Exploring undergraduate experiences: A hermeneutic phenomenological study of academic internships in nursing, midwifery, and health at a northeast higher education institution in the UK

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Abstract
This novel interpretative phenomenological study delves into the first-hand experiences of nursing, midwifery, and health students who undertook internship roles within a UK higher education institution during their summer break. The innovative internships in question were instrumental in facilitating the teaching of BSc (Hons) Nursing, Midwifery, and Health programmes. To our knowledge, this research marks the first exploration of such experiences among healthcare students in the UK context. As such, it contributes a new perspective to the wider body of knowledge concerning professional health education internships. With its significant and original findings, this study is poised to inform and inspire a broader discussion applicable to international settings. It can potentially influence and expand opportunities for healthcare students who aspire to work within higher education institutions, both locally and internationally.
**Introduction**

Internships as voluntary, temporary work placements, often undertaken by students at university and college levels, have been hailed as win-win situations for both employers and interns. Employers do not have to commit to actual employment, and interns can further their (future) careers (Binder et al., 2015). Undoubtedly, internships feature prominently when it comes to the employability of graduates from higher education. In recent years, universities across the western world have increasingly acknowledged the importance of career-furthering measures (Binder et al., 2015; Callanan & Benzing, 2004). Yet, the exact benefits of internships and how these are brought about remain a matter of ongoing debate (Hora et al., 2020; Smith, 2021).

Organisations offer internship opportunities to encourage work experience. These last for a fixed time, anywhere between one week and 12 months (Smith, 2021). They are typically undertaken by students and graduates looking to gain relevant skills for their chosen industry. Employers often leverage work experience opportunities to assess a student or graduate’s potential and capability, frequently recruiting employees from their internship programmes instead of advertising their vacancies externally (Wei et al., 2021; Wallace, 2016). The recent pandemic has unfortunately caused many students and graduates to lose out on internships, but it has also catalysed a shift towards virtual work experiences and online volunteering, along with temporary or part-time work (Smith, 2021; McClure & Black, 2013).

People often confuse internships and work placements, but the two types of experience are different. While internships are usually undertaken over the summer months or after graduation to gain experience in a particular field, work placements, also known as a year-in-industry or placement year, are taken as part of a degree (Smith, 2021; Hora et al., 2020). Typically, students in a placement year complete an educational module and receive academic credit for the year following the successful completion of an assessment (Wallace, 2016). While the benefits students gain from internship experiences have been extensively documented in research, articles generally tend to focus on internship effects on employment and career indicators (Binder et al., 2015; Callanan & Benzing, 2004).

**Background**

To date, there is no literature available that discusses the lived experience of nursing midwifery and health students undertaking internships within UK higher education institutions being employed as academic staff. This study, therefore, offers an original and important narrative to education institutions that offer nursing, midwifery and health (NMH) programmes.

There is ample literature that discusses the value of undergraduate students undertaking internships (Binder et al., 2015; Callanan & Benzing, 2004; Hora et al., 2020; Wei et al., 2021; Wallace, 2016). Internships undertaken by undergraduate students have been considered a win-win situation for both interns and employers. On the one hand, an employer does not commit to actual employment, and on the other hand, the intern uses this opportunity to further their career. Therefore, the internship has featured prominently when it comes to graduates’ employability, and across the world, universities have progressively acknowledged the significance of such career-furthering measures. For nursing undergraduates, the internship programme provides a system of instruction and experience which leads to the acquisition of attributes, skills and knowledge central to the professional nursing practice. However, while there is limited research on the value of the internship for undergraduate nursing students, existing literature has highlighted a range of benefits it offers nursing students as they transition from higher learning to the workplace (McClure & Black, 2013; Wallace, 2016). Essentially, it supplements education and is a prerequisite for graduation at the master’s and bachelor’s levels (Hu et al., 2022).

Firstly, an internship is valuable for undergraduate students as it provides the opportunity for mentorship. According to Wei et al. (2021), it is the most effective way to find a mentor who can lead a student early in their career. Wei et al. (2021) found that most undergraduates acquire mentors who are willing to not only guide them but also help them learn. For nursing students, nurse mentors provide a chance to develop and improve their clinical skills within a safer environment as well as offer professional tips, empowering them to work and expand their knowledge through practice. For instance, a study conducted by Binder et al. (2015) found that during emergencies, nursing interns observe the way expert nurses respond as well as who they call. Similarly, when senior nurses identify an unusual finding, for instance, a decline in inspiration rate or skin colour changes, nursing interns gain a real-life experience of how expert nurses relay such information to a physician or doctor as well as the interventions they request (Binder et al., 2015). Consequently, it helps to build confidence in the intern.

Wallace (2016) found that undergraduates who undertake internships are more confident as they transition into the workplace than those who do not. According to Wallace (2016), internships aim to ensure that students can adapt to practice and their occupation and, thus, offer them the experience to nurture their technical skills within diverse environments. As a result, for undergraduate nursing students, this approach strengthens their clinical decision-making skills in the real-life clinical setting and improves their confidence. Callanan & Benzing (2004) argue that in nursing, decision-making involves offering care to patients by understanding the impact of illness on society, families, and individuals. Therefore, the World Health Organization has considered the development of confidence, critical thinking, problem-solving and clinical decision-making as benchmarks for the training of nurses in schools (Callanan & Benzing, 2004).

Secondly, the internship provides undergraduates with a chance to find a future job. According to a study by Hora et al. (2020), prominent organisations seek knowledgeable and skilled workers and prefer new graduates to be part of their long-term personnel. For instance, Wei et al. (2021) found that 70% of nursing students who prove skilful as interns will
be hired by the organisation. Wei et al. (2021) also argued that without any practical, real-world experience, it is challenging to identify if they will find it more rewarding to work in certain jobs or organisations. Many undergraduate nursing students who believe they know where they desire to work and in what capacity eventually realise that their perceived ‘ideal’ job is not a proper choice for them. Therefore, an internship enables students to understand what is involved in different roles. According to Ferri et al. (2020), it helps students to learn more about a job first-hand and observe what occurs in a nursing home or a stroke unit. They can discover the different methods used to treat patients in different environments. This argument is in line with the study by Hu et al. (2022), which found that undergraduate students often decide on a career before considering their vocational interests, thus entering the job market without being aware of their needs.

Thirdly, internships provide undergraduate students with experience. According to McClure & Black (2013), the reason is that internships aim to prepare them for their future careers. McClure & Black (2013) found that most employers focus on undergraduate students who have not only completed their education successfully but have also gained practical experience. For undergraduate nursing students, for instance, when learning bedside care, communicating with and caring for the patients are an important part of the job. Caring ability includes the capacity to listen to the desires and needs of patients, communicate, understand their emotions and feel the value of their life, thus serving them creatively and consciously. According to Hu et al. (2022), internships are a central part of education and a professional environment. For nursing students, an internship is a link between education and actual clinical work; therefore, it may influence the development of their caring ability (Hu et al., 2022). While studies have found contradicting results concerning the effects of internship on nursing students’ caring ability, research by McClure and Black (2013) revealed that the caring ability of undergraduate students with internship experience was higher than among those who did not undertake an internship. Another study by Ferri et al. (2020) demonstrated that undergraduate nursing students perceived a high caring ability level before internship, with substantial improvement during internships. Conversely, in China, Zhang et al. (2016) compared the experiences that the students went through during their internships and providing recommendations on how the experiences that the students went through during their internships and providing recommendations on how the educational institution can enhance these experiences.

Lastly, internships provide undergraduate students with opportunities to build professional networks and familiarise themselves with key elements of the profession, for instance, communicating effectively and understanding people. In the nursing profession, people are more important than other aspects. A nursing student will not only meet other nursing students with similar career goals but also work with senior nurses whose careers they esteem and seek to follow. McClure and Black (2013) found that most undergraduates build professional networks during their internships that become valuable when they enter the job market. Particularly, Hora et al. (2020) found that about 62% of new graduates find their first jobs through referrals from networks developed during placements and internships.

In conclusion, an internship can facilitate the transition from a student to a successful professional worker. During internships, students personally experience and determine if it aligns with their interests. Internship programmes allow undergraduates to work in a supervised environment with assessments and evaluations. In this context, internship programmes for undergraduate nursing students also play a critical part in preparing students for the job market and helping them adapt to the environment. Consequently, it helps them gain satisfaction and understand what is expected of them.

The study

Research purpose, aim and objectives

The purpose of this study is to explore the lived experiences of nursing, midwifery, and health students who have served as interns within BSc nursing, midwifery, and health programmes at a British Higher Education institution. Despite the crucial role of internships in student development and career trajectory, there is a gap in the literature, particularly focusing on internship experiences among students in these fields. This study aims to bridge this gap by leveraging the narratives of six purposively selected interns to illuminate the realities, challenges, and triumphs they encountered during their internships.

The study also seeks to contribute to the improvement of internship experiences, recruitment, and retention into healthcare-related educational roles, with the goal of enhancing graduate outcomes and widening access and participation of nursing, midwifery, and health students. The objectives include gaining a deeper understanding of the experiences that the students went through during their internships and providing recommendations on how the educational institution can enhance these experiences.

The research question guiding this study is:

What are the lived experiences of nursing, midwifery, and health students employed as interns within BSc nursing, midwifery, and health programmes?

This inquiry aligns with the aim of the intern role, which is to foster the development of graduate characteristics represented in the Programme Framework for Northumbria Awards. These characteristics include independent thinking, application of disciplinary knowledge to complex problems, valuing curiosity, collaboration and analysis, effective communication with diverse audiences, multicultural competence, and the integration of all these aspects to support future employability and long-term career prospects (Academy of Medical Royal Colleges, 2020).

The aim of the role of the intern was to empower the development of the graduate characteristics represented in the Programme Framework for Northumbria Awards –
Areas of Learning Graduate Characteristics and Learning Outcomes:

- to think independently, understand and justify their own opinions, and recognise the need to challenge their thinking and the thinking of others;
- to apply their disciplinary knowledge to complex problems in their discipline and its professional or industrial practice to identify appropriate solutions which are sustainable and justifiable;
- to value curiosity, collaboration, and analysis as keystones in the creation of new knowledge and practice;
- to communicate effectively to diverse audiences utilising a range of formats and media;
- to display the attitudes and skills to engage and work constructively and sensitively in multicultural environments and teams and have an awareness of ethical considerations; and
- to combine all the above to support their future employability and long-term career prospects.

Methodology

Phenomenology stands as a distinct and valuable method in educational research. Despite the existential-phenomenological tradition embraced by various educational philosophers, professional practitioners, and curriculum scholars, there remains a gap in the discourse concerning how phenomenological reflection is carried out and how phenomenology can be employed as a research method. Max van Manen’s work fills this void by offering a methodological approach to hermeneutic phenomenology. This approach, though not procedure-driven, is deeply rooted in the philosophical phenomenological tradition.

Phenomenological research has several distinct features: (1) it begins with an appreciation of phenomena as they present themselves. (2) It seeks to explore phenomena as they are experienced in moments of pre-reflective, pre-predicative consciousness. (3) It strives to describe the unique aspects of a phenomenon or event. (4) It utilises the epoché (bracketing) and the reduction proper as crucial components. These are not technical procedures but modes of attentive engagement with the world in an open state of mind. This openness enables the occurrence of phenomenological insights.

Hermeneutic phenomenology

Phenomenology, at its core, seeks to understand human existence in the world. It attempts to describe the essence of phenomena without presuppositions or judgments, focusing on how individuals experience their lived world. As defined by van Manen, hermeneutic phenomenology is a method of abstemious reflection on the basic structures of the lived experience of human existence. This approach refers to the way of engaging with a phenomenon (van Manen, 1996).

Max van Manen’s hermeneutic phenomenological approach is particularly relevant to nursing research. It offers a lens to understand how individuals experience their world and outlines a four-step data analysis process. This process helps nursing researchers craft texts to develop themes or structures of meaning. Van Manen (1989) proposed a four-step thematic analysis, which includes: (1) uncovering thematic aspects, (2) isolating thematic statements, (3) composing linguistic transformations, and (4) gleaning thematic descriptions. Through these steps, researchers can comprehend the meaning of clients’ experiences, providing a basis for more effective client services or strategies. This process also forms part of the hermeneutic circle, where data components are revisited and reinterpreted, connecting all parts to a comprehensive meaning throughout the interpretive process.

Participants

Recruitment involved a job advert being posted to recruit six interns for a summer internship of 100 hours. Participants were undergraduate students studying full-time health professional programmes. They completed the internship role over a four-week block during the summer holidays so that it did not impact their studies. Six student participants were purposely selected from year three BSc undergraduate Nursing, Midwifery and Health (NMH) programmes.

Trustworthiness and data collection

A one-hour focus group was applied at the end of the internship experience by two academics. This reduced any unconscious bias from the project lead. The trustworthiness of results is the foundation of high-quality qualitative research. Member checking, also known as participant or respondent validation, is a technique for exploring the credibility of results. During the focus group discussion, meaning and questions were asked for clarity and understanding. This offered accuracy and resonance with the intern’s experiences. Member checking is often mentioned as one in a list of validation techniques (Birt et al., 2016). This simplistic reporting might not acknowledge the value of using the method nor its juxtaposition with the interpretative stance of qualitative research. Besides the focus group data, qualitative data and narrative also included several student emails and verbal feedback. This enabled the generation of interns to offer private narratives about their experiences outside of the group environment. The focus group was recorded, and the narrative data was transcribed into verbatim text followed by thematic analysis.

Ethical considerations

This study was approved by the ethics committee of the institution in which it was conducted.
Data analysis

To establish adequate rigour within this study, it was imperative to consider the qualitative construct by ensuring the data collection and analysis were trustworthy. Having the opportunity to study the experiences within three different healthcare settings enhanced transferability. Data saturation was accomplished by analysing focus group-style interviews with participants. Alongside this, other feedback was provided by the participants by email and in conversation outside of the focus group enabling enhanced dependability. Subsequent analysis was sought by the researcher with participants to member check and clarify the meaning and narrative, resulting in enhanced confirmability (Russell et al., 2003).

Findings

The findings gained from the focus group interviews constructed five overarching themes (Table 1).

Table 1. Five overarching key themes.

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Theme 1: Understanding the role identity of NMH academic staff

Several participants discussed the role identity of academics working in higher education but also as registered healthcare professionals:

My understanding of the academic staff role has increased while completing this internship. My insight into what academics are and what they do has significantly changed. Those we worked with are registered clinicians and evidence-based practitioners (P2).

Not only did we work in conjunction with academic staff, but we were also able to appreciate their role in clinical skills, the writing of materials, and facilitating the practical sessions; I learned so much about being a clinical person but also how this is used as a lecturer (P1).

I’ve seen academic staff explain clinical skills. I see them as clinicians but also as teachers. Their role is diverse; it’s also very challenging and complex. They are registered health professionals but also teachers, researchers, and leaders. Professional identity is so confusing in academia (P6).

The participants’ narrative indicates gaining valuable insight into the role of the academic. Participants found value in the academic role and observed it was multifaceted and fundamentally that the academic role was strengthened as staff were clinicians. They also noted that the role was challenging regarding professional identity.

Theme 2: Environment conformism

The second most prominent theme was about fitting in and adapting and conforming to new ways of working within the HE environment:

I was very fortunate to be welcomed and supported throughout the internship, which meant that “fitting in” felt quite natural even though I was entering an unknown role (P4).

The environments we were taught and supported in were really safe, and we received lots of reassurance and encouragement from all members of the academic team during the internship. But as always, we had to make sure we were doing the job correctly and looked towards our mentors for reassurance (P6).

I enjoyed supporting the open days and operating the skills4practice stand with a colleague to showcase the S4P website. I also really enjoyed supporting students to practice clinical skills. As an intern, I had to plan, deliver, and evaluate everything, it’s hard work (P1).

The main barrier I faced was explaining my role as an intern to other students – most of them did not understand what the role was. Following the explanation allowed me to feel more comfortable and confident within my role as an intern in HE (P4).

I loved working with the Specialist Nurse Organ Donation (SNOD) in the simulation sessions; I learnt a lot and facilitated (under supervision) some of the sessions after that. I absolutely enhanced my facilitator skills and undertaking about education and simulation pedagogy (P2).

The participants’ narratives indicated their lived experiences of being academic interns within the university setting and undertaking academic responsibilities. The interns offered their experiences of fitting in and being part of the team. They offer insight into feeling encouraged, comfortable and confident. Their narratives suggest that they enjoyed belonging to the academic staff group. They liked being involved in open days and simulated teaching sessions and working alongside guest lecturers.

Theme 3: Supported opportunity to develop graduate skills

Participants offered a reflective narrative about developing their graduate skills:
We had the opportunity to teach all year groups. I had to present, facilitate, and show confidence as best as I could (P2).

My understanding of simulation and its importance within nurse education was enhanced when supporting Basic Life Support sessions. I was doing group work with the students teaching them skills; I was the facilitator, and I was teaching (P6).

I have gained confidence during my time as an intern, including the ability to recognise when others need support or encouragement to meet their goals. This gave me more insight into my communication skills and how to be emotionally intelligent, as well as reading the room to spot students who needed additional support (P1).

Problem-solving, critical thinking and adaptability have all also been skills I have developed throughout the internship (P3).

I have developed my communication and interpersonal skills and have a feeling of new confidence that wasn’t there before. You must just get up in front of people and do your best. I learnt a lot about being human and acceptance during this internship (P5).

The interns have gained valuable graduate skills that they can take forward into their profession. They described experiences of facilitating sessions, building confidence, problem-solving, critical thinking and developing communication skills. These developing skills were underpinned by the support offered during their internship by the academic staff who supervised and supported their internship experiences.

**Theme 4: Willingness to provide support**

Interns offered experiences about supporting students:

I enjoyed being able to offer my current third-year student perspective to first-year students. I gained a lot by supporting them with honest guidance and encouragement (P3).

We had the opportunity to teach alongside some academic colleagues, including a session on history taking and respiratory conditions and management. I really enjoyed being involved (P1).

I am so happy to use my nursing skills in an educational way. I have loved assisting students in learning in years 1 and 2. As an academic intern, I have been really motivated to talk about knowledge and learning. Everyone should work on the other side of the fence and see what goes on. It’s so beneficial (P2).

This narrative suggested that the interns had a sense of purpose. They experienced that they could make a difference to students. They mention that they were able to support and guide first and second-year students, therefore, developing a philosophy of encouragement and reassurance within their teaching and learning practices. The internship participants were satisfied to be active facilitators during teaching sessions, including clinical and practical workshops. They were able to utilise their knowledge to assist students to become proficient with their clinical skills. They described their experiences of being engaged as mentors, passing on knowledge, and effectively developing their graduate skills within HE.

**Theme 5: Leadership, confidence, and responsibility**

The interns discussed how they believed they had developed the ability to be leaders as they had gained confidence and had a better understanding of the responsibilities of academic practice:

I believe I demonstrated leadership during my time as an intern; within my role, I had the opportunity to support new first-year students during a campus tour (P2).

I think that I displayed positive leadership skills during this activity; I encouraged the new students but noted their fear – so I took the lead on the tour, asking questions and trying to offer as much advice as I could within my responsibility (P5).

I have a new perspective on education following the completion of the internship... Understanding the inner workings of academic sessions has heightened my respect for academic staff and their role (P1).

I feel I have enhanced my interpersonal skills and my ability to adapt to new situations. I understand the responsibilities of registrants who work in academic practice (P6).

This narrative offers insight into the benefits of student interns’ self-esteem. They discuss how confidence has improved during their experiences in the internship role and how they believe they are able to enhance their leadership. They also gained a better understanding of the responsibilities of academics who are registered healthcare professionals.

**Discussion**

The hermeneutic and philosophical meaning of being an intern within HE was interpreted from narratives within interns’ descriptions. Ultimately following the hermeneutic circle and member-checking conversations, a prominent discussion point is that of professional identity. Professional identity is essential to the safe and effective academic and clinical practice of all health professionals who are employed as academics within HE. Previous literature already
recognises that university academic programmes play a significant role in the formation of the professional identity of students (Matthews et al., 2019). Consequently, in this case, it is important to appreciate how students employed as interns within HE distinguish professional identity during their undergraduate development. This research identifies that undergraduate healthcare students employed as interns attempt to find their professional identity. They assume the values, norms, skills, and behaviours of their occupational group, observing the professional role and values of their mentors or role models. This results in interns ‘thinking, acting, and feeling’ like a member of a group, in this case, as academics.

It is acknowledged that people that work in HE attach meaning to their work as well as develop a sense of self and perception of belonging (Matheson & Sutcliffe, 2018). Professional identity is associated with the sharing of common experiences, shared beliefs and ways of understanding knowledge, as well as coinciding ways of perceiving problems and their viable solutions (Contreras et al., 2019). Every professional requires an identity for the performance of their profession; this gives meaning to their actions and attitudes (Chartered Institute of Personnel and Development (CIPD)). It is suggested that the way people see themselves and how they work is dependent upon both genetic and environmental factors. Its formation begins at birth and continues throughout infancy, childhood, adolescence, and early adulthood (Cruess et al., 2019). It is indicated that for health and care professionals, identities are formed in different settings and through various interactions, from formal education and training to clinical practice and patient care, as well as mentoring and supervision. The transition from studying to practising is a key milestone, but professional and occupational identities are not simply acquired. They continue to develop over time. Individuals shape their professional identity in relation to the perceptions and expectations of those around them, including colleagues, patients, employers, and regulators, as well as those outside of their working life and wider society. Encounters may reinforce or challenge someone’s professional identity (Academy of Medical Royal Colleges, 2020).

Strengths and limitations of study

The strategic benefit to this role was directly linked to several institutional, faculty and department agendas, including the Programme Framework for Northumbria Awards, Areas of Learning Graduate Characteristics and Learning Outcomes, Employability Strategy, and supports the current Teaching and Learning 2021/22 Proposals. Internships provided six opportunities for hands-on enhancement and engagement events planned for nursing, midwifery, and health students within the Faculty of Health and Life Sciences (HLS) and the Department of NMH. Enhancement activities had been planned to address National Student Survey (NSS) responses across the department and offered support to new and continuing students, clinical skills opportunities, interprofessional learning opportunities (widenning participation strategies), and peer support (‘you said we did campaigns’).

Conclusion

Internships serve as a pivotal bridge between academic learning and professional application, offering multifaceted benefits to both the student intern and the future workforce. Participating in such higher education internships provides students with a unique opportunity to cultivate and refine the critical employability skills and graduate competencies necessary for excelling in professional practice.

Beyond the academic benefits, internships act as a catalyst for skill development in areas often overlooked in the classroom. They foster invaluable soft skills, such as effective communication, collaborative teamwork, innovative problem-solving, and confidence, all of which are vital in navigating the complexities of today’s dynamic work environment. These skills not only enhance a student’s career readiness but also contribute significantly to their holistic development.

Furthermore, internships offer a unique platform for interns to explore and understand their professional identity. This exploration is fundamental to the formation of their self-concept within their chosen field, influencing their future career decisions, motivation, and commitment. In addition, internships often provide the first genuine experience of belonging to a professional community of practice. This sense of belonging instils a deeper appreciation for the norms, values, and practices of their profession, fostering a strong professional identity and commitment to their future career.

Therefore, internships do more than strengthen graduate skills; they also provide students with a comprehensive understanding of their chosen field, equip them with essential professional skills, and foster a strong sense of professional identity and community. This integral role of internships in shaping the future workforce accentuates their continued importance in higher education.

References

Academy of Medical Royal Colleges. (2020). Developing professional identity in multi-professional teams. Academy of Medical Royal Colleges.


professional identity in the students of the degree in nursing. *CuidArte, 8*(15), 80-95.


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