Centre for Policing Research and Learning

Systematic literature review: Professional learning and development in occupations relevant to policing

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Overview

This paper is a systematic review of both the academic and policy literature on the personal, organisational and academic enhancement of professional learning and development in several occupations which have moved from a craft base to include an academic-knowledge base. These occupations have been selected for their relevance to policing. Whilst the literature identifies the advantages which have been evidenced in the occupations which have established their own academic body of knowledge, it also acknowledges that such transitions can result in negative consequences at both an individual and institutional level. As such, this review will provide useful indicators for the police service of England and Wales in their own professional journey.

The literature suggests that when occupations establish an evidence-based body of knowledge, which is service-specific and associated with a higher level of education, the status of the occupation is raised to that of a formal and identifiable profession. Whilst the terms occupation and profession are often used interchangeably in everyday speech, in the academic literature there are valuable qualitative differences between the two. Wolfe (2011) suggests that those in occupations are paid largely for what they produce whilst those who are deemed to be formally professional are paid for their knowledge and skills. The evidence demonstrates that a service-specific professional body of knowledge instils in its members the in-depth knowledge, skills, ethics and values that are associated with a high level of service delivery. Professions tend to attract a higher calibre of applicants who are willing to defer gratification until an intensive programme of study has been undertaken, normally within a higher education institution. Once this has been completed successfully, those entering their chosen professions are more likely to become autonomous practitioners, competent in applying

evidence-based practice in their duties and ultimately offering an approach of 'what works best' in particular contexts.

Whilst the benefits of professionalisation are evidenced at both organisational and individual levels, there are also elements associated with transition that can be problematic for both. A professional body of knowledge may enhance the theoretical understanding relevant to the organisation, but there is a danger that an over-emphasis on theoretical understanding can lead to an under-emphasis on the practical skills that are also vital for delivering a high-quality, professional service. Those occupations which have established a professional body of knowledge often identify a gap in the application of theory to practice amongst its members, with new recruits often experiencing a reality-shock once in employment.

The review concludes that the police service of England and Wales has much to gain, both for the organisation and its members, as it establishes and embeds its own professional body of knowledge. However, it will be valuable to also ensure that as part of this process, it recognises that the practical skills and knowledge needed for successful delivery are of considerable importance in the promotion of a professional service and as such, these skills and knowledge are also fully integrated into the educational programmes its new members will undertake.

The literature review focuses particularly on the acquisition of higher educational qualifications, set in the context of wider knowledge acquisition.

Points for Practitioners

- The transition from occupation to profession through the establishment of a theoretical body of knowledge that is service-specific, enhances the level of respect for that organisation from other professions.
- Candidates with academic knowledge which is service-specific can adapt to the expanding roles they are expected to undertake within their organisations.
- Individuals who have undertaken higher education study are able to make evidence-based judgements and can work autonomously.
- The improved status of a profession which requires formal qualifications that are service-specific is likely to attract a higher calibre of candidate.
- Theory must compliment practice not overshadow it otherwise new graduates to a profession may encounter 'reality-shock' when their formal education has ended.

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Introduction

The police service in England and Wales is one of the last professions to embark on the journey of establishing its own professional body of knowledge, trailing behind, in this sense, other comparable public services such as nursing, paramedicine and social work. These sectors have already embraced the journey from occupation to profession, with the potential benefits overall outweighing negative results. However, this is also an opportunity for police to learn from other professionalisation journeys. As such the objectives of this review are to:

- Identify the rationale for raising the educational standards in the selected occupations.
- Understand what the shift from a craft based to an academic base of knowledge brings to an organisation.
- Understand how degree level education can promote the use of evidence- based practice in organisations.
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- Assess the identifiable benefits, disadvantages and negative consequences that accompany this process.
- Inform the police services of England and Wales (and beyond) of the findings in order that they are able to maximise the benefits of a similar set of processes for their organisations whilst trying to avoid the problems that other organisations have experienced in their chosen path of transition.

Research questions were established which were consistent with the title and focus of the review. These included:

- What were the drivers for raising educational standards?
- How did this affect the organisations?
- How did it affect those entering the occupations via the new qualification's frameworks?
- Were there any issues identified in this process?
- How can the findings be used to inform the police as they embark on the same process?

Methods

This literature review examines the academic, and to some extent the policy literature, about the personal, organizational and institutional enhancement of professional learning and development in occupations relevant to policing which have created a professional body of knowledge. The rationale for adopting this methodological framework centres on the fact that scoping reviews 'aim to map rapidly the concepts underpinning a research area and the main sources and types of evidence available and can be undertaken as stand-alone projects, especially where an area is complex or has not been reviewed comprehensively before' Mays et al (2001: 194), cited in Arksey and O'Malley (2005). One of the advantages of adopting this method, according to Arksey and O'Malley (2005) it that is can provide the researcher with an overview of the existing literature pertaining to an area, which may be under researched (Kennedy et al, 2015).

The focus of this project was to provide a comprehensive and systematic review of the available evidence from studies pertaining to the professionalisation of nursing, paramedicine and social work, in order to assess the common themes that emerged. The results may help inform the police service of England and Wales as they approach a similar process of professional transition. Whilst it is acknowledged that nursing, paramedicine and social work have existing literatures relating to their own professionalising process, a comprehensive review which synthesises the findings for all three, including identifying common themes which may be of interest to the police service is less well evidenced. According to Peters et al (2015), 'scoping reviews have great utility for synthesising research evidence' and 'are useful when a body of literature has not been comprehensively reviewed.' Similarly, Arksey and O'Malley (2005) identify a major advantage of the scoping review lies in its ability in 'drawing conclusions from existing literature.'

The research recognises that there can be limitations associated in adopting the scoping review technique. Armstrong et al (2011) note that problems can occur where the researcher does not scrutinise the quality of the research sourced. However, in order to minimise such issues, the research adopts a framework of specific and various stages in order to improve the rigour of this method of inquiry (Arksey and O'Malley 2005). In addition, the review adopts the method of systematic reviews in making explicit the value criteria being applied in assessing quality, by using thematic extraction sheets for all papers which are fully read.

Appendix 1 provides the full steps in the method along with tables outlining the search engines used, search criteria and articles identified.(p. 51)

Stage 1- Identifying the research questions

The initial stage involved the identification of the focus of the research which centred on assessing the academic and policy literature about the personal, organizational and institutional enhancement of professional learning and development in occupations such as nursing, paramedicine and social work who have all created a professional body of knowledge and what this can offer to policing. The research acknowledges that the term 'professional body of knowledge' is a broad term and in order to avoid ambiguity it ascertains that in terms of this review, it specifically relates to the raising of the educational requirements for entry to these professions. It was deemed that wide definitions such as 'body of knowledge' may either return too few or too many research articles. With the narrowing of the focus to raising education requirements, it is suggested that there would still be enough scope to generate the breadth of coverage required.

Stage 2- Identifying relevant studies

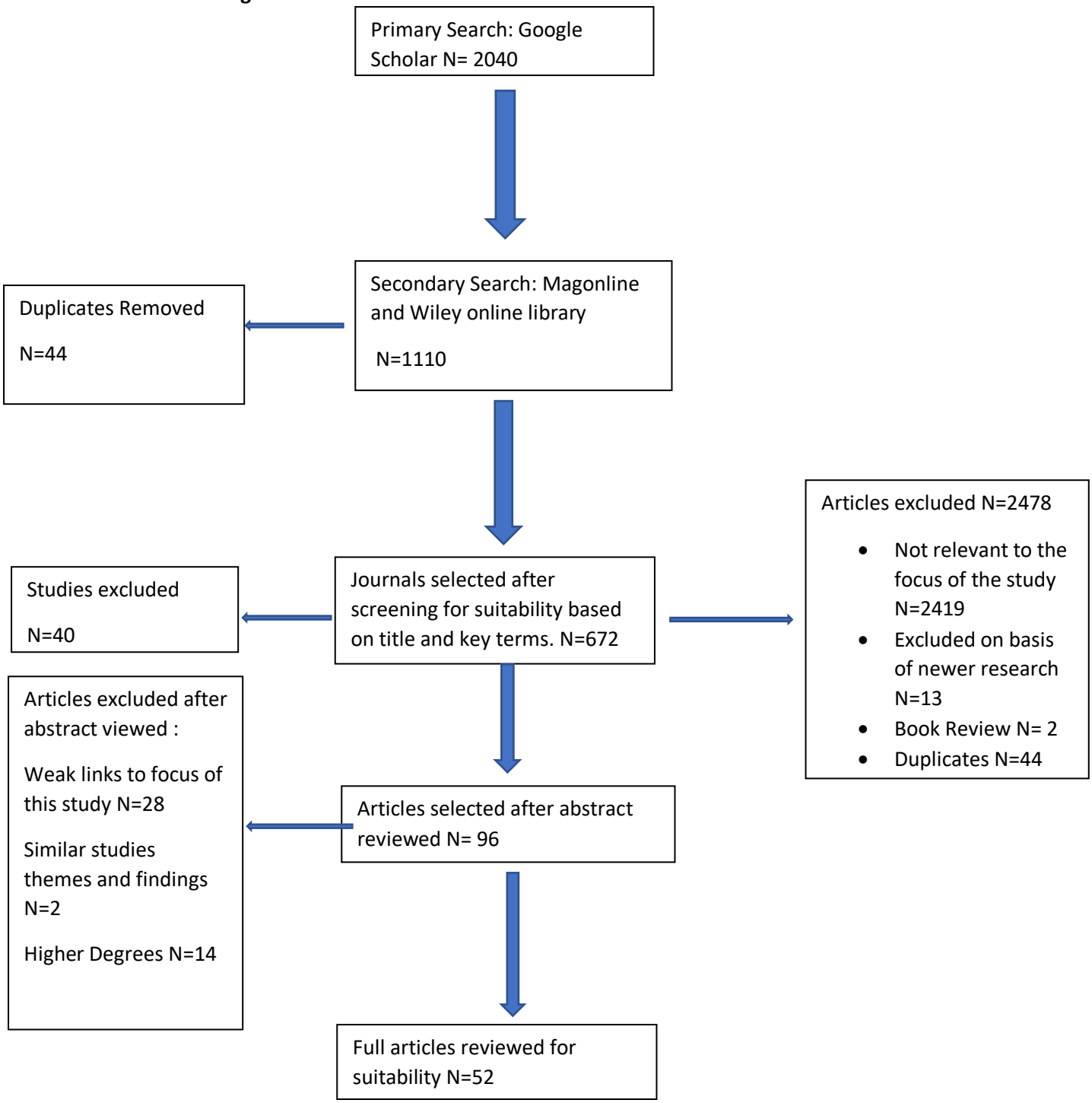
As this research included sourcing articles from a wide range of disciplines, google scholar was initially to source material from a host of different journal databases. Primarily, searches were conducted relating to the nursing profession with a combination of terms used. Many of the articles identified were also flagged as being from Magonline Library, which is a database that houses collections of journal articles from a wide range of nursing and health related journals and which is the home of the British Journal of Nursing. In addition, articles were also selected from the google scholar search from Wiley online library, which is a multi-disciplinary database. Articles from the database came from a variety of nursing related journals, including Journal of Nursing Education and Practice, Nurse Education Today, British Journal of Nursing, Nurse Inquiry and the Journal of Advanced Nursing. In order to ensure other relevant articles were not over-looked, secondary searches were also carried out on both Magonline and Wiley home sites.

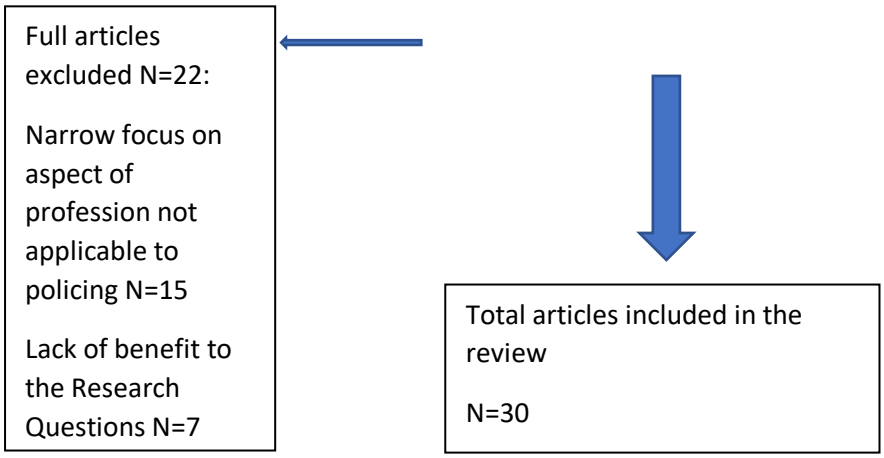
The same method of investigation was used for the search for articles related to paramedicine, with the search terms used listed in the table below. Most articles sourced from Google Scholar had their home sites in a variety of journals associated with paramedicine and health related disciplines. These included the Australasian Journal of Paramedics, Emergency Medical Journal, International Paramedic Practice, Biomedical central, Journal of Paramedic practice. Secondary searches were also carried out on Magonline and Wiley online. A similar format was adopted for research related to the social work profession. However, the results were not as successful as for the previous two professions.

Stage 3- Selecting the studies

The following chart identifies the process by which the studies were selected:

Chart 1 – Selecting the data





Stage 4- Selecting the studies. Data Charting, Thematic Extraction and Collation.

According to Arksey and O'Malley (2005) the fourth stage of the scoping review is the data charting and collation process. Kennedy et al (2015) notes that they view this part of the review framework as a '*descriptive analytical method*' which supports the researcher in identifying and summarising the key information from the studies selected. This process enables the researcher to extract the studies and hence the information which is most likely to assist in answering the research questions (see thematic extraction sheets in Appendix 2 p. 55). The following categories were developed in order to break down the information from the articles, which would inevitably help the researcher narrow down the number of studies that were deemed to be the most beneficial in order to select those which were best placed to inform the research focus and contribute to the identified gap in knowledge:

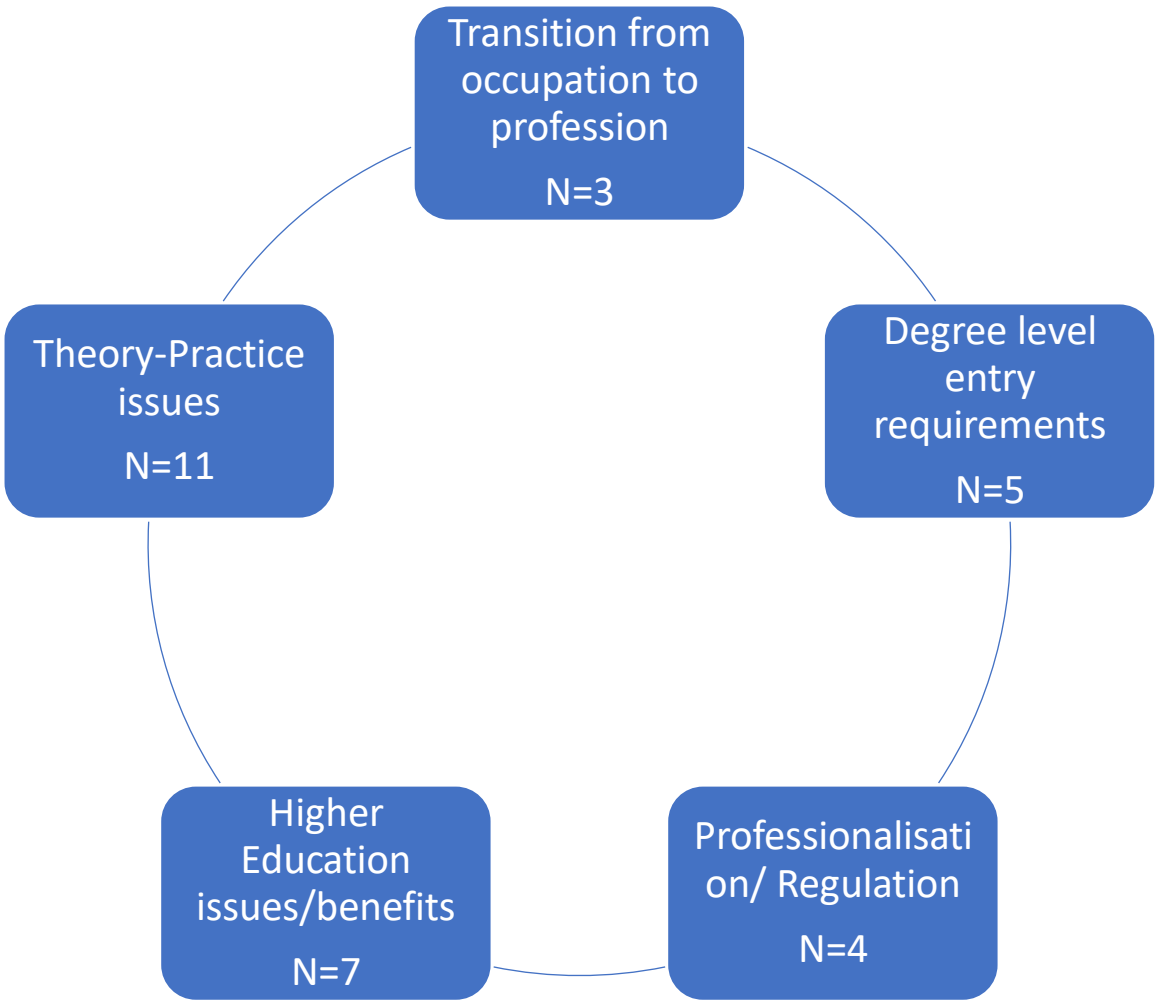
- Author (s): to ascertain the source of the information and hence assess whether this is a credible source;
- Publication type: permits the researcher to identify to the reader whether the information is published in the academic sphere;
- Area/ Country: allows an element of cross-cultural comparison should this be warranted;
- Aims of the paper: identifies what the article seeks to achieve;
- The design of the research: allows the researcher to identify whether a robust design has been used to investigate the research aims;
- Key concepts: quickly identifies the areas that addressed in the article;
- Focus: narrows down the areas to be investigated;
- Key discussions: Gives the reader the important elements that are contained in the article;
- Conclusion: summarises findings and identifies any potential gaps in knowledge.

The use of a standardised approach to summarise each article brings about consistency in the research process and helps to reduce bias in the final selection of articles to be used in the actual review.

Stage 5- Identifying themes

From the thematic extraction exercise, 30 out of the 52 studies were selected since their elements were assessed as relevant to the original research questions. These were then grouped in terms of how they were relevant by constructing narrower themes (see figure 1).

Figure 1 - Map of outcomes



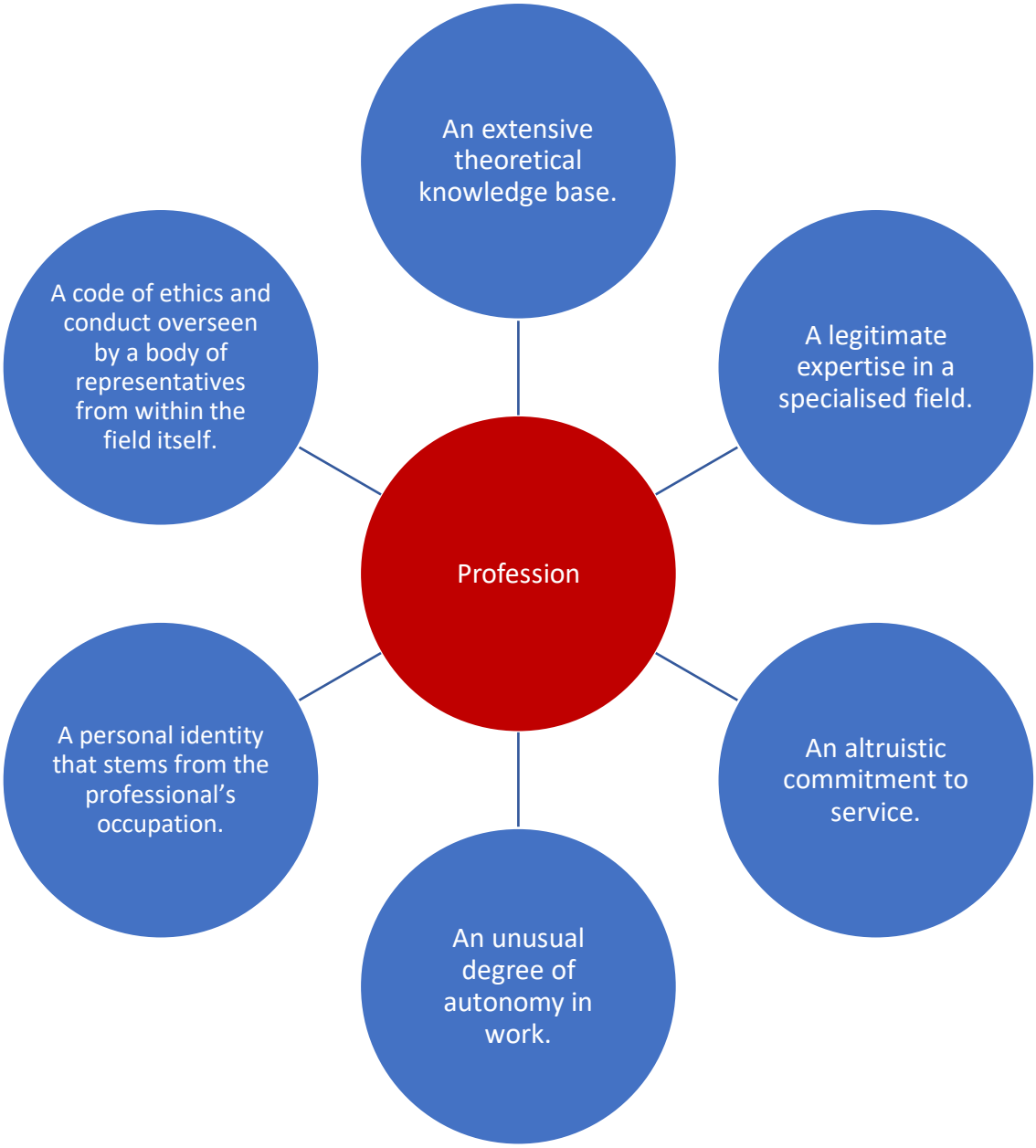
From occupation to profession

Although the terms occupation and profession are often used interchangeably in everyday language, in the academic sphere the characteristics of both are examined more closely and it is here where it is evident that there are important qualitative differences between the two terms. Wolfe (2011) simplifies this in his distinction that, *'In layman's terms it could be argued that those in occupations are paid largely for what they produce whilst those who are deemed to be professional are paid for their knowledge and skills'* (Wolfe, 2011). Higgs et al (2009) deem a profession to be, '*a self-regulated occupational group that has a body of knowledge and recognised role in serving society (*as cited in Simmill-Binning and Towers, 2017).' Professions are self-regulated, accountable and under continual scrutiny and development. They are guided by a code of ethical conduct that is the foundation for practice decisions and actions. Membership of the profession requires completion of an appropriate (commonly degree-based) '*intensive educational program'* (as cited in Green and Gates, 2014). Whilst the range of definitions for what is understood to be a profession is varied and sometimes contested, Green and Gates identify from extensive reviews what they believe to be the seven key characteristics an occupation must acquire, through the process of professionalization, in order to qualify as a profession (see figure 2).

Figure 2 Characteristics of a profession (based on Green and Gates 2014)

There appears to be some consensus among other writers on this topic, such as Parsons (1951), Goode (1960) and Etzioni (1969) (all cited in Yam 2004) who have also established a comprehensive list outlining the indicators of a profession, as indicated in figure 3 below.

Figure 3 Characteristics of a Profession



(Source: Yam 2004)

There is psychological appeal associated with being part of a profession as opposed to an occupation, which is perhaps why there is, as noted by Evetts (2003), an increased use of such terminology in a variety of employment sectors. In a business context, Fournier (1999) believes the use of the term

profession and professionalism, '...*is used increasingly as a marketing device in advertising to appeal to customers' (*in Evetts, 2003). Evetts also notes how such labels are also used in organisations in order to, '*motivate employees.'* She suggests that there are significant benefits associated with professionalism, most notably, 'a*uthority, privileged rewards and higher status*.' Parkin (1955) further supports this in suggesting that professions are associated with '*privilege and a measure of occupational success'* (Yam 2004). In recent years, many occupations have successfully become professions in order to improve the social status associated with occupation, enhance the quality of their service delivery and afford their members with recognition.

Yam (2004) identifies how nursing has historically been seen to be a vocation and little more than an extension of the traditional female role, typified by characteristics such as caring and nurturing. He categorises nurses of the past as '*attendants of the sick'* and '*teachers of hygiene*.' However, whilst this may be an accurate reflection of nurses of the past, the role and duties of the nurse have evolved and understandably, this basic description did not sit well for long with those who had chosen this as their career more recently. Despite the changing nature and complexities associated with nursing, the right to be called a true profession and the process of professionalization has been, according to Yam, a '*hard fought battle*.' Whilst the role and responsibilities associated with nursing has expanded well beyond the basic duties highlighted above, until recently, the nursing profession was unable to stand up against the characteristics of a true profession because of its reliance on workplace apprenticeship training rather than higher education. This was supported by Goode (1960) who argued that, *'nursing ranks high on the variable of service orientation but has been unable to demonstrate that its training is more than a lower- level medical education'* (in Yam, 2004).

When measured against the theoretical literature on the sociology of professions, nursing of the past lacked what is arguably the staple in any route to professionalisation: 'formal knowledge' (Etizoni,1969; Freidman, 1986, in May 2004). Friedson (1986) identifies the centrality of university-level education in embedding the theoretical knowledge which is the pre-requisite of most professions. For him, it is this level of study which encourages both the internal and external benefits associated with professionalisation. On an individual level, professionalisation promotes autonomy through a process of '*socializing the members into forming a professional identity and philosophy that encourages them to assume control over an area of knowledge, to participate confidently in structural and ethical decisions, to demand professional pay, and to receive respect from other professionals'* whilst at an institutional level, it ensures the occupation '*retain[s] its monopoly of service in society'* (in Yam 2004).

Despite making significant inroads towards becoming a profession Yam identifies the barriers nursing has faced in the quest for professionalisation. He suggests that gender issues which are evidenced throughout history had prevented the transition to full professional status. Nursing, had traditionally been predominantly female dominated, whilst medicine was seen to be the domain of men. Similarly, he also argues that barriers to professionalisation may also have been attributed to nurses themselves, since many, according to the Royal College of Nursing (2003) attached more value to the '*know-how'* rather than the *'know that'* approach. In light of findings from Yam's research, it can be concluded that at the time of his paper, the move to university-based education has brought nursing closer to the status of a profession.

Similar routes to professionalisation have been evidenced in paramedicine. Williams et al (2009) identified that, at the time of their research, the paramedic sector in Australia was categorised as semi-professional, since it lacked three elements which trait theories identify as necessary to achieve full professional status. They identify that a consistent theme in academic definitions relating to the elements essential to a profession is knowledge. For instance, Friedson's (1986) definition of the term profession included '*expert knowledge'*, whilst Carr-Saunders and Wilson (1944) professional model highlights '*specialised education and organised bodies of knowledge'* as essential elements (Williams et al 2009). Schwirian's (1988) definition illustrates that the move from occupation and semi profession to a full profession includes, '*a lengthy and rigorous education in an intellectually demanding and theoretically based course of study*.' Williams et al (2009) argue that once an occupation or semi-profession professionalises, i.e. then achieves the status and recognition associated with a profession.

Their paper recognises that the paramedic sector had made significant progress in its drive towards professionalisation and can benefit from the advantages, such as the monopoly of their own body of knowledge, once professionalisation is fully achieved. They also highlight that in order to complete the process of professionalisation, paramedicine needed to align itself with medicine (this has also assisted nursing in professionalising) and establish regulation and registration for paramedics. Whilst these two elements are desirable for professionalisation, they suggest that the most critical element in the professionalisation of paramedicine lies with both higher education and service-specific body of knowledge, which they argue '*underpins all of the professional characteristics and is therefore the key to obtaining full professional status*.' In order to support their claim, they identify how physiotherapy only achieved professional status when their education was moved into higher education institutions (HEIs). The importance of higher education in the professionalisation of paramedicine is summarised by Reynolds (2009) who states '*The Australian ambulance industry has undergone dramatic change over the last ten years. These changes have been singly reflected in the*

number of tertiary degree courses being offered throughout the [sic] Australia … This single step could be viewed as a strategic move toward professionalism' (in Williams, 2009).

Whilst the move towards professional status has been welcomed, the migration of paramedic education to HEI's was not without its problems. These mainly centred on issues relating to standardisation and curriculum content which Williams et al (2009) suggest are necessary for full professional status.

As in the case of nursing and paramedicine, social work both in the UK and in areas around the globe has undergone a similar process of change. There is some consensus that such changes were timely and warranted with specific focus on the training and education that social workers were receiving. Writing at the time of the changes, Pugh (2005) identified developments in the field which were, amongst other things, *'...aimed at improving service standards...'*. He charts the major changes to social work that occurred on both an organisational and individual level alongside context for the developments relating to both the social work qualification and the regulation of the profession. As with nursing, Pugh recognised that there was a shortage of qualified social workers and the challenge of how the profession aimed to address this shortfall. For him, one of the most important changes to the profession was the implementation of the General Social Care Council (GSCC) to act in a regulatory function, with the overall aim being the improvement of quality of the services the profession provides. As part of its function, the Council provided codes of practice for all social work employees and discipline in cases where the code has been breached. It also would play a pivotal role in the education courses designed for social work students. It is estimated that there are between 60-70,000 qualified social workers in the UK and a further 1.2 million social care workers with the latter mainly accredited on practical/vocational experience (Ellinor, 2004, in Pugh, 2010).

There were many drivers for the occupational and qualification changes to social work, which are evidenced in the aims for the profession set out by both the Social Care Institute for Excellence (SCIE), who wish to see consistency and higher standards and the National Occupational Standards (NOS), which determine the knowledge, skills and values for the profession. Further developments to make the profession more robust came in 2003, with the registration of social workers, where eligibility was determined on the satisfaction of criteria, including amongst other things, a social work qualification. This was followed by the title social worker being protected by law in 2005.

Formerly, the Diploma in Social Work (DipSW) was the recognised educational qualification standard for social workers in the UK. Unlike previous qualifications, Pugh notes a key feature of the DipSW was the focus on, '*competency-based assessment*', whereby students demonstrated their application of knowledge and skills in the field. Social work students would also undertake a programme of academic

study alongside the DipSW, with the minimum standard of study being at least on par with second year undergraduate level. As such, standards of education across the profession were inconsistent. Whilst all students would hold a DipSW, some graduated with diplomas, some with a full degree and other with a post graduate qualification. Alongside the problems that occur with educational inconsistencies, there were also problems identified with the DipSW qualification.

In order to address educational inconsistencies as well as rectifying the shortcomings of the DipSW, the newly formed (at that time) GSCC set out to revolutionise social work education with a new professional qualification degree, set at full bachelor's level and lasting 3 years. According to Pugh (2005), the momentum for the changes in social work education lay with the desire for improvements in social work education and training, as well as bringing social work up to the same standard as other professions. In order to attract more candidates to the profession, and hence solve the shortage issue, new regulations were put in place for applicants, with the age for eligibility lowered and bursaries offered. This strategy had been used successfully in other professions and could be deemed as successful in the recruitment of high calibre candidates from diverse sections of society.

The new qualification arrangements set out to not only benefit the professions but also enable those institutions delivering social work education more autonomy with less onerous governance. More emphasis was placed on collaboration between academics and placement providers, which sought to overcome problems encountered in the past. Some universities also began to offer a master's in social work and there would be a post qualification framework developed in order that individuals could engage in programmes of continuous professional development and complete advanced awards. These developments have also been witnessed in other professions, such as nursing, where the ultimate aim was to make both the organisation and its members fit for purpose and able to adjust and adapt to meet the demands of an advancing society.

Pugh, however, also saw the changes to social work as being part of a wider political agenda, based on managerialism and performance regulation, which was being implemented across the public sector. Higham, Sharp & Booth (2001), summarise this position as being driven by a belief in '*better standards through greater regulation,*' and signifies a departure from the days when professions were extremely self-regulating (in Pugh, 2005). There are some advantages to the move away from self-regulation, most notably that professions can no longer be accused of being self-serving. The developments in social work were also beneficial for the status of those involved in the academic arena. Parsloe (2001) notes that the traditional perspective of social work had been decidedly anti-intellectual, with emphasis on the value of practical elements as opposed to academic contributions

(in Pugh, 2005). However, the drive to encourage a more research-based approach to determine a '*what works best approach'* is helping to challenge this formerly ingrained belief.

The article, however, does raise some concerns relating to the professionalism of social work, with particular caution against the profession losing sight of its original reason d'être. There are also concerns raised in relation to the prescriptive nature of the academic elements of social work courses, with Pugh highlighting how this may in effect, weaken its own independence. Finally, he argues that the profession must be vigilant with regards to codes of practice that are in place, since whilst these are used to protect against malpractice, they could also be used to punish those with opposing views to mainstream thought.

Graduate Entry requirements and the raising of qualification standards

This review has already noted that there is a consensus that one core feature associated with professions relates to higher level of study by members of that profession, which instils in them the in-depth knowledge they can use in order to perform their roles and functions. Usually, this in-depth knowledge is conveyed through university-based education programmes, which tailors the curriculum to suit the needs of the profession. A common theme within this review indicated that there are several drivers for the move towards establishing degree level entry to the professions selected. In the review literature, the over-riding message was that there were significant benefits for professions when the entry qualifications were raised to degree level. It was identified that higher education promotes specialist knowledge for the area being studied and can assist members of organisations adapt to the challenges they were now facing. Higher levels of education can also contribute to the delivery of the expanding roles that many organisations are creating due to more complex service demand. By raising the qualification threshold, organisations expect to ensure they have the best candidates for the job, who are equipped appropriately for their work.

This is evidenced in Carpenter at al.'s (2013) paper which identifies the changes that have occurred in nurse education (in Southampton, UK) in order to fulfil the goal of full professional status and hence, improve the perception of nursing. They identify that prior to a graduate only entry requirement to the profession, nursing was not seen as being academic. The implementation of the national initiative Project 2000 saw all nurse education transferred to higher education and moved nursing from vocational training to that akin to other allied health professionals. Carpenter et al (2013) acknowledge that this move did attract some negative media attention, with headlines suggesting that nurses had now become too 'posh to wash,' suggesting that the more routine and perhaps mundane

tasks would not be viewed as being part of the graduate nurses' remit. However, despite such concerns, they conclude that a graduate education is preparing nurses to deal with the challenges of modern medicine by providing them with, '*the skills, knowledge and attitudes necessary to work with patients in a wide variety of settings.*' However, this review notes that the findings from this paper are locale specific and so may not be reflective of other HE nursing programmes within the UK.

Sturgeon (2010) identifies the significant developments that have occurred in nurse education and how this has resulted in significant progress in its desire to be recognised as a true profession. As with Carpenter et al.'s (2013)paper, he suggests that, with the transfer of nurse education from schools of nursing to higher education institutions and the raising of educational requirements to a minimum level of graduate entry, nursing has ensured that it is now recognised as an '*academic discipline'* with a strong '*sense of professional identity*.' Similarly, Sturgeon addresses the issues that accompanied moving nurse education to HEIs. He identifies how universities have had to acknowledge that vocational elements are as important as the theoretical aspects that underpin disciplines such as nursing and in consequence, universities have '*had to embrace more vocational and employer-friendly qualifications…'* He acknowledges that higher education serves to promote and maintain the academic credibility that the nursing profession has now achieved, whilst also ensuring that nursing now demonstrates an evidence-based practice approach. However, concerns still reverberate as to whether enough emphasis was being placed on the more practical elements of the profession and the core values that are deemed essential to patient care.

Sturgeon (2010) also notes that the developments witnessed in nurse education in the UK have already been implemented in many European countries as well as Australia and New Zealand. Whilst the drivers for these developments may well have been the same as those in the UK, Sturgeon warns of the unintended consequences that have been evidenced in Australia and New Zealand, citing the findings from Karstadt's (2005) which found that graduate nurses are dependent on '*second-level nurses to guarantee the delivery of appropriate standards of care*.' Sturgeon also makes reference to similar concerns raised by Hoggart (1996), who suggested that alongside the benefits of higher education to the profession, such as attracting talented candidates, there was also the danger of discouraging other suitably talented candidates who may not be able to enter via this pathway. In conclusion, Sturgeon's paper shows that the shift towards graduate entry to nursing is being evidenced across the globe and that the development in the UK are entirely in synch with these. The move towards degree educated nurses will ensure that those entering the profession will have the skills and knowledge to meet the challenges of the profession of today.

The move to professionalise nursing via the transition to higher education training has been supported by the United Kingdom Central Council's (UKCC) commission in Nursing and Midwifery which state '*new registered nurses and midwifes are able to adapt to change and implement evidence-based practice than those trained under the apprentice-style model'* (UKCC,1999). Indeed, societal changes and advancements in medicine arguably warrant highly qualified nurses. The development of the nursing profession is not stagnant but is constantly evolving and developing. This is evidenced in a report by the Council of Deans for Health in 2016, which outlines the future recommendations for nurse education. The recommendations were based on findings from a report by the Nursing and Midwifery Council who were preparing new pre-registration standards for nurses which would be implemented in all teaching institutions by 2019. The NMC recognise the need to further develop the nursing profession in order that the nurses of tomorrow are able to effectively deal with the ever-expanding roles and responsibilities society requires of them. An ageing population increases in chronic diseases, advances in technology and the move from care to prevention models have all contributed to the changing role of the nurse. This is evidenced in the 'tomorrow's doctors' model which is being used as a potential framework for future nursing education. Indeed, this can be supported in the role of the Advanced Nurse Practitioner, which is normally gained through a Masters level of study. According to the Royal College of Nursing, the '*advanced nursing practice has provided new opportunities for nurses in terms of career pathways and professional development*' (RCN, 2012). This is supported by Ann Baileff (2015) who states that these professionals '*make an important contribution to the NHS and the role has been successfully introduced in many different settings. They are not only able to substitute for doctors, which is highly relevant in view of the growing shortage of GP's, but in doing so they often enable a patient to get the care they require more quickly, because the need to refer on to a doctor, and the associated delay, is negated*' (as cited in Nursing in Practice, 2015).

The route to professionalise nursing through the introduction of entirely degree level entry has not been without criticism. Whilst the benefits to the occupation, both on an individual and occupational level are well documented, it must be noted that the focus on higher education has been questioned both in the media and by politicians. Norman also highlights the core competencies 21st century nurses needed to possess as outlined by the Institute of Medicine in 2003 (see table 8)

Table 8 Five Core Competencies for 21st century nurses

Competency	Practical Example
Provide patient centred care	Including respect for preferences and expressed needs, coordinate continuous care, inform and communicate with patients clearly, promote wellness and healthy lifestyles including focus on population health
Work in interdisciplinary teams	Collaborate and communicate to ensure that care is continuous and reliable
Apply quality improvements	Including identifying errors and hazards, understand and measure quality of care, design and test interventions to improve care quality
Utilise informatics	Manage knowledge and support decision making using information technology
Employ evidence-based practice	Integrate best research with clinical expertise and patient preferences

(Source : Norman 2014)

Norman argues that without a degree level of education, it was difficult to envisage exactly how these competencies could be achieved. Contemporary nursing is qualitatively different from that of the past. He identifies the expansion in the roles and responsibilities that modern nurses are expected to undertake. They are no longer restricted to following the directive of a doctor but are employed as practitioners who are increasingly able to independently assess, diagnose and prescribe, all which were formerly restricted to senior medical professionals. The competencies outlined by the Institute of Medicine, are witnessed in many degree-level programmes which centre on producing reflective learners, who are able to utilise research skills and apply the findings to inform evidence-based approaches in their workplace. The importance of the nursing degree is supported by Norman as he concluded that '*A graduate education provides the capabilities required for lifelong learning and adaptation, which is essential when one considers the development of nursing roles'* and as such. '*nurses need more higher education, not less.'*

Similar themes to those evidenced above emerge in the research surrounding the move towards all graduate entry in paramedicine. Newton and Hodge's research (2013) identifies that the move from paramedic training to paramedic education was a key enabler to professionalising the service and ensuring that its members would be able adapt to the challenges that were being evidenced in the changing nature of demand. They cite the work of Armitage (2012) who reports that the professionalisation of paramedic education has been a long process and is still developing despite the

recognition of the benefits it can bring. Their research recognises the need, as advocated by paramedics and their professional body to enhance the profession and status afforded to paramedics. The main conclusion of their research indicates that those who have passed the Paramedic Practitioner exam are able to expand the role of the paramedic in health care and will enable the service to meet the needs challenges they face in contemporary society.

The developments in relation to paramedic education are also highlighted in the work of Whitmore and Furber (2006). Their paper identifies that prior to 2001, paramedicine had no professional body and as such training and education were the sole remit of the NHS. The Health Professionals Order of 2001 established the Health Professionals Council (HPC), which established the first professional body for UK paramedics, the British Paramedics Association- College of Paramedics. They argue that professional bodies such as the above acts as '*learned societies'* which provide members with the knowledge they require for their profession. Both the HPC and BPA work together to develop and approve educational programmes for UK paramedics. Amongst its many other duties, the BPA encourages higher standards pf education for paramedics and ongoing professional development throughout their careers. One of the most significant developments in paramedic education has been the establishment of an educational pathway, developed by the BPA, which offers education from entry to the profession through to the highest level a paramedic can achieve, that of consultant. Whitmore and Furber suggest that these educational developments promote high quality 'out of hospital' care and ensure that members can meet the challenges associated with the expansion of their care role.

The drivers towards raising the educational level of entry to the paramedic profession are also identified by Petter and Armitage (2013). Referring to the work of Martin and Swinburn (2012), they highlight that although there had been an overall increase in the number of 999 calls to the ambulance service, this was not equated with an increase in life threatening or critically ill patients. Rather, the increase in emergency calls normally relate to those patients with a wide range of non-critical illnesses or injuries. As such, the role of the paramedic has had to adapt in order that they are best placed to deal with the broad spectrum of cases they are expected to deal with. They argue that modern day paramedics must make clinical decisions as to the best course of action for their patients and assess whether they are eligible for a '*treat and refer'* approach rather than hospitalisation. Considering this, education programmes are now providing new students with a range of skills and the knowledge to deal with a wide array of possible scenarios. In consequence, this has led to the raising of the level of education in the belief that in order to produce a workforce 'fit for practice' a graduate level of education is required.

Whilst the traditional, vocational approach had always been favoured by the profession, the emphasis on task-oriented training was perhaps best suited to the role of the old-style ambulance driver, who mainly performed a patient transport service, leaving the hospital to perform treatment procedures. However, according to Morrow et al (2011), this approach was heavily criticised by the Health Care Professionals Council on in-house training programmes and by research relating to professionalisation (in Petter and Armitage, 2013). The evolving and expanding role of the paramedic is mirrored by an increase in expectations from the general public, and the narrow mind-set associated with the vocational route was arguably preventing the service from advancing and being able to meet these new challenges. Whilst there was some recognition for Grundy's (2001) concerns relating to the move away from vocational training and subsequent lack of skills-based learning in nurse education, Petter and Armitage (2013) identify that paramedicine could learn from the mistakes made in the transition of nurse education to HEI's in order that the same issues do not arise.

The raising of educational standards for paramedicine has sought to promote practitioners who have extensive theoretical knowledge relating to their line of work and a higher level of education will help students to develop the clinical skills necessary to make evidence-based judgements on 'what works best' for the patients in their care. Referring to the work of Donaghy (2008), they identify that the developments in paramedic education aimed to produce practitioners who are able to work autonomously and at a higher level, with the possibility of future generations of paramedics being permitted to independently prescribe.

Theory and practice

When education and training are moved from traditional pathways, such as in-house training to higher education establishments, issues sometimes arise in terms of an over-emphasis on theoretical input and the under-emphasis on the practical aspects relating to the profession. These are probably to be expected in the early stages of a transition and the literature suggests that professions and higher educational institutions can benefit from learning the lessons from these initial teething problems, so that they can be quickly identified and rectified. Whilst some occupations have remedied these issues, lessons are still to be learned in other sectors. For instance, Fulbrook et al (2000) provide a detailed discussion relating to research conducted with nurses who were part of the Project 2000, which was implemented in response to concerns by the Royal College of Nursing regarding the standard and level of education of some recruits. It was also anticipated that this new graduate entry programme would address the shortage of new applicant to the profession.

Fulbrook et al's research aimed to assess how nurses perceived the Project 2000 educational training prepared them for the practical elements of their course, in terms of their first clinical placements. The researchers compared the findings from the first cohort of nursing students who received very little vocational experience during their first 18 months on the programme. Those who were part of the first wave of students had a predominantly class-based approach to nurse education, learning about theory. Based on feedback, the HE curriculum was amended to enable subsequent cohorts to access vocational aspects related to their profession much earlier in their educational programme of study. There was some support for the suggestion that those students on later programmes felt better prepared for their first clinical experience, but the findings were only marginal in terms of differences around preparedness between the two groups.

Fulbrook et al do concede that there is evidence to support the fact that there were issues related to the initial roll out of the Project 2000, where the theoretical input far outweighed the practical elements (Good 1992, Elkan & Robinson, 1993 and Macleod- Clark et al 1996). Not only did this have severe implications for the nurse students but also reinforced the perception of ward staff that students lacked the competency skills necessary for their role on the wards (Allen, 1999; Blackburn 1992, Elkan & Robinson, 1993). Similarly, their paper also highlights the findings from Macleod-Clark (1996) and White (1996) who found that Project 2000 students were not as confident in their first clinical placements when compared to those who had entered the profession prior to the implementation of the programme. It was deemed that the time spent in placement was not long enough and as such was preventing the students gaining the hands-on experience necessary for achieving the clinical outcomes they required (White 1996, Willis, 1996). The issues relating to the initial Project 2000 resulted in student nurses encountering stress due to confidence in their clinical skills as well as encountering less than positive attitudes towards them by the qualified staff in their placements (Cuthberson 1996, Power 1996). As a result, the Project 2000 curriculum was restructured to include clinical experience much earlier in the programme, with core competencies identified that had to be achieved for all students.

Similar themes are identified in a review by Godin (2000) who discusses the failings associated with the initial phases of the Project 2000 and also identifies improvements that have been implemented in order to address these. The review identifies that the rationale behind the establishment of the Project 2000 programme was to attract a higher calibre of candidates to the nursing profession, which would transform nursing into a research-based profession, ready to meet the challenges that it faced. The recommendations made by the UKCC (1999) were to ensure that programmes included much more clinical experience for the students earlier in their programmes of study. Students would be

active participants whilst in placements and would not be mere observers. The UKCC had also recommended that lecturer-practitioners would have input in the delivery of the programme. Nursing students would also have the opportunity to experience placements in a specialist setting in order that they could decide on their nursing route at the earliest opportunity.

Takase et al (2013) identifies that in nursing there is a common belief that a degree education provides students with greater level of competency than that of their diploma counterparts. Indeed, it is this assumption which in part may have led to the transference of nurse education to higher education institutions, which was believed would also contribute to the professionalisation of nursing in general. In order to assess the credibility of this, Takase et al carried out research across 5 hospitals in Japan, where they investigated perceptions of confidence in competency level in students who had studied the Bachelor of Nursing and those who had studied the diploma route. They found that those who had studied at university were generally less confident in their competency levels than their diploma counterparts and that the confidence in competency levels varied greatly within the graduate sample, which did have a significant impact on the quality of care provided.

Takase et al indicate possible reasons for the disparity in perceptions in competency between the two groups under investigation could be due to the fact that university-based nursing programmes dedicate more time to theoretical aspects related to the profession, with fewer hours being spent in clinical placements, where students can both observe and practice the skills they require in order to become competent practitioners. This is supported in earlier studies, such as that conducted by Wolff (2010), who found that nurse educators and practitioners assessed degree students as lacking basic nursing skills. As such, Takase et al identify that although the impetus to transfer nurse education to HEI may have been to professionalise nursing and produce competent graduates, the latter of these was not achieved in Japan. Nurse educators need to work closely with HEI in order to ensure the curriculum provides a balance between the theoretical and clinical elements necessary for competent nursing.

The findings above are also echoed in the research conducted by Mussen et al (2014), who also found that graduate nurses reported feeling a ‘reality shock’ once they made the transition from university to employment in the clinical setting. The nurses felt overwhelmed in the clinical setting and also reported having unrealistic assumptions as to what they had anticipated their status would be, believing they would be working at a higher level than that they were currently working at. Mussen et al’s research indicates that graduate nurses were lacking clinical experience, and this needed to be included in their programme of education. They also identify the importance of transition programmes for all graduate nurses, with the assistance of graduate nurse coordinators in order to ensure newly

qualified nurses are clinically competent and have realistic expectations of their role in the health care system.

The problems identified in the gaps in the theory to practice dimension are not solely confined to the nursing profession, but also are reported in research concerning the transition in paramedicine. Lazerfeld and Jenson (2010)'s research identifies similar themes in terms of student paramedics not feeling prepared to meet the challenges of the practical elements of the job after their theory-oriented degree study. Students concerns raised about the theory-practice gap, which mainly surrounded the paucity of clinical placements during their studies. The lack of suitable and varied placements meant that newly graduating paramedics lacked accurate knowledge of the communities they would be working including older people or those with mental health issues. To prepare themselves for their role, some students had found voluntary work to give them clinical experiences for their role.

Similar discrepancies between theory and practice were evidenced in research by Michau et al (2009). They found that the new degree level paramedic education was more heavily based on theoretical knowledge, unlike its predecessor, the diploma. The degree programme had more limited time allocated to clinical placements. This problem is not solely confined to paramedic education but was evident across the health care sector. For instance, they cited the research of Munnukka et al (2002), who found that there were issues relating to clinical experience in the nursing profession. (This was also evidenced in research by Hodgetts et al (2007) in occupational therapy. Michau et al identify that the gap between clinical practice and theoretical elements in educational programmes is not attributable to one causal factor but is the consequence of a range of issues relating to the increase in the number of students requiring clinical experience, competition for these placements and an overall shortage of placements.

Their research identified that several universities, including Monash, in Australia had designed courses which sought to redress the balance, by increasing the time allocated to clinical placements. However, as indicated by Levett-Jones (2007), an increase in time spent in a clinical setting does not necessarily equate with adequate clinical learning or achieving the skills necessary for competency in the clinical setting. Similarly, Boyle et al (2008) report that whilst paramedic students may receive more time dedicated to the practical element of their profession, often they were not allowed to engage in the treatment and hence practice these skills. They often experienced downtime, where no jobs were available.

After conducting research with second and third year degree students, the research suggests that whilst some students were satisfied with their placements, there were concerns raised as to the low

level of cases they were presented with, to enable them to practice their skills. Some placements were not providing skills practice at all and in some cases, the students did not think that their supervisors understood their role. This raises a concern regarding whether the newly qualified paramedics were 'job ready' after completing their education programme. The research identifies that these issues needed to be overcome in order to bridge the gap between theory and practice.

More encouraging findings are offered in a small-scale study conducted by Donaghy (2010). His study explored the experiences and feelings of student paramedics in terms of several themes about their educational curriculum and clinical experience. Whilst predominately based on one institution, and therefore not generalisable, the study indicated that the student paramedics judged their curriculum to be beneficial in terms of their competence levels and confidence whilst in their clinical placements. Similarly, positive experiences were reported for the support the student paramedics had received. There were issues identified with elements of the curriculum, where students failed to see the relevance of certain aspects of their education, which predominantly related to reflective practice. Gaps in knowledge were identified in this study and it was recognised that there was room to develop the curriculum in order to further ensure that students were fully prepared for their clinical placements.

Van der Gaag (2013) indicates that from her research and that of others, such as Donaghy (2011), new paramedics are now receiving more integrated theory, practice and professionalism than previous paramedics, which is in line with their professional body (College of Paramedics) and the curriculum framework for their degree. As such, it would seem that efforts have been made in order to bridge the gap between theory and practice. Her research also highlights how students define professionalism. Rather than being a fixed concept, students see this as being context dependent. The study also identified that there are tensions between student/graduate paramedics and those whom Lave and Wenger (1991) describe as '*old timers'* who have come through the more traditional work based/ in house training route. Van der Gaag suggests that paramedic students may not be equipped to challenge old style practices which they believe are still prevalent in the day to day ambulance service.

Some of the above studies may appear somewhat and as such it could be argued that the findings from these may not provide an accurate reflection of the current state of paramedic education. However, it would appear that the themes that are identified surrounding preparedness to be 'road ready' in newly qualified paramedics are still being evidenced in later research. The importance of being road ready is identified by Thompson (2015) in her research with newly qualified paramedics.

She identifies how the role of the paramedic has expanded, with paramedics having to deal with '*legal, ethical and moral dilemmas*.' Blaber (2012) stresses the importance of the paramedic being '*fit for practice'* in order to avoid possible civil or legal proceedings being initiated against members of the profession. Benton (2011: 276) indicates that inroads have been made in order that paramedic education meets Quality Assurance standards, but whilst this is a welcome move, Thompson identifies that newly qualified paramedics are still indicating issues relating to being road ready.

Using focus groups with newly qualified paramedics, she identified a number of issues relating to the themes found in previous studies, which seem to suggest that further progress is desirable in paramedic education. From those who took part, it was identified that many had serious concerns relating to their confidence levels once in employment. They reported a lack of confidence in making clinical judgements, with some suggesting that they often would rely on colleagues who were less academically qualified making or assisting in clinical decisions. Linked to this theme was the fear of losing their Health Care Professionals Council (HCPC) registration if an incorrect decision was made. They also wanted more to be done in terms of linking theory to practice in their education programmes. Whilst the universities would often include scenarios in order to assist with this aspect of learning, the students felt that there was scope to develop this even further. These problems all contribute to what Gregory (2013) defines as the 'reality shock' that is often accompanies post-qualification employment, which is also witnessed in newly qualified doctors (Brown et al, 2007) and midwives (Avis et al, 2013). Based on her research, she concludes that newly qualified paramedics require ongoing support which will not only help their confidence but also enable them to gain experience.

The concerns raised in the health-related disciplines above are also echoed in social work. Wilson and Kelly (2010) identified major changes to social work education due to criticism of previous programmes, such as the Diploma in Social Work, where there was an over reliance on competence-based training rather than embedding the theoretical knowledge pertinent to the profession (Pietroni 1995; Lymbery, 2003). This is supported in previous research such as that of March and Trsellionsis (1996); Orme, (2001) and Orme et al (2009), who all suggest that competence-based training did not adequately prepare student social workers for the reality of the job. In addition, the social work profession had suffered a lack in confidence due to failings in a number of high-profile incidents such as the case of Baby P, where perceived incompetence had resulted in the death of the infant. In order to address these issues, the Batchelor of Social Work (BSW) degree was introduced.

The research carried out by Wilson and Kelly (2010) aimed to assess how satisfied student social workers felt about the BSW at Queen's University Belfast, with specific focus on their perception of practical teaching and how theoretical elements prepared them for practice. Using focus groups and surveys, the researchers identified that the vast majority of students found their practice learning helpful but there were variations across the modules of the programme. Students reported that scenarios intending to prepare them for practice were artificial. They also identified that they thought more application to practice would be beneficial as well as being taught by current practitioners. The research also found that some students had experienced issues over the quality of their placements and felt less confident in areas such as professional development. In conclusion, Wilson and Kelly suggest that there were elements from the research that provide some reassurance that the new degree programme is successful but that there were still areas where improvements were needed, which centre on the balance between education and training and also ensuring that students receive adequate preparation for their required practice learning.

The above study is small scale, and predominantly based in one location, but it can be argued that the findings may be generalisable to other institutions offering the social work degree because of the prescriptive nature of the degree remit. In light of these findings and other research, it is worth noting that attempts have been made to rectify some of these issues. In 2010, the General Social Care Council (GSCC) was replaced with the Health and Care Professions Council (HCPC), and in doing so, social work became part of the register of professionals. The HCPC took over the regulatory functions for social work, which included amongst other things, determining and assessing educational requirements. The HCPC sets the standards of proficiency for all social workers in England and in order to be a registrant, social workers must meet standards in the domains listed by the HCPC such as proficiency, conduct, performance, ethics and being able to draw on appropriate knowledge and skills to inform practice (HCPC (2017). The HCPC acts to discipline those who do not meet the standards. A professional capabilities framework was established alongside other educational enhancements. Placements, partnership working, admission standards and fitness to practice were all areas that were reassessed alongside ensuring that education providers met these new standards.

The benefits and problems of a degree education

From a sociological perspective, the acquisition of academic knowledge relating to any discipline is the single most important element which promotes professionalisation. This is supported by those

academics who dominate the literature on the subject, such as Etzioni (1969) and Freidson (1986). Throughout the world, this formal knowledge is acquired within a university setting. By restricting type of knowledge to this institution, Freidson and Etzioni believe that professions can ensure that only those who have achieved a qualification accredited at this level are permitted entry to the profession, thereby preventing those without credentials access to practice.

Friedson (1986) is clear as to potential benefits of higher education stating '*University education provides the profession with autonomy, ensuring relative freedom from bureaucracy, the government and other professions within the organization. It achieves this by socializing the members into forming a professional identity and philosophy that encourages them to assume control over an area of knowledge, to participate confidently in structural and ethical decisions, to demand professional pay, and to receive respect from other professionals'* (in Yam, 2004). On the basis of Freidson's suggestions, one can understand why so many occupations have increased the entry qualifications to their organisations, since the potential outcomes are both highly beneficial for both themselves and their members.

The potential benefits of an all degree level entry requirement, were the drivers for one of the most significant developments in the history of nurse education. Ousey (2011) outlines that the decision to transfer nurse training, which was vocationally based, to HEI's and being academically based resulted from government directives and the professional bodies associated with nursing, which have both sought to improve the quality of nursing, the calibre of candidates entering the profession and enhance the status of the profession. In her paper, she identifies that the Judge Report (1985) recommended that nurse education be transferred to HEIs to overcome attrition rates and to address concerns relating to the number of students who needed to be supervised whilst in clinical placement. Similarly, the UKCC (1996) supported the introduction of Project 2000, which offered nurses a university-based education with the aim of providing, '*the student with a knowledge and understanding of the individual in society and should be soundly grounded in the behavioural sciences*.' It suggested that, 'this should form the background for the development of nursing theory, thus enabling students to develop and apply the theory in the practice setting under supervision' (UKCC, 1986, p.46, in Ousey, 2011). For Ousey, the educational changes to the nursing profession via all graduate entry enable nursing to be seen as a profession in its own right, rather than the traditional stereotype of the 'handmaiden' to other medical professions.

The benefits of the move towards graduate entry to paramedicine and the rationale behind this transformation was also explored by Donaghy (2008). His paper outlines the historical developments in paramedic education, with one of the most notable and recent being the transition from the

traditional apprenticeship-based model to the delivery of education in HEI's. The move into the HE sectors received the support of Roland Furber, Chief Executive of the British Paramedic Association, who stated that 'the transition from a training paradigm into the world of further and higher education has already moved us to the next era of preparing the profession to fulfil its role in a modern health service (in Donaghy, 2008). Furber anticipated that this transition would equip paramedics with the skills and knowledge that will prepare them for the extension of the traditional paramedic role and meet the challenges of the future. The need for higher education in paramedicine was also supported by Ball (2005), who suggested that paramedics need to '*be taught to appropriately diagnose and manage a wider range of patients, practically those who present with occult (hidden) conditions, minor illnesses, and minor trauma*' and 'embrace the '*philosophies of their practice, which are solidly grounded in the methodologically valid and reliable research, and therefore truly 'evidence based*' (in Donaghy, 2008).

Bradley (2005), suggested that higher levels of education equip paramedics with greater assessment and diagnostic skills allowing them to be autonomous practitioners. Donaghy (2008) equates higher education with the development and promotion of critical reflection and appraisal skills. Through education, paramedics obtain research skills, up to date, current knowledge about health care and acquire knowledge of evidence- based practice.

Later research, conducted by Williams et al (2013) may offer some support for the assertions of Donaghy (2008). ,. In their research, Williams et al identified that paramedic education is '*becoming less discipline specific as its body of knowledge increases beyond its traditional boundaries of prehospital emergency care'* and in response many universities are offering degree and higher degree programmes of study for those wishing to enter the profession. They highlight the benefit associated with the move of paramedic education to HEI has resulted in an enhanced professional status of paramedicine. Whilst there is a growing impetus to move all paramedic education to HEI, they raise concerns relating to the method by which undergraduate programmes are standardised and benchmarked in terms of graduate attributes. They acknowledge the benefits of synthesising graduate attributes into an education programme, which tend to improve student learning and ensure that graduates are profession ready.

Drawing upon his own experiences, McClelland (2013) outlines the emerging role of the research paramedic, which has largely been enabled with the assistance of HEIs. He argues that whilst research in medicine has traditionally been restricted to doctors or academics, paramedicine is now producing individuals with the skills and knowledge necessary to conduct research in their own discipline. Referring to Emms and Armitage (2010), he too recognised that paramedicine has witnessed the shift

from traditional practices to independent clinical decisions being made with the support of HE. He identifies that higher education promotes autonomy and enhances professional status. As with Donaghy's findings (2008), he also proposes that higher education can help promote independent clinical decision-makers, since it fosters the understanding and the importance of research and how this helps to underpin practice.

Devenish, Clark and Flemming (2016) identify that one of the major developments that is occurring as a consequence of the move from traditional pathways to degree qualified paramedics centres on the idea that these graduates will undergo professional socialisation as opposed to organisational socialisation. Referring to the work of both Jones (1986) and Van Maanen (1978), they define organisational socialisation as the process by which the organisation imparts the knowledge relating to their status, position and role in the organisation. They suggest that professional socialisation occurs in three stages (outlined below)and whilst there is no previous research relating specifically to paramedicine, this model of professional has been applied to similar professions, such as nursing and medicine.

The first stage is identified as the anticipatory stage, where perceptions are formed on the role of the paramedic based on media representations, family and friends. Those whose perceptions were formed by media tended to be skewed in favour of the job being dominated by emergency cases or life-saving calls. Those with family members and friends involved in working in health care had more accurate perceptions of the job. The second formal stage of professional socialisation occurred during their studies, where students had contact with paramedics who taught or tutored on their course and whilst on clinical placement. During this phase, students identified having their pre-conceptions challenged, feeling marginalised and experiencing the theory-practice gap. In the final 'post formal' stage of professional socialisation, students still reported marginalisation but also encountered the '*reality shock'* where they experienced the true nature of the role and also identified '*culture shock'* which had not been envisaged.

Building further on this model, Devenish et al included a fourth stage, 'the post internship phase' due to the fact that paramedics are required to complete a one-year internship after graduation. During this stage, they also reported issues relating to taking the lead role on the ambulance and concerns relating to their own confidence levels. In conclusion, the study identifies that the paramedic degree does not prepare students, finding that university students generally had an unrealistic image of the actualities of the job before starting their courses. Many did not appreciate the social sciences element in the paramedic curricula and many had encountered marginalization whilst on placement which

often involved working with members who had been trained in- house. As such the degree programme itself did not ease the transition from student to newly qualified paramedic.

Professionalism and Regulation

According to the Merriam- Webster's online dictionary, the term profession is Latin in origin and relates to, '*a calling requiring specialized knowledge and often long and intensive academic preparation*' (Alidina, 2012). When occupations transgress to professions, the individuals within the occupation are said to have undergone a process of professionalisation, whereby, according to Chitty (2001), they are socialised into the profession (in Alidina, 2012). Within this professionalising process, Jacox (1978, as cited in Alidina, 2012) suggests that members attain '*the knowledge, skills, and sense of occupational identity characteristic of a professional and involves the internalization of the values and norms of a professional group'* (in Alidina, 2012). Being associated with professionalism has psychological appeal, since, according to Evetts (2003), it attracts '*authority, privileged rewards and higher status*.' In the light of this, it is entirely understandable that many occupations have sought to re-invent themselves as professions and in doing so, have embraced the attributes that delineate the profession from the occupation.

Nursing has transformed dramatically from the time of Florence Nightingale. From an occupation which was viewed as unprofessional with low educational standards, nursing has progressed significantly in terms of professionalisation. Research carried out by Alidina et al (2012) identifies the significance of the role education has made to transforming the nursing occupation to professional status. Their research identifies the Wheel of Professionalism in Nursing, which was developed in 1984 by Miller and discusses the rationale behind this which was '*in response to nurses' need to recognize attributes and behaviours necessary for the nursing professionalism*.' Central to this model of professionalism are both higher education and the importance of a scientific background for nursing, both of which were achieved through the move of nurse education to university. Alidina et al offer support for the relevance and importance of education to the professionalism of nursing via inclusion of several studies, such as the research conducted by Williams and McGowan (1995) which found that those nurses on a professional development programme scored significantly higher on tests for autonomy than those not on the programme.

Alidina et al's research identifies that there were significant benefits associated with the professionalism of nursing. They highlight the findings from several studies which suggest that professionalism promotes improved nursing performance and personal autonomy (Schutzenhofer and

Musser, 1994); it produces critical thinkers (Brooks and Shepherd, 1992); it enables reflective practice (Wong et al, 1997) and it offers empowerment to members of the profession (Hausber, 2002). These benefits are embedded in nursing education programmes, during which nurses internalise the knowledge, skills and professional standards required by their profession.

The importance of education to paramedicine's journey to full professional status and regulation is identified in research by James (2009). Her research aimed to assess the current state of paramedicine, in order to establish whether it was a profession and if so, how this status is achieved. James identifies the significance of the role of higher education in both promoting the professional status in undergraduate paramedics and in national registration.

Professionalism in social work is also associated with enhanced educational qualifications. Van Pelt et al's (2015) Dutch research examined the developments to enhance professionalisation of social work and improve the image of the profession. This prompted the implementation of the master's degree in social work. Their research identifies that the rationale behind the introduction of the programme was in response to the increased complexities associated with the job and the decrease in the recognition of social work. Those with a vested interest in social work believed that the introduction of this higher degree would improve social work and enhance the professionalisation of its members. The findings of the research suggest that the master's degree would lead to further professionalisation of social work and strengthen the profession, but in order to do this, the programme would also have to focus on practice development in order to provide social workers with the necessary skills required to provide an effective service to their users.

Conclusions: What can the literature on other professions offer to policing?

Recent years have seen major developments in policing in the UK. As with other professions, these developments have been championed in order that 21st century policing both professionalises and adapts to advances in technology science and society. Changes in social attitudes alongside a general increase in public knowledge have also impacted on expectations of the police. Regardless of the nature of the profession, modern day society is driven by the need to see greater transparency and accountability in organisations and there is a strong emphasis on performance outcomes. Governed by a strong business performance and service ethos, many organisations have had to develop a greater understanding of evidence-based knowledge relating to 'what works best' in particular contexts. Advances in professions in terms of their continued professional learning and development have

enhanced the quality of the provision they provide. For the majority of professions, this is associated with increasing entry requirements to the profession alongside developing specialised degree programmes aimed at ensuring those who qualify are well versed in all aspects applying to the role. As stated by Green and Gates (2014), membership of a profession is associated with the completion of normally a degree-based education. Nursing and social work have already made the transition to degree level qualifications and the benefits to both professions have been evidenced.

The commitment to the development of policing throughout the 21st century is substantiated by its fulfilment of many of the criteria associated with professionalization. Returning to the characteristics that define professions offered by Green and Gates (2014), 21st century policing had only to engage the profession with higher education and lifelong commitment, through which it would firmly establish a body of knowledge, in order to fully achieve the title of profession. The move to involve academia is not entirely new in policing. Although the relationship between the two has been much slower to evolve than in other parts of Europe and the USA, from the 1960's onwards, the value of education began to have some resonance to the future directions in policing.

The benefits of this transformation in police education can be expected through learning from the experiences of nursing, paramedicine and social work. Primarily, nursing has successfully made the transition from hospital-based education into university. Like policing, nursing has traditionally been regarded as a 'hands on' occupation, with learning 'on the job.' However, as with policing, the lack of focus on higher education had arguably kept nurses beneath the status level appropriate to their skills. Since the implementation of the Project 2000, nursing in the UK has increasingly been seen as a true profession, with those graduating being seen as of equal status to radiographers, physiotherapists and other health occupations that require a degree qualification. This rise in the profile and status of nurses is noted by Yam (2004), who identified how nursing embraced the transition from occupation to profession with the move from in-house training to HEI's for nurse education. Whilst recognising that the path to professionalisation is a complex process, not solely achieved through the adoption of no one particular element of being a profession, he identifies how the move to a university-based education programme has assisted nursing in the process of professionalisation. Similar findings are evident in both paramedicine and social work, with research suggesting that a core element in progressing from occupation to profession lies with the establishment of a body of knowledge, which is normally offered through the transfer of education from in-house, service-based settings to higher education institutions. As part of this process, the status of the organisation and its members acquire increased status.

The emphasis on graduates being able to be confident in structural and ethical decisions is of particular importance to policing, in order that it may eradicate some of the issues that have plagued the profession in the past. Throughout their university courses, nurses and social workers are educated in the codes of practice for their respective professions. In nursing, codes of practice are embedded throughout their degree course with emphasis on the internalisation of professional values by all student nurses. Such professional values have sought to promote cultural changes. The nursing code was revised in 2015, in order to eradicate the negative cultural elements, which enabled the tragedies witnessed in the Mid-Staffordshire Trust (Smith 2015).

As mentioned earlier, the move towards degree-level entry is one of the most significant developments in policing since its establishment in 1829. The literature reviewed in this report about degree education has identified several drivers for such a move. The over-riding message is that there can be significant benefits for professions when the entry qualifications are raised to degree level. Higher education promotes specialist knowledge for the area being studied and can assist members of organisations adapt to the service and societal challenges. Higher level of education can also contribute to the delivery of the expanding roles that many services are having to develop. By raising the qualification threshold, organisations can aim to attract the best candidates for the job.

The police service may benefit from the new qualification framework being established similarly to nursing, paramedicine and social work. They will have their own specialist body of knowledge and individuals who are equipped with the skills necessary to deal with demands of contemporary society. It may also assist in recruiting high quality candidates to the profession. However, there is also a cautionary note as evidenced by Sturgeon (2010) who argues that alongside the benefits that higher education brings to the profession, such as attracting talented candidates, there is also the danger of discouraging other suitably talented candidates who may not be able to enter via this pathway.

An important finding of this review centres on the more unwelcome elements that can accompany the transition from transferring the profession's education from being service based to HEIs. A common theme in the literature was the gap between theory and practice for undergraduates and newly qualified professionals, unless carefully managed. In some cases, the lack of balance between theoretical understanding and the ability to demonstrate the practical skills necessary for the job was identified early on in educational programmes and steps were taken to remedy this issue. However, in other cases, students reported feeling not confident in their own competency and questions arose relating to the quality of service they were then delivering. Many felt unprepared for the reality they experienced as newly qualified professionals and the studies identified that there needs to be a period

of managed transition in order to alleviate some of the negative experiences that accompanied the move from education into the profession.

Negative experiences in the workplace were also identified with some students reporting feeling marginalised. Tensions were evidenced between those who had come through the traditional routes and those through the degree entry pathway. However, the evidence suggests that these issues will gradually recede in time. However, one of the more negative elements identified related to the reality shock that students faced once they had graduated. This review has identified that often, students are hit with the 'reality shock' when they had graduated and were working in their designated field. Some students also reported that they felt unprepared for the real world of work, once their degree was complete.

The police service can be aware from the findings of the other professions reviewed in this report in order that lessons are learned, and mistakes are not repeated. The police service may benefit from working in close collaboration with HEIs in order to ensure that the curriculum provided to the students is carefully constructed to ensure there is a balance between theory and practice. Whilst the theoretical elements of a degree provide the learners with the sound body of knowledge related to their chosen profession, it also is vital that they are given adequate time and practice in appropriate placements. This will ensure that they are adequately prepared to meet the challenges they will face in the workplace.

Despite the negative consequences associated with the move to implement all graduate entry requirements to nursing, paramedicine and social work, the review also identifies that these professions have also reported many benefits that have accompanied this transition. Individuals in these professions developed skills such as critical reflection and possessed relevant knowledge that was current and could be updated, making them capable of autonomous practice. Some also developed research skills which would assist them in their working lives. One significant benefit surrounded the professional socialisation that graduates received. Degree education promoted professionalism, instils ethical values and raises standards.

Those with degrees tend to receive increased status and recognition, both from allied workers and the public. Recognition from allied sectors is critical in transforming an occupation to a profession and the selected studies suggest that HE promoted this.

The police service can benefit from national recognition that is likely to accompany their transition from occupational training to higher education learning. They are one of the last institutions to

establish a graduate only entry and in doing so, will put the police service on par with other professions who are recognised as professions, with its higher status. This is likely to improve the image and status of the police and give them the recognition they deserve.

This report has reviewed the literature about other professions, using a systematic review approach involving thematic extraction sheets. It focuses particularly on the experiences for professions of introducing degree level education and deploying new recruits with degrees. A related report covers the professionalisation of paramedicine, social work and nursing through empirical research based on interviews with those closely involved in making the changes (Khalil, 2019).

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Appendix 1 Search strategy and search terms, with numbers of papers located

Table 1 Google Scholar

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(nurse AND degree education)	36600	160	4	
(nurse and degree) AND (professionalism AND education)	17800	160	4	
(nurse AND student)	192000	100	6	1
(nurse AND education)	56000	100	2	2
(nurse AND degree AND professionalism)	17200	100	2	
(nurse AND education AND profession)	16400	100	6	1

Table 2 Wiley Online Library

Terms	Returns	Viewing restricted to first:	Selected	Duplicates
(nurse AND degree AND education)	33059	100	4	
(nurse AND degree AND professional AND education)	7993	100	1	
(nurse AND student)	131578	100	1	
(nurse AND higher education)	50727	100	2	

Table 3 Magonline Library

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(nurse AND degree education)	3519	100	8	
(nurse AND higher education)	1988	100	7	2

Table 4 Google Scholar

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(paramedic AND education)	36900	500	27	

(paramedic AND education AND uk)	14300	500	9	4
(paramedic AND education AND professionalism) first 20 searched 4 new selected	19400	20	4	

Table 5 Magonline Library

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(paramedic AND education)	642	200	27	27
(paramedic AND education AND uk)	404	200	9	4
(paramedic AND professionalism) first 20 searched 4 new selected	62	50	5	3

Table 6 Wiley Online Library

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(paramedic AND education)	6000	30	1	
(paramedic AND professionalism)	406	30	0	

Table 7 Google Scholar

Terms	Returns	Viewing limited to first:	Chosen	Duplicates
(social work AND education)	626000	100	0	
(social work AND degree)	439	100	0	
(social work AND professionalisation)	26400	100	7	

APPENDIX 2: Literature search methods: Thematic extraction sheets

Chart 2-Thematic Extraction

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
Alexander et al (2009)	Journal Article	Australia	To assess whether level of education affects organisational and occupational commitment	Cross sectional	Attrition Organisation Occupation Education	Assessing the occupation and organisational commitment from paramedics with different levels of education	Paramedics with differing levels of education were assessed for their levels of commitment. The levels ranged from certificate, degree and post degree. Those with a certificate education had higher scores for commitment than those with a degree or further qualification	Level of organisational and occupational commitment decreases as the level of education increases	No
Alidina (2012)	Journal Article	Canada	To explore professionalism in post license nurses in developed countries.	Literature Review	Characteristics associated with professionalism are explored. Significance of professionalism for nursing. Role of education.	The review outlines what is meant by professionalism and being part of a profession. It identifies in parts the significance of education in this process.	Professionalism in nursing is discussed using Miller's wheel of professionalism. The paper makes several references to the role of education in professionalising nursing and the benefits this has for nurses and patients. Professionalism begins in the nursing education programme where they internalise knowledge, skills and professional standards. The review also makes reference to the advancement of nurses in Canada, where the BSN degree is now the standard entry requirement.	The article concludes with mention of the benefits of professionalism both for nurses and their patients.	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
Ball (2004)	Journal Article	UK	To review the literature relating to the use of paramedics in primary care	Literature review	Paramedic, paramedic practitioner, primary care	Assessing the literature and findings on the expanding role of the paramedic in primary care	The paper identifies the move to a profession in 2003 with the move to registration and graduate entry for paramedics. It reviews the literature pertaining to the knowledge and skills and professional capacity that paramedics of the future will be required to possess. In the short term, it highlights that paramedics will have to identify and manage a much wider range of conditions than in the past. The service has moved from secondary to primary care settings such as being hospital based, being in walk in centres and in GP surgeries and discusses the finding from a range of trials that are undertaking these advanced practitioner roles.	The initial findings were encouraging from the trusts who had undertaken trials involving the APP but paramedic education needs to focus on the ability of future paramedics being able to think and practice autonomously.	No
Baldwin et al (2014)	Journal Article	UK	To assess the literature relating to different role models for undergraduate nurses and issues associated with these	Literature Review	Nurse academic, nurse education, preceptor, role modelling, undergraduate nursing studies.	Different role models that student nurses have an implication associated with these	The paper identifies the shift from WBL to university for student nurses and as such they now have role models in education as well as in the clinical setting.	The review shows that there is an imbalance in the recognition of the role modeling of professional behaviors in the clinical versus the academic setting. Nurses in academic settings have more contact with the students over their period of	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								study and as such, the significance of nurse academics as student role models requires further investigation.	
Blakemore & Simpson (2010)	Review	UK	The paper aims to offer a comparison of the effectiveness of pre and post-employment modes of study for police officers	Literature review	With the focus on better trained officers being central concept in policing, the paper offers discussion relating to pre-employment and post-employment education schemes	Police and education	The paper offers a comprehensive account relating to the effectiveness of pre and post-employment modes of HE for student officers and the benefits of HE to individual officers and the organisation.	Whilst the various training schemes are discussed there is a general lack of research relating to Level 4. However, the overall conclusion is that HE provision gives officers deeper knowledge that the traditional probationer training programmes have and enhances more proactive policing.	No
Blegen et al (2013)	Journal article	USA	To explore whether patient outcomes were better when nurses were educated to degree level.	Cross sectional study analysing RN education level and hospital mortality rates	Baccalaureate degree Registered Nurse Mortality rates in patients	Exploring relationship between educational level of nurses and patient outcomes	The paper offers significant evidence which demonstrates a relationship between the level of education of registered nurses and mortality rates. The cross-sectional study found that the higher % of RN with baccalaureate degree the	The paper concludes with the suggestion that more nurses are educated to degree level.	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
							better the patient outcome for a variety of conditions.		
Carpenter, Glasper, Jowett & Nicholls (2013)	Article	UK University of Southampton	To provide an overview of 30 years of undergraduate nursing education at the University	Literature review	Nurse education Move from non-degree qualifications to project 2000 in late 1980's.	The main focus is the transition from non-degree to degree qualifications for nurses and what this has brought to the candidates who took part in this scheme at this university.	Nurse education has undergone radical changes in the last 30 years. Move to HE for education was the beginning of pre-registration nurse education. The review outlines the success of early candidates. The faculty continues to be a lead role in areas of nursing such as cancer care, long term conditions and delivery of care.	Success of the university in terms of education and research culture. University has achieved first rank status in England in the Good University Guide for 2013 for Nursing and Midwifery.	Yes
Cooper (2005)	Journal Article	UK	To assess the transition of changes within ambulance staff training and education	Qualitative Naturalistic Inquiry, Interviews	Training, education, HE, protocol driven practice	To develop an understanding of the current system and future development of training and education within a large UK ambulance trust.	The paper identifies that the way ambulance staff and hence, paramedics are trained and educated is in transition, with the government backing plans to modernise the system. Previously it is accepted that provision has been dependent on protocol driven practice and little underpinning knowledge. HE is required to enable advanced autonomous practice and move paramedicine to a graduate profession.	The report suggests that this particular trust is in a transition stage, with significant organisational, professional, and cultural challenges. Whilst there are concerns over potential gaps between education and training, education must focus on the agenda for future developments to	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								enhance the service.	
Cordner & Shain (2011)	Review	England, Wales, USA,EU,	Reviews literature on challenges posed to police education and training	Review of the literature relating to policing and education. International review offered by Paterson, Heslop discusses the IPLDP in UK, Bayley centres on policing and HE, Sosnowski examines Poland, Werth discusses policing and education in USA	Examination of the institutions best suited to deliver training/education.	police education and training	Mixed reviews regarding police education and training. Paterson highlights the positive impact HE on professionalism, accountability, legitimacy. Heslop identifies failings of previous moves to deliver police education in HE institutions. Bayley states caution should be taken when providing the HE model for police education. Sosnowski identifies how the individual is responsible for their continued professional development.	The article clearly identifies a range of experiences relating to police education and training in HE. Lessons can be learned from the problems that have been identified within the review. The article also suggests that this is an area which is under researched.	No
Devison and Flemming (2016)	Journal Article	Australia UK	To identify the socialisation transitions of paramedic students from start of their studies to professional registration	Qualitative	Socialisation Transitions Marginalization	Outlining the various transition student paramedics experience from the beginning of their university courses to completion and registration	Students learn the values, attitudes and behaviours necessary for paramedics through professional socialisation, rather than the old-style organisational socialisation. University students generally had an unrealistic image of the actualities of the job before starting their courses. Many did not appreciate the social sciences element in the paramedic curricula and many-faced marginalization	This study can be used to inform educators and ambulance authorities and students about the findings and thus ease their transition from pre-registration to post registration.	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
							whilst on placement which often involved working with members who had been trained in house. Most reported feeling a culture shock once in position after qualification		
Donaghy (2010)	Journal Article	UK	To explore the relationship between time spent in placement and time spent on theoretical development in HE	Primary Research using structured questionnaires and free text	Clinical practice, Competencies, Confidence, Education Student experience Training	Assessing whether the university curricula adequately equips student paramedics for work placements	Student paramedics identified that their communication and interpersonal skills required further development and that their clinical skills needed further development	paramedics should be developing professional identity and professional acceptance, embracing a philosophy of pedagogy, enhancing Continued Professional Development (CPD) and working to a model which embeds academia as its core in an educational framework but which also supports vocational training and development with underpinning theoretical concepts.	yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
Donaghy (2008)	Journal Article	UK	Exploring the reasons as to why paramedics need HE	Report	Training Education Technician paramedic Academia Practitioner	To assess the reasons why the future paramedic requires study at HE and how this will assist in the professionalisation of the role	The role of the paramedic can be elevated to a profession through raising the educational standards of the service. HE seeks to promote evidence-based practice and autonomous practitioners. Through education, paramedics will have research skills, up to date, current knowledge about health care and evidence based practice.	The need for higher education in supporting the paramedic practitioner is an integral part of the future development of the paramedic	Yes
Duffy and Jones (2017)	Journal Article	UK	To assess paramedics attitudes to expanding role to permit them to be allowed to prescribe medication	Literature Review/ Focus Group	Role expansion, increased decision making would allow best possible decision outcome for patients and alleviate some of the burden on hospitals. Close links with HE can assist in developing their role	View from Paramedics on permitting them to prescribe medication. Benefit for patients and the NHS	The role of the paramedic has significantly increased and it would seem a natural progression to permit them to prescribe. The profession now has close links with HEI's,their own professional body to regulate and help develop their role further. Early intervention makes way for the best possible outcome for patient and can assist the NHS in general	The study concluded that paramedics believe they should be able to become independent prescribers, as it would help further their career, giving the profession added credibility. As paramedics already give a rounded healthcare approach to their patients, this would only be enhanced by prescribing rights, as a 'complete' healthcare	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								attitude could be established.	
Emms and Armitage (2010)	Journal article	UK	To assess whether Paramedic Training and HE should be a natural progression	Report	Role of HE in helping the profession in 21st century. Assessment of teaching styles used in HE	The main focus centres on the role of HE and what this offers the paramedic student. Different teaching styles used are assessed for effectiveness	HE provides the trainee paramedic with the necessary skills and knowledge that are essential to health care provision in the 21st century. The report also identifies that there is a possibility of some tension in-house between those paramedics with HE qualifications and those without.	HE offers a more comprehensive approach to paramedic education than the task-orientated one adopted by the Institute of Health and Care Development and provision needs to be made for CPD of paramedics.	No
Evetts (2003)	Review	UK	To discuss various sociological explanations of professions and professionalism	Literature review	The concepts of profession and professionalism are explored via sociological analysis. The rise in appeal of professionalism is outlined	The main focus of the paper lies in a detailed discussion on the contrasting sociological explanations relating to professionalism.	The paper provides an analysis and explanation of the concepts of professions and professionalism through 3 sociological perspectives. There is discussion relating to rise in appeal of being classified as a profession.	Appeal of being a profession as opposed to an occupation.	Yes
Farquarson et al (2017)	Journal Article	UK	The aim of this evaluation was to understand how individuals from BME groups respond to careers information that is presented on, by and for the West	Lit review, semi-structured interviews	BME, ethnicity, paramedic education, diversity	On the lack of BME candidate to paramedic education	A range of themes emerged from the research which sought to investigate and understand the lack of BME applying for paramedic education with the West Midlands Service. One of the themes emerging related to the lack of BME role models within the service and	This research identifies that there are cultural, organisational, and communication barriers which may contribute to a greater	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
			Midlands Ambulance Service NHS Foundation Trust and West Midlands Higher Education Institutions. The evaluation also aimed to gain an understanding of experiences of the enrolment process and training for paramedic science courses, in order to identify potential barriers.				that advertising of courses was not reaching a diverse audience.	understanding of the low number of people from BME backgrounds being recruited in to paramedic services.	
Fulbrook, Rolfe, Albarran, Boxall (2008)	Article	UK	To Investigate student nurses' views on how well the curriculum prepares them for clinical practice	Questionnaire – 94 student nurses	Project 2000 Theory-practice gap Move to nurse education into HE sector	On whether there was a difference in nurses' views from old cohort and new cohort of Project 2000 and how well they perceived the curriculum prepared them for their first clinical placement	The article gives insight into the rationale behind the move from apprentice-style training to HE for the nursing profession. It details some of the implementation issues surrounding the initial Project 2000 and how these were addressed. The paper discusses the perceptions of the curriculum and relevance for practice from student nurses' from the old curriculum and the new curriculum	There was a modest improvement in student perceptions from those studying the new curriculum towards practice-theory gap. There is also acknowledgement of the difficulties in providing academic education for a practice-based discipline.	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
Gerrish et al (2003)	Journal Article	UK	To explore the meaning of the master's degree for nursing practice	Interviews	master's level, nurse education, postgraduate, post-registration, professionalisation.	To assess what a master's level of education means for the profession on nursing	The investigation discusses the provision of the master's degree for nurses and what this means for the profession and for the individual nurse. Findings indicate that the credibility of the course was paramount, and it gave enhanced legitimacy of nursing as a profession. In the clinical setting those with a masters had increase in authority and more influence and leadership.	The master's level of education leads to an increase in authority and provides nurses with more leadership and influence. This in turn strengthens the power and status of nurses.	No
Godin (2000)	Editorial	UK	To discuss the improvements to the Project 2000 and identify failings in the past	Review	Project 2000, diploma, clinical practice, professional, all graduate	To identify problems with the initial project 2000 and summarise improvements	The review outlines the rationale for the implementation of the Project 2000 and that it was hoped that this development would address attrition rates and attract higher calibre of recruits to the profession. It would transform nursing into a research-based profession. However, there were issues identified with the initial programme and recommendations have been put in place to address these.	Students on the project 2000 needed better clinical practice, as this was often overlooked in favour of theoretical input. They require practical skills introduced much earlier in their studies and teaching should be increasingly from lecturer-practitioners.	Yes
Green and Gates (2014)	Journal Article	Australia	To discuss the process of professionalisation of policing. To address barriers and	.Literature review	Examines what constitutes a profession and identifies internal	Professionalism and how this can be achieved in policing.	Focus on shift from occupation to profession and identifies key characteristics associated with being a profession. Policing is then	HE involvement will assist in the drive towards professionalism. These	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
			identify ways in which the process can progress. It also examines the increasing role of HE in policing.		and external barriers		measured against these characteristics. The various obstacles to professionalism are identified and the authors identify motivators which can assist the police organisation in this development.	developments will be driven from the bottom up by rank and file seeking pre-service qualifications which will generate a body of knowledge within the organisation.	
Ian Peate (2015)	Journal Article	UK	To assess the potential benefits of paramedics being educated to Master's level for both the individual, the profession and the health service	Report	Role Expansion, Health Care delivery in the 21st century, role recognition, HE is advancing the role of the paramedic	The main focus lies in the demands of 21st century health care provision and how the expanding role of the paramedic can benefit from further provision in HE	Paramedic science has evolved and no longer constitutes merely transportation of patients to A & E. The role now requires them to make critical, clinical decisions, treating/ managing patients and making referrals where necessary. Further PG education provision may help in developing their role but the article identifies that is essential that any PG course is based on not just academic theory but grounded in actual practice.	Further HE provision should be welcomed for those who wish to further develop their knowledge and skills. However, further research is required to assess whether educating to Master's level can enhance patient outcomes.	No
James (2009)	Journal Article	Australia	To assess whether paramedic role is a profession	Focus groups, Interviews	National Registration, patient safety, professionalisation, tertiary education	Assessing the view of undergraduate paramedics on whether they consider themselves as professionals and the role of HE in	The paper identifies how national registration is essential for recognition in the health care system. The role of HE is essential to this and through education, paramedic has the potential to enhance the quality of service delivery.	Education is key to provide enhanced quality of service that is delivered by paramedics.	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
						enhancing the professional status			
Jennings and Rae (2016)	Journal Article	UK	Changing role of paramedic and how this can be addressed in nature and scope of HE placements	Report	Shortage of paramedics in service, HE programmes expand in order to address the shortage, Greater variety of placements for students, other than simply on the ambulance	HE providers have played a critical role in pre-registration paramedic courses. HE now widening the variety of placements for students	The paper highlights the importance of HE providers offering students placements in a variety of settings to fully prepare them for their career pathways and how the nature and role of the profession is expanding. There is focus on inter-professional learning and reducing the hours spent in the ambulance. Increased collaboration with allied health professionals can increase effectiveness in health service provision	The benefit of student paramedics securing placements in a variety of health care settings will benefit the profession and the individual learners.	No
Jones (2009)	Journal Article	UK	To assess who is best placed to deliver the Research methods element on the paramedic degree courses	Report	Research methods Professional training Evidence-based practice Higher education	Who should be delivering this aspect of HE education for paramedic students	It was acknowledged that research methods plays an integral part of many academic study programme and typically students struggle with this aspect. In order to overcome issues it was suggested that the person best placed to deliver this aspect of the course should have a paramedic background.	It is important for paramedics to have a foundation in research methods. A fundamental understanding of research methods assists the paramedic in basing practice on evidence. In Universities, research methods for paramedic students should be taught by paramedics who best understand	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								the context of practice. There is a need for paramedics to disseminate their specialist contribution to pre-hospital care through publication. The ability to appreciate and critique research can contribute positively to the development of the paramedic profession.	
Lazerfeld-Jensen (2010)	Journal Article	Australia	To investigate the challenges in getting the new paramedic graduate road ready	Mixed methods Lit Reviews, focus groups, in-depth interviews	Digital natives, employability, insensitivity, interpersonal	Identifying what challenges prevented new graduates from being ready for their jobs	There was discussion relating to the lack of clinical placements throughout their programme of study and students lacked interpersonal skills for the job.	Most undergraduates have no experience or knowledge of their local communities. Recognizing their lack of skills with the aged and mentally ill, some focus group participants had found alternative voluntary work experience prior	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								to recruitment. Work readiness is as much a concern for undergraduates as it is for the recruiting ambulance services	
Lee & Punch (2007)	Article	UK	Review of police officers' experiences of University Education	Semi structured interviews	Police officers' experiences & detailed account of the move towards police education in HE. Links made to professionalism and impact on the service. Specific focus on the Essex scheme.	The report has specific focus on the experience of officers who were part of the original partnership between the Essex constabulary and Essex University. The benefits of the scheme are outlined.	The paper identifies the move towards police education and highlights political and public scrutiny of the police organisation during the 1960's. Inadequacies in previous training discussed and the paper also highlights the various attempts at police professionalization. Several themes are investigated such as officers' experiences with HE, impact on the service, career prospects.	Whilst officers originally had apprehensions about being educated in HE environment, the overall conclusions is that the experience for those interviewed was positive	No
Mahony (2003)	Journal Article	Australia	To indicate how paramedic occupation can learn from developments in nursing and physiotherapy	Literature Review	professional status; autonomy; professionalisation; professionalism; paramedic; professional recognition	Identifying the developments in nursing and physio that have helped professionalise the occupations	Paramedics need to learn from other allied health groups and need to capitalise on their own expertise and experiences. There is no longer a need for status anxiety as they are now educated to the same level as nurses etc and need to take control over their own education and training	Paramedic occupation has evolved, and members are now recognised as experts in their own field. They are educated to the same level as other health workers and as such should recognise their	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								status in accordance with this.	
Maxwell (2014)	Journal Article	UK	To assess the benefits of the clinical educator for student nurses and midwives	Interviews	Practice Learning, proactive educator, appreciative inquiry	On the role of the practice educator and how this supports student learning	Students need practice learning in order to be competent and fit for practice. The paper explores the new role of the practice educator and assesses the benefits this new role brings to nurse education.	The practice educator bridges the gap between university education and practical experience. They are retained in clinical settings and therefore have the daily experience of this practical element of nursing.	yes
Mc Clelland (2013)	Journal Article	UK	To inform the reader as to the changing role of the paramedic	Literature Review/ Case Study	Education Research Evidence based practice	How HE can help promote independent clinical decision makers	HE fosters the understanding and the importance of research and how this helps to underpin practice. The newly developing role of research paramedic promotes evidence-based practice and knowledge of research methods for the research paramedic.	HE is assisting with the skills necessary to become and efficient research paramedic and is bridging the gap between theory and practice.	Yes
Michau et al (2009)	Journal Article	Australia	To investigate the theory-practice gap in student paramedic experiences	Cross sectional including questionnaires	Theory-practice gap, skills practice, education	To assess whether student paramedics assessment of skills practice on placements	The research set out to determine whether student paramedics were confident with the clinical experience they received on placement and determine whether there was evidence of a theory-practice gap. Whilst most were happy with their experience they	The paper suggests that educational barriers can be addressed and help to bridge the theory-practice gap. Supervisors	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
							also felt that they lacked skills practice whilst on placement and they also identified the lack of opportunity to participate in patient care. Students also identified that most supervisors on placement did not understand the student role. The students had difficulty matching learning objectives to case experiences.	on clinical placements need to understand the role of the student paramedic.	
Midgley (2013)	Journal Article	UK	Outlining the massive surge in popularity of paramedic science courses at University of Greenwich	Report and case study	Increase in applications. Breadth of study and practical experience of student programmes. Benefits of HE education for paramedic profession	Benefits of HE to paramedic profession. Student paramedics discuss their positive experiences on the course	The paper outlines the typical course of study for the students, ensuring that there is a careful balance between academic learning and practical placements. It also advocates how HE can equip the paramedics with the necessary knowledge and skills in order to ensure they can deal with the increasing demands in the health service.	Expansion in paramedic role can benefit from HE for student paramedics. It can improve patient experience and clinical outcomes.	No
Mussen et al (2014)	Journal Article	Australia	Outlining the experiences of newly graduate nurses	Qualitative, Interviews	New graduate nurse, reality shock, transition programmes, qualitative, adaptation	To outline and investigate the experience of new graduates in their career	The paper identifies the problems experienced by graduate nurses once in employment. They felt challenged and faced a reality shock. They struggled with the work-life balance and often had unrealistic assumptions relating to their status	University's need to work closely with health care services to ensure that students have quality clinical experience in order to avoid the stress and reality shock that often accompanies their	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								transition to employment.	
Newton and Hodge (2013)	Journal Article	UK	To emphasise the importance of education in order to best meet the changing nature of demands on the ambulance service	Report	Education Professionalising Workforce development	Conventional training such as in-house does not meet the demands or match the reality of the job. Only education can do this	The paper discusses the changing nature of the ambulance service and identifies changes to the role. There is recognition for the move to professionalised with the introduction of the college of paramedics an identifies how the police are seeking something similar. There is also discussion relating to how uptake to educational programmes has been slower than expected.	Well trained and well educated paramedics are beneficial to the health care system	yes
O'Meara et al (2014)	Journal Article	Canada	To examine the role of the community paramedic and assess current educational programmes	Focus groups, interviews, observations	Paramedic, Emergency Medical Technician, rural, health education	The development of the new roles of paramedics such as the community paramedic and what this means for future education programmes	The paper examines the development of the community paramedic in Renfrew in Canada and how this role is different to the traditional emergency response. Current educational programmes deliver little in the way of health education, aged care and chronic disease management which is essentially what the community paramedic is involved in. The problems facing the educators is that the paramedic curriculum is already extensive and since most of the applicants are young students, they do not see the relevance of these areas of study.	The role of the modern-day paramedic is more complex and diverse than its predecessor. Current education course lack health education, social determinants associated with health and care requirements of the elderly. There needs to be a close match between the curriculum and the newly	No

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								emerging roles of the paramedic.	
Ousey (2011)	Journal Article	UK	To discuss the various programmes in nursing education	Report	Nurse education. Project 2000 and initial implementation problems	The paper charts the development of nursing education and training and identifies some of the issues with this.	The changing face of student nurse education is explored with significant discussion relating to the move to HE, with the implementation of the Project 2000. Some of the initial issues with this are explored.	Benefit of degree education are appreciated as it allows nursing to be seen as a profession rather than a 'handmaiden' to other medical professionals. All nurses in leadership and specialist roles to have a degree by 2020.	Yes
Petter and Armitage (2013)	Journal Article	UK	To reflect on why it was necessary to raise the educational standards for paramedics	Report	Vocation Profession Education	Providing insight as to the advantaged of raising the education standards of paramedics and promoting HE learning as opposed to on the job training	The report identifies the historical development of the paramedic and how the role has changed in relation to changing demand and the need for an increased skill set. There is also discussion relating to the limitations of vocational based training.	HE provides learners with the cognitive competencies required for the paramedic role. It is argues that HE can help to promote safe practice, producing autonomous decision-makers who have a more holistic development of	Yes

Author (s)	Publication type	Area, country	Aims of the paper	Research Design	Key concepts	Focus	Key discussions	Conclusion	Paper meets criteria for being in the review
								clinical knowledge and skills.	
Pugh (2005)	Journal Article	UK	The article outlines and discusses the changes to social work in the UK	Literature Review	Regulation, registration and professionalisation of social work in UK	Changes to social work education and training	There is discussion relating to the development of service standards, professional registration, codes of conduct etc to eradicate poor practice. There is an appreciation that social work education in HEI's can bring harmonisation with other professions (such as nursing/ teaching) that require a degree.	Related changes to education and training will lead to a new professionalism for social work.	Yes
Ross (2012)	Journal Article	Australia	To assess the lack of interpersonal skills in undergraduate nurses and paramedics	Literature Review	Communication Education interpersonal skills	Assessment of a variety of teaching strategies to assist undergraduates with their interpersonal skills	The paper reviews the extent to which undergraduates feel confident with the development of their interpersonal skills. A variety of teaching strategies were assessed.	More emphasis is needed on teaching complex interpersonal skills in HE courses. Students feel better prepared after receiving interpersonal skills teaching	No
Ross (2012)	Journal Article	Australia	To review the literature pertaining to the teaching of interpersonal skills to undergraduate nurses and paramedics	Literature Review	Communication, education, interpersonal skills, Nurse, paramedic, people skills	To review the literature on the teaching of interpersonal skills on undergraduate programmes	The paper identifies that nurse and paramedic education has moved from work-based learning to pre-employment university models and share the same curricula. It also acknowledges the centrality of interpersonal skills in the everyday working practice for these two professions. Whilst there is literature pertaining to the teaching of IPS on nursing programmes and how this is done, there is no	There needs to be research relating to the teaching of IPS on paramedic undergraduate courses and there also need to be a greater emphasis on teaching this on HE programmes.	No

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							substantial evidence relating to paramedic courses.		
Simmill-Binning & Towers (2017)	Report	UK	Identifies current and future education in policing in line with PEQF. Attempts to distinguish between education and training. Examines the role of HEI	Report and 10 semi-structured interviews	Problematic distinction between education and training. PEQF Explores whether current training/CPD could be accredited. Professionalisation and the role HE plays in this	Professionalism. PEQF. Explores differences in training, education and CPD. Relationship between HE and police education examined. The lack of focus on support staff	The report and interviews examine the current focus on police education and the role of HEI. Professionalism is discussed and the role that HE plays in this is also outlined. Identifies cultural change in policing is needed and how professionalization is part of this.	Police education and the role of HE sector examined and process is well underway but there are still significant questions remain. The report also identifies how support staff play a significant role in policing but as yet there is no inclusion for this section of the organisation.	No
Start (2008)	Journal Article	UK	How HE is helping to develop the role of the paramedic	Report	HE, Recogniton, Role expansion	HE qualification is helping to promote the paramedics able to meet the current demands in health service delivery	Through HE qualifications, the paramedic is now receiving the recognition for their skills. Academic input is helping to improve the service offered and through their active roles in research higher educated paramedics are able to inform practice	Better educated paramedics are better able to meet the needs of the service users and make possible the use of out of hospital emergency care.	No
Sturgeon (2010)	Journal Article	UK	To assess the move to all-graduate entry to nursing	Literature Review	Educational reform, foundation degree, graduate nurses, HE, Skills	The implications and benefits of the plans to make nursing professional	Nurse education is changing in the UK and these developments were in line with global trends. All graduate entry will result in smaller supply of nurses but will be able to provide	The benefits to nursing are outlined with the implementation of all graduate	Yes

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					agency, widening participation	all-graduate entry from 2013	leadership and supervision. Nurses need to improve their clinical knowledge and have advanced practitioner skills due to advancements in the field of nursing	entry to the profession, but the paper also highlights that those studying for the diploma must be given the opportunity to advance to the degree since achieving a diploma was associated with lower status and these nurses have traditionally not been afforded the same recognition as degree nurses. It also envisages PG qualifications being made available to nurses.	
Takase et al (2014)	Journal Article	Japan	To assess levels of competency of degree and diploma nurses in 1st year of studies	Longitudinal, surveys	Degree, diploma, competency	To investigate differences in perceived competencies from different nursing educational routes.	The paper identifies that greater competency is associated with degree educated nurses, but this is contested. The study compared the self-perception from students on both the degree and diploma programmes at various stages in their 1st year of study. Whilst the degree students reported that rapid growth in competency for the first	University programmes need to ensure that they provide adequate coverage of the practical aspects associated with nursing and not focus	Yes

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							half of their initial year, they reported that this slowed down after this period. Those studying the diploma route rated their competency higher than the degree students	predominantly on the theoretical aspects associated with the role.	
Taylor & Bogo (2013)	Journal article	UK	To outline the major reforms to social work education in the UK and examine pitfalls	Literature review	Higher education, competence, capability, professional capability framework, Standards of Proficiency,	The implementation of new social work degree and problems of competence models	The article discusses the changes to the social work degree and outlines some of the issues relating to the competence models. It identifies how the PCF will provide a national framework for every social worker from initial education to expert practice in areas such as professionalism, ethics and values.	Educators in social work will need to work in partnership with service users etc in order to avoid the pitfalls of the past.	Yes
Thomas (2016)	Article	UK	To chart the history of nursing within the UK	Literature review	Timeline of historical medical advances alongside advances in nursing and nurse education	The professionalisation of nursing	The paper provides a brief history of nursing in the UK and provides a useful overview of the professionalization of nursing. The key characteristics that define professionalism according to Blane (1991) are identified. The various bodies that have regulated nursing are also highlighted.	Whilst advancements made in nursing and nursing education, the paper identifies how caring, competent and compassionate nursing is still important.	No

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Thompson (2015)	Journal Article	UK	To identify concerns raised by newly qualified paramedics	Focus Groups	Confidence, Newly Qualified, Concerns, Support	The research aims to identify the concerns that are raised by newly qualified paramedics and how these are similar to those witnessed in medical students and newly qualified nurses	The research aimed to investigate concerns of new paramedics when they are placed in clinical settings and how they may be supported both whilst at University and in practice. The main concerns focus on the 'softer skills' such as people management and decision making rather than clinical challenges.	The paper concludes that although small scale, the study identifies concerns of paramedics similar to medical students and newly qualified nurses. It summarises with the suggestion that HE need to incorporate systems which can address this issue.	Yes
Van der Gaag et al (2013)	Journal Article	UK	The paper aims to identify the changes in paramedic profession and what this means to new paramedics	Literature review	Professionalism, Paramedic, podiatry, occupational therapy	How students view professionalism and how they may encounter problems in the workplace	The discussion focuses on the notion of professionalism and how this is viewed across different health care courses. It acknowledges that professionalism is not seen as fixed competency but	Student paramedics have difficulty in dealing with old style practices which differ from the new wave of	Yes

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							was rather context dependent. It also highlights that these new paramedics receive more integrated theory, practice and professionalism that previous paramedics, which is in line with the professional body (COP) and the curriculum framework for their degree. There are tensions when new paramedics enter the workforce and encounter old style practices, which are different from their new professional standards and practices.	professionals, graduating from university. They need to develop an identity for the future.	
Van Pelt et al (2015)	Journal Article	Netherlands	To assess the new masters programme for social workers in the Netherlands	Programme evaluation involving students, policy makers, experts,	Professionalisation Masters programme	To determine whether the new programme would improve both professionalisation	Those with involvement in the new degree were asked to evaluate the programme on a number of issues. Priority was given on the goal of profession alisation and practice	social developments and problems and having flexible general skills have	Yes

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				lecturers and employers.		and quality of social work	development. As such the new degree needed to introduce more knowledge and skills	become very important competences to succeed as a social worker next to in-depth knowledge and specific social work expertise	
Watkins (2011)	Journal Article	UK Germany	To explore the influence of a master's education on professional lives of nurses in both countries	Interpretive, interviews	Germany, master's education, nursing, professionalisation, UK	To investigate the impact of the qualification on personal and professional lives of nurses	The author notes that evidence was limited in terms of whether master's education impacted on professional and personal lives of nurses. Her research found that having a master's education resulted in increase in confidence, both personal and professional for those taking part in the study. These nurses were using research-based evidence in order to inform practice and new roles were being created as a result of this. The study also noted that multi-professional working was enhanced.	A master's level of education contributed to the further professionalisation of nursing.	No
Whitmore & Furber (2006 2015)	Journal Article	UK	To highlight the developments and drivers for the transition in training and education of paramedics	Review	Paramedic, Emergency Medical Technician, NHS, College of Paramedics, British Paramedic Association, Health Professional Council	To assess the current changes to paramedic education and rationale for this	The paper discusses the role of the HPC 2001 to develop a professional body for ambulance staff with the BPA and COP. The drivers were mainly the expanding role of the paramedic and how this was in line with the modern health service. The paper also identifies the encouragement of higher education and CPD for paramedics.	The establishment of the BPA as a professional body run by paramedics, therefore provided the opportunity to change the way that education, training and	Yes

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								associated awards are established. It recognises that this is the most significant development in the history of the ambulance service in the UK	
Williams et al (2009)	Journal Article	Australia	To assess the move from occupation to profession for paramedics in Australia	Literature Review	Profession, professionalisation, higher education, regulation, registration	Insights given on how the occupation can move to full professional status as has occurred in nursing and physiotherapy	The paper identifies the link between education and professionalisation and discusses how nursing and physio moved from semi-professional to full professional status. It discusses how the paramedic occupation made the move from the emergency services to health care system during the 1980's but still does not have a nationally accredited HE course like other professions i.e. diploma exists but this is not on an equal level with Batchelor's level of study	Paramedic profession needs HE and its own professional specific body of knowledge which are key to providing gateway for full professional status. There also needs to be a nationally agreed graduate education programme for paramedics.	Yes
Williams et al (2013)	Journal Article	Australia, UK	To assess the current state of paramedic discipline in Australia and the move to have all education provided	Report	Graduate attributes, employability	The move from in service provision to HE and how graduate attributes are advantageous for professions	There is discussion relating to the changes underway in the paramedic profession in Australia and how there are concerns relating to the current non-standardised curriculum. The report raises thee question relating to whether	Graduate attributes are Integral to quality assurance, standardization of the profession and regulation.	Yes

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			by HE rather in-service provision				graduates are meeting industry and health service provision needs.	It provides the student with the necessary knowledge and skills required for the profession.	
Williams et al (2013)	Journal Article	Australia	To investigate student paramedics preparedness for collaborative team work with other health students	Cross sectional	Interprofessional learning, Undergraduates, Paramedics	To assess whether paramedic students were prepared for interprofessional learning	The results from 5 Universities were assessed for preparedness of student paramedics to work with other health care students as unlike other programmes, most paramedic degrees have their uni education in isolation to other allied courses. Whilst there was a willingness to work collaboratively with other student paramedics this was not evidenced with other health based uni student. However, there were differences between the institutions in terms of the level of preparedness for IPL	This is something that university courses need to address. Whilst there were differences between the universities, those who were not preparing students for collaboration and ILP needed to address this, since it is acknowledged that ILP is becoming common-place in health care.	No
Williams et al (2015)	Journal Article	Australia & New Zealand	To investigate whether student paramedics were ready to be a professional	Cross sectional, Questionnaires	Paramedic, professionalism, professionalisation, regulation, registration	The research aims to assess whether student paramedics are ready to be professionals and whether they consider regulation	The results of the questionnaires demonstrated that student paramedics place great emphasis on professionalism and support the need for the profession to be regulated and value the importance of continued updating of their skills.	Student paramedics had a sound grasp of what professionalism means and how it can be achieved.	No

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						and registration important for their profession	They regard their position as more than a job, which necessitates a wealth of knowledge and expertise	They recognise the need to regulate the profession	
Wilson & Kelly (2010)	Journal Article	UK NI	To assess the effectiveness of social work education on preparing students for practice	Longitudinal study Survey and focus groups	Social work degree Theory to practice gaps	The main focus of the article centres on students' perception on how the sw degree prepared them for their first placement	Through the surveys and focus groups it was found that in general most students were satisfied with how their programme of education prepared them for their first placement. However, there were concerns raised regarding the fact that some modules lacked connection to the real world.	Overall, the study gives reassurance about the degree in social work and how this prepares the student for practice.	Yes
Woollard (2006)	Journal Article	UK	To examine the role and requirements of the use of paramedics in easing the burden on the NHS	Case study review	Extended role, out of hours, paramedic, primary care, unscheduled care	Examining the outcomes of various pilot projects where advanced paramedic practitioners have had a role expansion and how this assists the patients and burdens on the NHS	The paper identifies the shortage of GP's coupled with the increase in 999 calls. However, some of these patients were discharged quickly from hospital requiring no further treatment. As such, the Dept of Health proposed 'Taking health care to the patient' with one of the recommendations being the paramedic role being expanded as able to treat patients' in the community when this was deemed as a suitable decision. It also supports the decision to move Ambulance education to HEI's. The advanced paramedic practitioner role was trialled in various trusts in the UK with promising results.	Promising results were evidenced from the case studies included in the pilot project of the APP and role expansion. However, it also notes that lessons need to be learned from the transition of nurse-based education from WBL to HE and must ensure that there is not a lack of skills-based training for paramedics.	No

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Yam (2014)	Article	Hong Kong	To outline the transition of nursing from vocation to profession	Literature Review	Nursing profession, Higher Education, Gender issues	The review focuses on the complex factors that are involved in the transition of nursing from a vocation to a profession. There is discussion surrounding the sociological analysis of profession, with key characteristics identified.	The article discusses the role of various factors that have impacted on nursing being identified as a profession. There is focus on university education, knowledge, gender and the workplace environment. Appreciation is given for the extended and expanded role of nurses.	Nursing knowledge is different to biomedical knowledge. Nurses need to be proactive to improve power and status.	Yes
Zhang & Lathlean (n.d)	Article	UK and China	To explore the retrospective changes and reforms in nursing and nurse education in the UK and mainland China. Also, to consider the impact of these reforms and contextual aspects in order to draw conclusions as to the developments required as a result of the changing needs in nursing and nurse education in the UK and mainland China.	Cross cultural case study of 11 students in UK and 10 in China, in depth interviews conducted.	Shift in nursing education to HE sector	Benefits of the transition and impact on nursing profession.	The paper offers an insight on a comparison between nurse education in the UK and mainland China. There is discussion relating to the move to professionalization of nursing and similarities and tried differences between the two countries are examined. Both countries have made the transition from apprenticeship to university education.	Nursing and in turn nurse education in the UK and mainland China have experienced both evolutionary and revolutionary change and development. Nursing as a subject, as well as a profession, is facing similar challenges in the contemporary world in the two countries.	No

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