and orientated the students to the purpose, process and aims of the study, all participants undertook this, and they also had further training on AF. All participants positively commented on these preparation days. Participants identified that the experience had improved their clinical skills in checking for regularity of pulses and were clear that in turn, this improved their view of research. In some cases, an emergency had arisen in the store whilst the research was being conducted, this enabled the students to respond. Some participants had provided CPR due to an incident when they were present collecting data and they were keen to share this experience during the evaluation. One participant described emergency situations which had arisen within the store and that she had been asked to assist in. She expressed how this had contributed to her sense of pride and having had influence and how her leadership skills had been demonstrated as she was the only person on site with a level of medical knowledge to intervene.

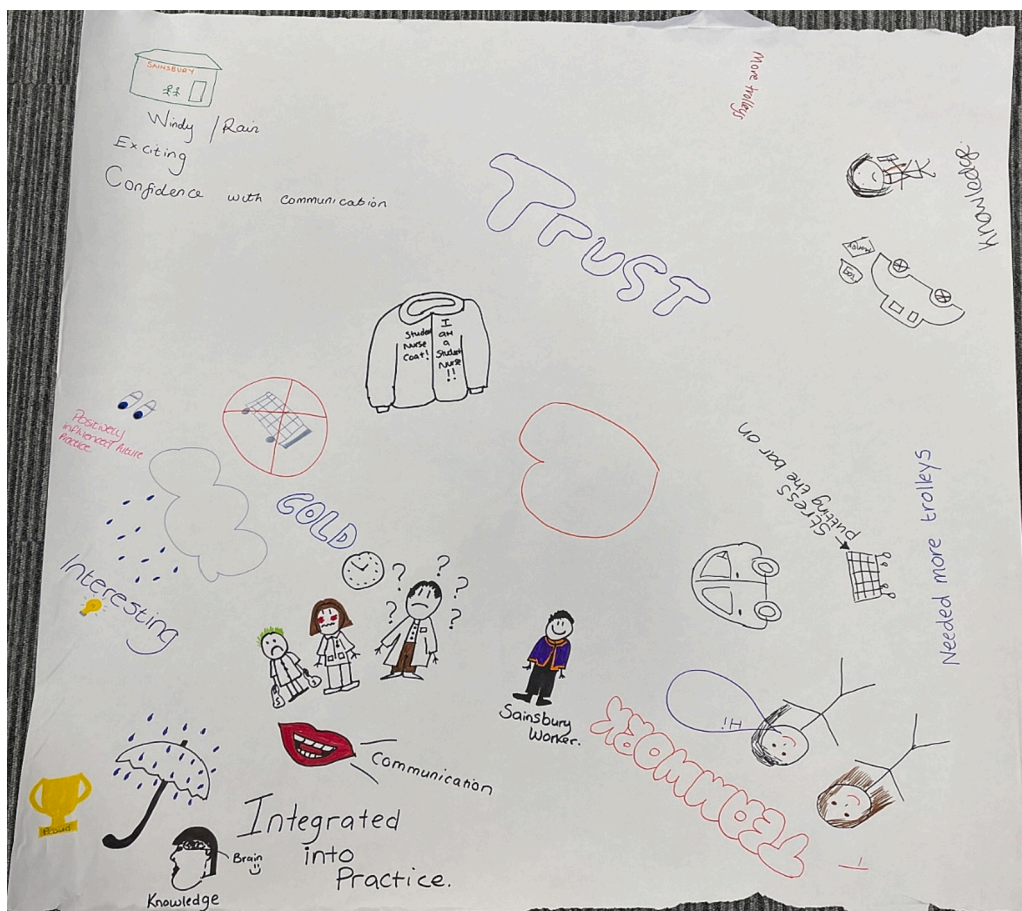


Fig. 3. Completed visual representation from Group Two.



Fig. 4. Completed visual representation from Group Three.

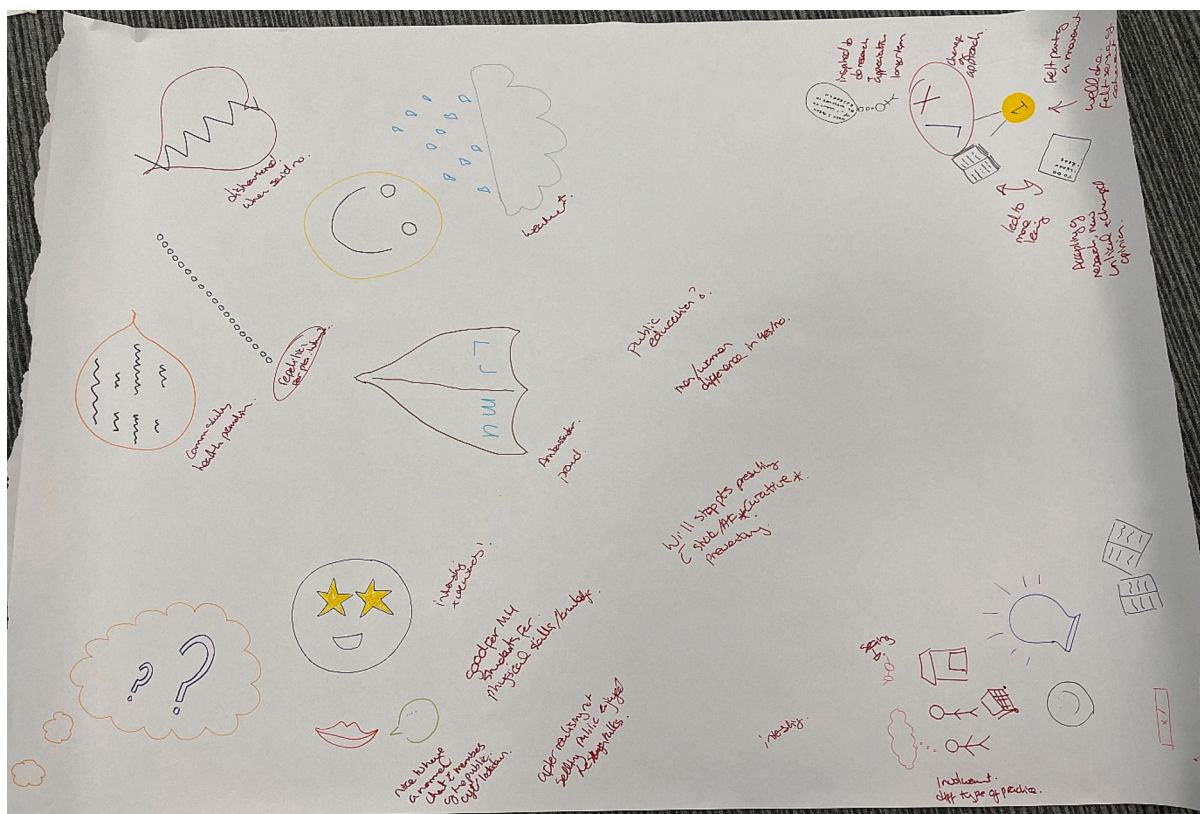


Fig. 5. Completed visual representation for Group Four.

3.7. Researcher collaborations

Researcher collaborations was a theme across all for all participants. The participants spoke positively about working with the research assistants and how they had learnt a lot from them, both about research and also about interpreting ECGs due to the background of the researcher. Participants described how working with researchers gave them a sense of being part of the team and an opportunity to gain experience more about research and the clinical aspects of AF. Teamwork was also evident and was represented by a circle of hands drawn.

3.8. The views of others

Participants described how at times they had found themselves having to listen to negativity from their peers who were not doing the research placement and by the registered nurses who they encountered before and after the research placement. This was about the value of research placements, with participants being told that they could learn more in clinical placement. This suggests a lack of appreciation for research placements among registered nurses and participant peers. Although this view was balanced by another comment from another participant who described how they had shared what they learned about the project with the registered nurses in other placements, and that this was well received. The participant also recognised that this research has 'the potential to go worldwide' and that she was proud of her involvement. Media attention increased their pride in participating in the study as friends and family would hear about it.

4. Discussion

Undertaking this research placement was a positive experience for the students and they appeared to learn a lot about the research process as a whole. It was clear that the students were challenged in a way that

they had never been on a normal clinical placement. It could be argued that the students have learned in a more meaningful way about the research process than through "normal" teaching methods such as lectures, and as such the CoDH (2021) are right for pushing this agenda. Not only to create additional placement capacity within the UK, but to improve the quality of nursing care through education and research. This would be useful also for those countries where placement capacity is a challenge and where formal research placements for each student nurse do not currently occur, in addition this would allow for more meaningful teaching and learning of research. This may well also resolve the crowding in curriculum that many programmes are challenged with (Roberts and Leigh, 2020) and to allow for more meaningful learning (Boe and Debesay, 2021; Meeley, 2021).

Research placements for student nurses can play a vital role in nurturing a research culture within nursing education and practice. They can foster a deeper understanding of evidence-based practice and cultivate a lifelong commitment to research and continuous learning (Kumah et al., 2022; Menzies et al., 2021). This can provide students with the necessary skills, knowledge, and experiences to start their future research journey, and can contribute to students' professional growth by enhancing their critical thinking skills, and ability to integrate research findings into nursing practice.

All participants commented on how as nursing students they were able to engage members of the public who appeared to be more responsive and willing to participate when approached by them rather than the research assistants and they felt that this was due to their communication skills. Socialisation in pre-registration nursing and the clinical experiences of students are so important when students learn as it shapes who they will become as a nurse (Morrell-Scott, 2022). Being a student nurse and directly participating in research was impactful for these participants both for their education and their own sense of professional pride and their appreciation of research. Not only adapting into the research placement to allow for students to develop their confidence

and proficiency in line with the NMC (2023) expectations, but also for their own personal development when feeling like they have contributed meaningfully to preventing ill health and improving public health.

If regulatory bodies across the different healthcare disciplines enforce programmes to include a research placement, this would allow for a more rounded registrant who would deliver high quality evidence-based patient care. Additionally this may well attract more nurses to research roles and empower nurses to conduct and be part of research projects which could rival our medical colleagues.

5. Conclusions

This study was novel as it explored the experiences of a group of pre-registration nursing students who had undertaken a research placement, in which they actively recruited participants and collected data whilst learning about the research process. Participating in the evaluation, also exposed the students to a further example of data collection as research participants themselves. It was clear that the experience proved to be more meaningful as a learning method than other methods of learning about research which the students had experienced previously. In addition to this the students also became excited about research and more interested than previously. As a method of teaching research this may well be a useful strategy rather than usual methods of classroom teaching which are often poorly received by students.

The students enjoyed their placements, although there was a sense of trepidation at first, and that the students were challenged more than usual. This was due to the nursing students being out of their normal environment who were more used to being in a clinical environment. However, the students identified that they had the skills, knowledge, and confidence to be able to approach the public and recruit them for the research study, and this was fundamentally due to effective communication and interpersonal skills. The students did have the ability to be able to gain the trust of the public through communicating and they were able to recruit participants. The findings provide evidence that research placements are a legitimate learning experience which can help to provide students with a variety of different skills, enabling them to have a greater understanding of the research process and learning about what is notoriously a challenging subject for academics to teach and for students to learn about.

Declaration of competing interest

The Shops AF study was funded by Bristol Myers Squibb, but the company was not involved in the collection or analysis of the data for this paper. The authors declare that there are no known competing financial interests or personal relationships that influenced the evaluation.

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