



Evaluation of a Foundation degree for pharmacy technicians

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Abstract

Information about the research activity

Foundation degrees (FDs) for pharmacy technicians combine academic and work-based learning to provide skills and knowledge for enhanced pharmacy technicians' practice. Nine of these programmes have been developed nationwide since the introduction of the qualification in 2000. Only three of these FDs continue to run at the time of writing this report and low student numbers within these courses make their future uncertain. With a population of potential students in excess of 15,000 and increased demands for enhanced pharmacy technicians' practice, lack of success of these FDs can be due to how the qualification is perceived.

This research represented the first systematic exploration of the perceptions of stakeholders with involvement in a FD for pharmacy technicians that evaluated one such programme: the FD in Medicines Management run by the University of Portsmouth. The study focused on a single course to provide an in-depth account of events and processes. It involved gathering the views of students, graduates, employers, and people involved in course delivery and development. The research had a dual purpose: to describe experiences and to feedback findings into pedagogic practice within the Portsmouth course.

Research questions

In order to carry out this evaluation, the following broad research questions were investigated:

- What do people think of the FD qualification?
- What is the experience of being involved with a FD like?
- What effect does a FD have on pharmacy technicians?
- What opportunities does a FD bring for role extension and development?
- Can a theoretical model be developed to represent relationships between the experiences of stakeholders involved in a FD?

Plan of Investigation

The project was carried out over a period of three years from September 2007 to June 2010. It followed a qualitative evaluation research approach. Data was collected from one-to-one and group interviews, which were recorded, transcribed verbatim and subject to thematic analysis. The analysis aimed to identify significant concepts, themes and categories, building a theoretical model that would represent relationships between the experiences of the stakeholders. Within each of these, different views were compared and contrasted.

Key findings

A theoretical model was developed that represents the relationships between the experiences of stakeholders involved in a FD for pharmacy technicians; a number of key themes were also found. Firstly, it was established that there was a general lack of awareness of the availability and scope of FDs. While study participants perceived them as valuable qualifications, they reported that often this was not the case within their workplace. FDs were considered demanding qualifications from a pedagogic point of view, as course content had to be continuously updated to reflect changes in practice. They contributed to the personal and professional development of pharmacy technicians and provided skills and knowledge to enable individuals to have more independent roles. Pharmacy technicians' motivation to acquire skills and knowledge to improve patient care was the main driver for participation in a FD. The new capabilities of pharmacy technicians led to increased aspirations for the development of their role, which were not always fulfilled. Different factors were accountable for this, which merit further research in order to fully describe this phenomenon.

Action points

As a result of this research, the following action points were undertaken to improve pedagogic practice within the Portsmouth FD in Medicines Management:

- Development and implementation of a marketing strategy.
- Review and update of the programme syllabus.
- Implementation of new approaches to teaching, learning and assessment.

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Declaration

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

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Abbreviations

AFC - Agenda for Change

AP(E)L – Accreditation of prior learning

AP – Assistant practitioner

APTUK - Association of Pharmacy Technicians United Kingdom

BTEC - Business and Technical Education Council

CETL – Centre for excellence in teaching and learning

CPD - Continuing professional development

DfES – Department for Education and Skills

Dip-HE – Diploma of higher education

DoH - Department of Health

DRUM – Dispensing review of the use of medicines

FD – Foundation degree

FEC - Further education college

FHEQ - Framework for higher education qualifications

GP – General practitioner

GPhC – General Pharmaceutical Council

HE – Higher education

HEFCE – Higher Education Funding Council for England

HEI - Higher education institution

HND - Higher national diploma

KSF - Knowledge and skills framework

MPharm – Master of Pharmacy

NHS - National Health Service

NVQ – National vocational qualification

PIANA – Pharmacy in a New Age

PCT – Primary Care trust

RPSGB - Royal Pharmaceutical Society of Great Britain

SVQ – Scottish vocational qualification

WDC - Workforce development confederation

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Dissemination

The findings of this research project have been disseminated at conferences and by publication. Examples where this has taken place can be found in the list below.

1. University of Portsmouth Teaching and Learning Conference. Oral presentation of 'Learning skills - adapting to new cultures'. Portsmouth: December 2009.
2. University of Portsmouth T&L conference. Poster presentation of 'Stakeholders' views on FDs for pharmacy technicians'. Portsmouth, July 2008.
3. Herrera H, Brown D, Portlock J. Pharmacy technicians' perceptions of Foundation degrees: a qualitative study. *The International Journal of Pharmacy Practice* 2009; 17(Suppl 2):A22 (oral communication to the British Pharmaceutical Conference of 'Stakeholders' views on Foundation degrees'. Manchester: September 2009).

CHAPTER 1: Introduction

1.1 Pharmacy practice in the UK

1.1.1 The pharmacy profession

Pharmacy has been for centuries the profession which ensures the safe and appropriate use of medicines; its scope, which traditionally was compounding, dispensing medication and giving advice, now includes many clinical aspects of patient care beyond the provision of medicines. Pharmacy services in the UK are funded by the National Health Service (NHS), or in the case of community pharmacy services and some hospital services, commissioned by the NHS, and are available in a wide range of settings. Hospital and community pharmacies are the main providers, with NHS healthcare organisations, such as Primary Care Trusts (PCTs), prisons and specialist healthcare units also offering these services. Registered pharmacists, pharmacy technicians and assistants deliver these services in liaison with other healthcare professionals.

In the UK, the pharmacy profession emerged from the medical profession in the eighteenth century.⁽¹⁾ At this time, two types of medical practitioners, apothecaries and 'chemists and druggists', manufactured medicines and provided them to the public. The latter used their premises as shops, and their medical practice was mostly confined to over the counter sale of drugs and chemicals and provision of advice. The eighteenth century was a period where UK society experienced rising prosperity and growing demand for consumer goods and services. The introduction of retailing in the high street, along with increased purchasing power of the middle classes brought about a success of 'chemists and druggists' at that time.⁽²⁾ The apothecary eventually became the general practitioner (GP), whereas 'chemists and druggists' were excluded from the medical profession by the 1858 Medical Act,⁽³⁾ leading to the development of modern pharmacists.

In 1841, pharmacy was consolidated as a profession with the founding of the Pharmaceutical Society of Great Britain - later Royal Pharmaceutical Society of Great Britain (RPSGB) - as the professional body for 'chemists and druggists'.^(4, 5) This united the profession into one body with the aims of representing and protecting its interests and

advancing scientific knowledge.⁽⁶⁾ Education was a major factor in the formation of the Pharmaceutical Society, as common educational standards were needed to make ‘chemists and druggists’ a respectable profession. With the middle classes finding themselves increasingly affluent, the demand on quality pharmaceutical products rose, accelerating growth in both scientific and clinical knowledge for the next century. The retail activity of ‘chemists and druggists’ continued into modern times, preceding what today are community pharmacies.

The next step and landmark for the development of pharmacy services was the introduction of the NHS in 1948. This led to the commissioning of the supply service from ‘chemists and druggists’, who saw their activity increased by dispensing NHS medication, most of which would have previously been provided by General Practitioner (GPs). ‘Chemists and druggists’ continued being involved with providing advice to the public and addressing minor ailments through their pharmacy premises, which developed into what are now community pharmacies. The creation of the NHS also caused the development of hospital pharmacy services in the following three decades, from an initial role of providing medication, to offering a wide range of services related to the use of medicines. Two reviews of hospital pharmacy services affected this development, one of limited impact as a result of the Linstead Reports^(7, 8), and another following the Noel Hall Report in 1970⁽⁹⁾. As a result of the latter, quality systems were put in place in what constituted the first step towards a slow development of clinical pharmacy services in hospitals.

1.1.2 Modernisation of pharmacy services

During the late 1980s, greater demands on services coupled with increased complexity of healthcare started to test the capacity of the NHS, leading to health inequalities and failure to meet patients’ expectations.⁽¹⁰⁾ In order to address these issues, the Government introduced new policies⁽¹¹⁻¹⁵⁾ which, for the next decade, shifted the focus of the NHS agenda to improving quality and making services more responsive to patients’ needs.

Implementation of these changes called for new ways of working and required a radical modernisation of the NHS. The need for pharmacy to adapt to this modernisation of services led in 1995 to the appearance on the council of the Royal Pharmaceutical Society of a new strategy, *Pharmacy in a New Age* (PIANA), which set out a vision to shape the future and become better equipped to face the changes ahead. PIANA aimed to engage and prepare the profession in the process of shaping its own destiny, although it did not prescribe any particular model for the way that pharmacy services would develop or be delivered.

In 2000, the NHS Plan ⁽¹⁶⁾ was published, setting out a programme of reform based on service re-engineering, patient-focused care and skill-mix of healthcare practitioners.⁽¹⁷⁾ A number of documents were subsequently produced to underpin specific aspects of this modernisation strategy ⁽¹⁸⁻²²⁾. The importance of the role played by pharmacy in the reform of the NHS was highlighted in *Pharmacy in the Future* ⁽²³⁾, *A Vision for Pharmacy in the New NHS* ⁽²⁴⁾ and other key documents which also defined how it was to contribute to this reform. ^(15, 25-32) The timeline of publication of reports that have been influential in modernising pharmacy services can be seen in Figure 1.1.

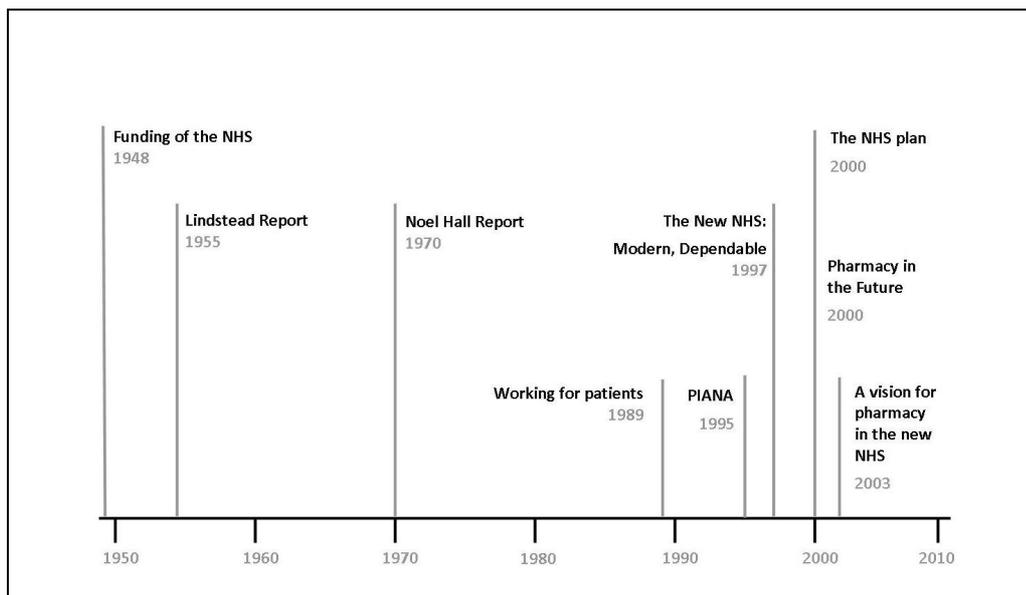


Figure 1.1: Timeline for publication of reports that have been influential in modernising pharmacy services

Key changes needed for pharmacy services to meet the Government's ambition were workforce redesign and role extension; ^(21, 23, 30, 33-36) operational and supply procedures were re-designed, dispensing robots increasingly introduced and medicines management systems implemented in order to increase capacity. Within that context and the establishment of NHS Workforce Development Confederations (WDC) in 2001, there was an increasing interest in new ways of working and utilising fully the skills of clinical support staff in patient-centred roles. In pharmacy, the availability of specialist care and complex medicines management systems, with pharmacists having a more clinical role, attending ward rounds, prescribing and running clinics, led to pharmacy technicians becoming more and more involved in the whole medicines management service. Almost two decades after the need for reform was identified, a shift from a product-focus service, which had characterised pharmacy since it first emerged, to a patient-focused service had been achieved. Pharmacy technicians started then to develop their roles accordingly, providing patient-focused services based on enhanced pharmacy technicians' practice.

1.2 Pharmacy technicians in pharmacy practice

1.2.1 The role of the pharmacy technician

Since the early days of the pharmacy profession, 'chemists and druggists' and later on pharmacists had support staff, the precursors of the modern pharmacy technicians. ⁽³⁷⁾ These individuals, under the supervision of pharmacists, assisted in the preparation, dispensing, and supply of medicines. Nowadays, pharmacy technicians are routinely involved in technical aspects of pharmacy such as the procurement, manufacture, dispensing, accuracy checking and supply of medicines. Moreover, they are increasingly found undertaking duties which go beyond technical tasks including managing dispensaries, undertaking medicines management services and carrying out clinical roles. However, despite pharmacy technicians' contribution to the pharmacy profession being well

established, ^(27, 31, 38-52) information on their numbers, deployment and educational qualifications is unreliable and fragmented due to the lack of a census that collects data about this group. It is estimated that there are in excess of 15,000 ⁽⁵³⁾ pharmacy technicians in the UK, and on the 1st May 2010, the number registered with the RPSGB was 8,326. ⁽⁵⁴⁾ As registration is not a formal requirement until July 2011, this number is not representative of what could be the total figure. Distribution and demographics of pharmacy technicians in the register are summarised in Table 1.1.

Status	Female	Male	Total
Practising	7,977	615	8,592
Non-practising	23	2	25
Total	8,000	617	8,617

Table 1.1: Pharmacy technicians on the RPSGB register (May 2010). ⁽⁵⁴⁾

The evolution of the role of the pharmacy technician of one involving only technical tasks, to the provision of services which demand some form of judgement has taken place over the past 20 years. It was mostly caused by workforce redesign and the modernisation of NHS pharmacy services, where this group has played a major part. ^(16, 20, 23, 27, 31, 43, 55, 56) This change began with the introduction of accuracy checking technicians (ACTs) in hospitals, which was the first move towards this group undertaking tasks beyond the dispensing and supply of medicines. Later on, ACTs appeared in community pharmacy, being now commonplace in both settings. Pharmacy technicians also started to get involved in other services, partially as the result of the fallow year in 2000, where few pharmacists entered the register due to a one year extension in the under-graduate pharmacy course. This led to further development of enhanced pharmacy technicians' practice, where these individuals increasingly left the dispensary to take medication histories, assess patients' own drugs and provide counselling; activities that have previously being within the remit of pharmacists' roles. At the same time, in community pharmacy, technicians started getting involved with patient counselling and public health services. They were also employed by primary care trusts (PCTs) to undertake roles such as prescribing support or providing medicines management services in primary care, which were originally carried out by pharmacists. While there are differences in the uptake of enhanced pharmacy technicians' practice

between the different settings, with hospital pharmacy pioneering role development, enhanced pharmacy technicians' practice can now be found in all sectors. Table 1.2 includes some examples of enhanced services in which pharmacy technicians are involved.

Services		Setting
Medicines reconciliation	Medication history taking	Hospital
	Assessment of patient own drugs	
Compliance review and counselling	Dispensing reviews of the use of medicines	Dispensing surgeries
	Domiciliary reviews	PCT / Community
	Care home medicines management support	
Patient counselling	Smoking cessation clinics	PCT / Community
	Education sessions for patient groups	All settings
	Counselling for discharge	Hospital
Patient monitoring and screening	Screening of potential side effects / drug interactions and clinical issues	Hospital
	Cholesterol testing	Community pharmacy
	Healthy living clinics	Community / PCTs
Clinical Governance	Clinical audit	All settings
	Staff training and development	
	Policy development	

Table 1.2: Examples of services involving enhanced pharmacy technicians' practice. ^(42, 57-59)

Nowadays there is a defined career structure for hospital pharmacy technicians, and the Agenda for Change National Agreement pay system,⁽⁶⁰⁾ which applies to NHS employees, recognises this fact with bands at some levels similar to those achieved by University graduates. These individuals carrying out extended roles have increased responsibilities and work autonomously rather than under pharmacists' direct supervision. Despite evidence that enhanced pharmacy technicians' practice is of benefit to patient care and pharmacy services,^(44, 46-48, 50, 52, 58, 61-89) role extension of this group has been perceived as a cost-saving exercise from employing pharmacists to undertake the same tasks. Due to this, concerns have been raised about quality and ethical and legal issues of enhanced pharmacy technicians' practice. Mandatory registration with the RPSGB was proposed as a mechanism to guarantee public protection by ensuring competence and adherence to a code of ethics.^(15, 27, 31, 55, 89-92) The Government has also raised concerns over professional regulation within

all healthcare professions,⁽⁹³⁻⁹⁶⁾ indicating that it was in the public's best interest to regulate all healthcare workers. While it is clear that pharmacy technicians have a positive impact in pharmacy practice and patient care, their role has changed enormously with the modernisation of pharmacy services. In this context, to regulate their practice through registration seemed sensible, as this role evolved from that of an assistant, to providing services previously within scope of registered pharmacists.

1.2.2 The pharmacy technician as a professional

Registration with the RPSGB, the regulatory and representative body for pharmacy, was restricted to pharmacists until January 2005. As described in section 1.2.1, the growing range of tasks, including clinical work, undertaken by technicians led to the requirement for their statutory regulation. As pharmacy technicians work with pharmacists to common expectations and share common principles, it was thought that regulation with them was the best way to recognise this. This is consistent with the situation in other countries where pharmacy technicians are registered with the same body as pharmacists. Due to provisions for healthcare professions to be able to regulate their own support staff,⁽¹⁵⁾ the RPSGB widened its membership in 2005 to include voluntary registration of pharmacy technicians. Subsequently, the Pharmacists and Pharmacy Technicians Order 2007⁽⁹⁷⁾ was published, which legislated for mandatory registration of all pharmacy technicians in England and Wales by 2011, with an amending order brought into force in April 2008, which extended pharmacy technician regulation to Scotland at the same time. Following voluntary registration, statutory registration of technicians across Great Britain started on July 2009. A grandparenting period was put in place to ease the transition to regulation. This means that those individuals with relevant work experience and vocational qualifications would be able to register until 30 June 2011. In July 2011, registration will become mandatory to be able to be called or work as a pharmacy technician. People who register after mandatory registration starts will need to meet post-transitional entry requirements in the form of further qualifications, which are described in Section 1.3.1. Figure 1.2 outlines the milestones leading to pharmacy technician registration and the development of the pharmacy technician profession.

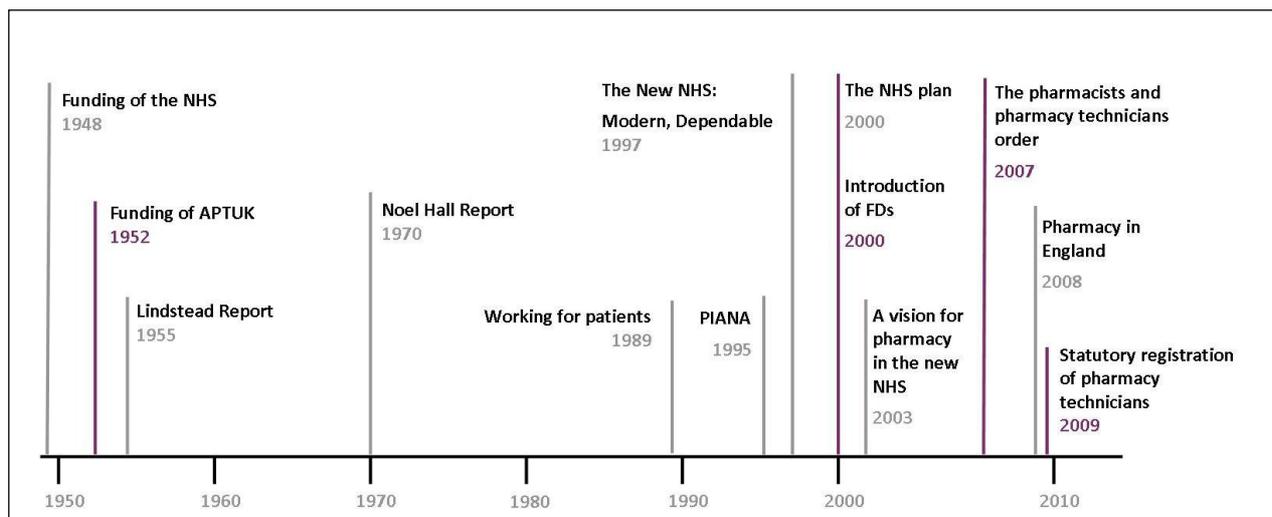


Figure 1.2: Milestones in the development of the pharmacy technician profession.

Due to changes in legislation,^(95, 96, 98) it is expected that at some point in 2010, the representative and regulatory roles of the RPSGB will be divided and undertaken by two separate bodies: the General Pharmaceutical Council (GPhC) – assuming the regulatory function - and a professional leadership body - dealing with professional aspects.⁽⁹⁹⁾ With this division, pharmacy technicians will be regulated, alongside pharmacists, by the GPhC, with all individuals on the RPSGB register transferring automatically to the GPhC once it is established. It was considered that a conflict of interests may arise if pharmacists and other healthcare professionals were to have joint representation,⁽¹⁰⁰⁾ so the new professional leadership body will only take a representative role for pharmacists, excluding pharmacy technicians and other professions allied to pharmacy. This conflict of interest would particularly apply in situations, such as that involving enhanced pharmacy technicians' practice, if they were to seek greater accountability and challenge the need for their practice to be subject to supervision.

With voluntary registration of pharmacy technicians, the RPSGB published a unified code of ethics for pharmacists and technicians,⁽⁴⁰⁾ being the first document giving the latter more autonomy and accountability, and imposing the same ethical standards expected from pharmacists.⁽¹⁰¹⁾ The subsequent mandatory registration of technicians set out a process of

professional socialisation, by which conversion of their practice from that of an occupation to a profession started taking place, ⁽¹⁰²⁻¹⁰⁴⁾ and where the values, attitudes and behaviours of a profession are to be acquired. This would potentially have a profound impact on pharmacy practice, as ‘pharmacy technician’ becomes a profession in its own right, with this group gaining expertise, knowledge and responsibilities. Once the RPSGB ceases to exist, the Association of Pharmacy Technicians UK (APTUK), the recognised political, professional and representative voice for pharmacy technicians, ⁽¹⁰⁵⁾ will probably undertake the representative role for this group.

1.3 Education and training of pharmacy technicians

1.3.1 Minimum competence requirements

Before registration of pharmacy technicians, their competency to practice was solely determined by the professional judgement of the supervising pharmacist, who was often the employer. In some cases, technicians undertook a relevant course of study or applicable qualification to become competent, although it was not necessary for them to do so.

The first qualification for pharmacy technicians – then assistants - was the ‘Minor Examination’, offered by the Pharmaceutical Society of Great Britain when it was founded. ^(4, 106) At that time, the Society of Apothecaries also offered a similar assistants’ examination. ⁽¹⁰⁷⁾ In modern times, Business and Technology Education Council (BTEC) qualifications, based on practical, relevant work, have been the traditional educational routes for pharmacy technicians. More recently, National Vocational Qualifications (NVQs), work-based qualifications based on national occupational standards, ⁽¹⁰⁸⁾ were introduced, shifting the emphasis to experiential learning and relevance to the workplace. ⁽¹⁰⁹⁾ A number of organisations, such as the National Pharmacy Association and some large community pharmacy chains, have also developed accredited courses leading to pharmacy technician qualifications.

Minimum competency requirements for practising pharmacy technicians were introduced in 2005 with registration with the RPSGB, and a list of valid qualifications for entry into the register was produced. Traditional routes such as NVQ (level 3) and BTEC qualifications in pharmacy services were included in this list, along with others which, in some cases, required the candidate to complete a RPSGB approved top-up course. This course was available from the National Pharmacy Association or the community pharmacy chain Alliance-Boots. While these qualifications enable pharmacy technicians to enter the voluntary register of the RPSGB, once registration becomes mandatory, an additional qualification, in the form of a certificate in technical services, will be needed to join the register. This is in contrast with the situation abroad, where a much less strict approach to minimum competency requirements exists. However, minimum qualifications only provide skills and knowledge for traditional pharmacy technicians' roles and prepare for the dispensing and supply of medicines to the public. For this reason, some sectors of the pharmacy profession have expressed concerns about competency and patient safety if the role of technicians is developed beyond assisting in the preparation, dispensing, and supply of medicines, ^(39, 110, 111) as discussed in section 1.2.1, without further preparation being provided.

1.3.2 Maintaining competence

Continuing Professional Development (CPD), mandatory for pharmacy technicians on registration, acts as the core mechanism to ensure competence to practice is maintained. It is based on lifelong-learning as a means to facilitate delivery of efficient patient-focused pharmacy services and to ensure fitness to practice. ^(55, 112) The Agenda for Change National Agreement pay system, ⁽⁶⁰⁾ which applies to pharmacy technicians employed in hospitals and other NHS organisations, includes the Knowledge and Skills Framework (KSF) ⁽¹¹³⁾ which is also used for maintaining competence. ⁽¹¹⁴⁻¹¹⁶⁾ The Knowledge and Skills Framework allows the identification of gaps in skills and knowledge to fulfil a particular role. This serves as a tool to identify these deficiencies, which can then be addressed through relevant CPD.

As a result of enhanced pharmacy technicians' practice, post-qualification training, beyond that needed to meet minimum competency requirements, is necessary in addition to CPD. This underpins and supports the development of extended roles and responds to situations where this practice has led, or could potentially have led, to causing harm to patients.⁽¹¹⁷⁻¹¹⁹⁾ As enhanced pharmacy technicians' practice continues to grow, so do technicians' needs for development; current demands for some post-qualification education and training resources outstrip supply,⁽⁹¹⁾ and robust training structures to meet these needs are increasingly called for.^(120, 121)

1.3.3 Post-qualification education and training pathways

The changes outlined in section 1.2.1 and 1.2.2 mean that pharmacy technicians are expected to be more flexible and have a broader range of skills than those provided by the minimum competency requirements. This is particularly true in certain roles, where individuals need to be able to manage their own career and development.

The main source of post-qualification education and training for pharmacy technicians has traditionally been in-house training. The number, standards and scope of in-house training opportunities vary widely between employing organisations and no equivalence exists between them.⁽¹²²⁾ In many areas, regionally accredited schemes have been developed to overcome difficulties experienced by individual sub-regional organisations in providing quality in-house training.^(81, 123, 124) Training programmes, developed to meet specific needs, have also been commissioned from institutions dedicated to pharmacists' education and development and private providers.^(59, 125-127) While these initiatives have improved standards and introduced consistency at regional level, these courses fail to be nationally recognised qualifications.

The provision of training, such as that described above, has application when there is some specifiable type of performance that has to be mastered, practice is required for the mastery of it and little emphasis is placed on the underlying rationale.⁽¹²⁸⁾ The latter leads to training being considered by some as an inferior form of education.⁽¹²⁹⁾ However, it can be

valued in the workplace as it mainly prepares individuals for performing a task or role within the work setting. ⁽¹³⁰⁻¹³³⁾ Unlike education, training is measured by what it enables individuals to do and how it improves performance, being about practice and improving skills. ⁽¹³⁴⁾ Training can then be related to behaviours at least as much as to tasks; in these cases, one could think that concepts and attitudes cannot be effectively instilled without developing the underlying knowledge and understanding. ⁽¹³⁵⁾ In contrast, education has at its core the transmission of this underlying knowledge and understanding alongside cognitive perspective ⁽¹²⁸⁾ in a way that is organised and sustained. ⁽¹³²⁾ Based on these, education and training of pharmacy technicians can be distinguished on two grounds. Firstly because education is a broader and deeper learning activity, and secondly, because training is more likely to be involved with the development of specific identified skills rather than more general levels of understanding.

Due to the development of their roles and the need to gain this underlying knowledge and understanding, pharmacy technicians started accessing higher education rather than alternative training opportunities to meet learning needs for enhanced practice, either in the form of Foundation degrees (FDs) (described in Section 1.4.2) or by undertaking single modules within pharmacists' post-graduate programmes. Registration with the RPSGB has also enabled access to the resources provided by the Department of Health through the Centre for Pharmacy Post-graduate Education (University of Manchester).

With the introduction of WDCs in 2001, a more structured approach to commissioning training and education within the NHS was developed. WDCs were responsible for an integrated approach to workforce planning and development, bringing together local care providers to determine the number of staff, skills and competencies needed. The introduction of FDs offered a solution to increasing capacity, ⁽¹³⁶⁾ standards and consistency, by allowing pharmacy technicians to undertake relevant education, which is quality assured and transferable. For these reasons, some places were commissioned by WDCs within FDs for pharmacy technicians, and funding made available to cover costs of course fees and backfill cover to release. Nowadays, Strategic Health Authorities fulfil this role and continue using FDs for workforce development.

1.4 FDs for pharmacy technicians

1.4.1 The FD as a qualification

FDs are work-based qualifications introduced by the Higher Education Funding Council for England (HEFCE) with the Department of Education and Skills (DfES) in 2000⁽¹³⁷⁾ to address a shortage of ‘associate professional’ and ‘higher technician’ skills identified within the UK labour market.^(31, 138-141) FD is the benchmark qualification at level 5 in the Quality Assurance Agency for Higher Education (QAA) Framework. FDs are similar to qualifications elsewhere (namely the Associate Degrees in the USA) with a strong higher education, vocational model. They offer employability skills, specialist knowledge and broad understanding of the new economy. They provide job-related skills found below Bachelor Degree levels, whose importance in driving economic growth and ensuring innovation, capacity and productivity were highlighted by the Higher Education White Paper published in 2003⁽¹⁴²⁾ and which represent a national economic priority. FDs are pass/fail qualifications equivalent to the second year of an Honours Degree^(143, 144) and integrate academic and work-based learning through close collaboration between employers and programme providers. On completion of a FD, students have the option to progress to an Honours Degree or to further professional qualifications. FD programmes represent a significant change in the design and delivery of higher education and bring advantages over traditional degrees, in particular by widening access to include people at work and reacting rapidly to local and specific needs.⁽¹⁴⁵⁾ The requirements to train the existing workforce, for example in the case of the re-engineering of services and roles within the public sector (such as the NHS), was a significant driving force in the development of this degree.⁽¹⁴⁶⁾

The FD is not only a qualification, but a new pedagogic approach different within higher education. It is not just a re-badged Diploma of higher education (Dip-HE) or Higher National Diploma (HND), it aims to be the flagship for how work-based learning experiences are developed and delivered. It is the intention of the Government that the bulk of growth in HE would be achieved through FDs. Some marked characteristics of the qualification, as shown in Table 1.3, account for this distinctiveness. This Government emphasis to create new

programmes and re-develop existing ones to conform with the Foundation degree framework, ⁽¹⁴⁴⁾ account for the fact that higher education courses for pharmacy technicians were developed as FDs, rather than an alternative type of qualification.

Core features of Foundation degrees	
Employer involvement	<ul style="list-style-type: none"> • In the design and regular review of programmes • For employer / professional body recognition • With local / national organisations
Development of recorded / demonstrable skills	<ul style="list-style-type: none"> • Relevant technical and work specific skills • Underpinned by academic learning • Development of employability skills • Development of generic skills • Validated by the awarding HEI • Underpinned by a personal development plan
Application of skills in the workplace	<ul style="list-style-type: none"> • Demonstration of skills in relevant work • Validated, assessed and recorded work experience • Award of credits in recognition to relevant work experience
Credit accumulation and transfer	<ul style="list-style-type: none"> • Minimum of 240 credits • Possible credit accumulation and transfer arrangements • Recognition of appropriate prior and work-based learning through the award of credits
Progression within work and/or to an honours degree	<ul style="list-style-type: none"> • Articulation arrangements with at least one honours degree programme • Time to progress to an honours degree should not exceed 1.3 years for a full-time equivalent student

Table 1.3: Core features of the Foundation degree qualification. ⁽¹⁴⁴⁾

In addition, a FD for pharmacy technicians (a work-based programme) is also characterised by its differences with a course with placements, which are shown in Table 1.4.

	Courses with placement	FDs (work-based courses)
Content base	Academic / professional	Work
Knowledge	Disciplinary / occupational / professional	Trans-disciplinary
Curriculum	Pre-determined	Emergent
Student control	Minimal negotiation	Fully negotiated (three way)
Student managed	Partial	Extensive
Type of student	Mostly pre-employment	In continuing employment
Student aspiration	Enter full-time employment or conformation	Continue development in existing or promoted position
Staffing	Academic teachers, placement supervisors	Academic advisors, existing workplace supervisors

Table 1.4: Differences between a FD and courses with placement. ⁽¹⁴⁷⁾

In terms of FDs' work-based elements, these relate to any learning linked to the requirements of people's jobs ^(148, 149) or derived from undertaking work activities. ⁽¹⁵⁰⁾ FDs involve the three types of work-based learning: learning for work; learning at work and learning through work. ⁽¹⁵¹⁾ Learning for work encompass vocational learning which can be delivered outside the workplace, learning at work relates to development provided at the workplace and learning through work is integrated into the individuals' jobs. FDs include learning from each of these categories as content directly related to students' jobs is delivered in the workplace, credits are given for relevant in-house training and work-based tasks are undertaken by students as part of the course. This learning provides the starting point for programme design, planning and implementation, reflecting a balance between workplace requirements and individual educational and professional needs.

Since its creation in 2000, the FD qualification has indeed been successful with an increasing variety of FDs available, attracting greater numbers of students. In 2006, over 60,000 students were estimated to be registered on these programmes, with a figure of nearly 80,000 achieved in the 2006/07 academic year. As of December 2006, it was reported 741 courses were in development, in addition to 2,152 programmes that were up and running at that time ⁽¹⁵²⁾ with the Government's ambition for 100,000 FD enrolments in 2010. ⁽¹⁵³⁾ Examples within the public sector where FDs have been successfully implemented on a large scale include the NHS Northwest development of Assistant Practitioner roles and the Royal Mail Group Foundation degree programme. In terms of the private sector, companies such as Tesco and Specsavers have turned to FDs to further the skills of their workforce. Despite an optimum start, it remains unclear how many of the developed courses continue to run beyond the first few cohorts. There have been several reviews of FDs focusing on their content and delivery. ^(137, 145, 154-158) These found that programme standards were appropriate and design, curricula and learning and teaching were their major strengths. However, scope for improving work-based learning opportunities and doubts concerning appropriateness to prepare students for progression to an honours degree emerged. As only half of these had students graduating, and in most cases, these were very recent, the topics described within these reviews were limited and key aspects of these courses, such as impact on the workplace, were not measured.

1.4.2 FD courses for pharmacy technicians

In pharmacy, 'associate professional' and 'higher technician' skills are needed for enhanced pharmacy technicians' practice. In order to provide these skills and as a result of employer demand in some geographical areas, FD programmes for pharmacy technicians were created. These are the only higher education qualification specific for this group with nine of these courses having been developed nationwide.⁽¹⁵⁹⁾ These FDs were mapped to the NHS KSF and, therefore, provide a direct link with CPD, with a number of NHS organisations commissioning or funding places on these courses. Details about FD programmes for pharmacy technicians can be found in Appendix 1. Completing a FD has enabled pharmacy technicians to be promoted with higher Agenda for Change pay bandings,⁽⁶⁰⁾ recognising commitment and effort towards delivering high quality and innovative services.⁽⁵⁷⁾ Despite the positive features, only three FDs for pharmacy technicians continue to run at the time of writing this report, and low student numbers within these courses make their future uncertain. With the emphasis on quality of service delivery placed by Government policy and the increasingly extended role of pharmacy technicians, it is interesting that this opportunity for workforce development is not been fully utilised.

A number of changes in the current climate could have an effect on uptake and provision of FDs. Changes in pharmacists' education, such as the introduction of University top-up fees,⁽¹⁴²⁾ the requirement for pharmacists to be educated to Masters level and a shortage of pre-registration posts may have an impact on individuals wanting a career in pharmacy as pharmacists.^(160, 161) This, coupled with increased opportunities for pharmacy technicians to undertake enhanced roles, could lead to an increased number of students enrolling in FD courses. This may be further facilitated by the potential for these programmes to become, in the future, an entry route into the Master of Pharmacy course. In addition, with mandatory registration of pharmacy technicians taking place in 2011, and a new regulator for pharmacy, FDs could become the minimum competency requirement for certain roles and find their way into Agenda for Change, becoming fully incorporated into pharmacy technicians' career framework.

1.4.3 Portsmouth University FD in Medicines Management

Portsmouth University pioneered the development and delivery of FDs for pharmacy technicians when in 2004 ran the first year of the FD in Medicines Management. This work-based, part-time course is suitable for technicians practicing in any pharmacy setting. By July 2009, it had graduated three cohorts and a total of 38 students. Accreditation of Prior Experiential Learning and a flexible delivery enable individuals to enrol in this degree while continuing in their workplace roles. Fees for this course are funded in full by South Central and South East Coast Strategic Health Authorities, with other organisations commissioning places. It is undertaken over three years, with attendance at the University on an average of eight days per year. A copy of the course brochure and programme specifications with more information about this FD can be found in Appendices 2 and 3.

This FD was developed as a result of discussions between a reference group comprised of stakeholders and two providers, the local NHS training and development organisation (SEMMED) and the University of Portsmouth, at the time of initial promotion of FDs by the Government. Stakeholders included chief pharmacists from hospital trusts in Hampshire, Sussex, Surrey and Kent, PCT advisers, education and training pharmacists, senior pharmacy technicians, and representatives from community pharmacy. The aim of this reference group was to review training available at the time for technicians in the workplace, undertake a gap and a learning needs analysis and look at joint provision of the FD by the Portsmouth School of Pharmacy and SEMMED. The resulting FD was developed with SEMMED training courses which had academic credit, and complementary units of study delivered and assessed by the University.

The course's design is aligned with contemporary perspectives on adult learning and approaches to teaching in higher education. Supported by Knowles' notions of andragogy, ⁽¹⁶²⁾ Kolb's experiential learning, ⁽¹⁶³⁾ Marsick and Watkins' incidental learning ⁽¹⁶⁴⁾ and Fenwick's perspectives on workplace learning, ⁽¹⁶⁵⁾ the programme validates the learning that students undertake at work, for work, to work and, most particularly through work

before and throughout the programme in a constructivist way. The underlying educational philosophy is to provide students with an opportunity to study in a university environment and meet up regularly with each other and academic staff. The principles of self-directed learning ⁽¹⁶⁶⁾ and reflective practice ⁽¹⁶⁷⁾ are deeply embedded in this FD to support students to develop study skills to apply to work-based learning, personal development planning and CPD. For this purpose, approaches such as inquiry and discovery learning and problem based learning undertaken in the work-place are at the core of its teaching and learning strategies. Extensive use of e-learning and simulation, alongside university and work-based tutor support and guidance, supplement and enhance learning opportunities. In order to maximise and increase the effectiveness of these teaching and learning approaches, students are encouraged to identify their own learning needs and given the flexibility to undertake relevant activities that would meet those which are also useful to their individual workplaces.

The course comprises nine units, covering a wide range of skills and knowledge, which aim to develop individuals beyond their current roles. Some examples of key skills and underpinning knowledge provided by this course are shown in Table 1.5.

Skills	Examples
Interpersonal skills	Communication skills, consultation skills, public speaking skills, negotiation skills, team working skills, leadership skills.
Information management skills	Information retrieval, information giving, referral, report writing, writing for publication.
Technical skills	IT skills, project management , medicines management skills.
Clinical skills	Literature searching skills, critical appraisal skills, therapeutics for Medicines Management, patient monitoring.

Table 1.5: Examples of skills provided by the FD in Medicines Management (University of Portsmouth).

This Foundation degree supports the delivery of enhanced pharmacy technician-led services by preparing individuals to take part, autonomously and safely, in a large number of enhanced tasks. Table 1.6, while it is not comprehensive, includes some examples of these.

Services	Scope
Medicines reconciliation	Accurate drug history follow up and documentation on transfer between different care providers
Patients' own drugs assessment	Assessment of suitability of patients' own drugs for re-use on admission to hospital or care homes
Medication reviews	Dispensing reviews of the use of medicines, domiciliary visits, care homes
Counselling and education	Smoking cessation clinics, education sessions for patient groups, counselling for discharge
Clinical interventions	Identification of adverse drug reactions, patient monitoring, screening of drug interactions
Clinical audit	Medication errors, patient satisfaction
Staff development	Nurses, care home staff, junior doctors
Policy development	Development and update of standard operating procedures, risk management policies

Table 1.6: Services underpinned by the FD in Medicines Management (University of Portsmouth).

1.5 Researching a FD for pharmacy technicians

1.5.1 Previous research and literature

There is no systematic research available evaluating FDs for pharmacy technicians, with few large projects having been undertaken on FDs in general. The amount of innovation and the rapid expansion of this new qualification, alongside lack of strategic investment, are thought to be responsible for a shortage of literature on this subject. There are only a small number

of published and unpublished studies on FDs available, which are mostly of small scale.⁽¹⁶⁸⁾ A comprehensive search of the literature relevant to Foundation degrees identified research relevant to the following key areas: employer engagement;⁽¹⁶⁹⁻¹⁷⁹⁾ accreditation of prior learning;⁽¹⁸⁰⁾ course development;⁽¹⁸¹⁻¹⁸⁶⁾ course delivery;⁽¹⁸⁷⁻¹⁹⁶⁾ barriers to recruitment;⁽¹⁹⁷⁾ work-based learning;⁽¹⁹⁸⁻²⁰⁶⁾ widening participation;⁽²⁰⁷⁻²¹⁰⁾ marketing;⁽²¹¹⁾ workforce re-design;⁽²¹²⁻²¹⁵⁾ and impact on practice.^(206, 216-218) In the field of Health and Social Care, only a handful of studies have been undertaken so far,^(185-187, 195, 212-215) and none of them researched Foundation degrees for pharmacy technicians. Attempts have been made to do some work looking at career prospects and development of this group, although no conclusions have been reached so far. Some projects have looked at FDs in general,^(217, 219, 220) but the limitations imposed by their methodologies, often due to sample selection size and rigour, make their findings informative but inconclusive. A landmark document in the field of Health and Social care, providing a valuable insight into key aspects of FDs, is *Delivering the workforce. Evaluation of the introduction of Assistant Practitioners in Greater Manchester*.⁽²¹²⁾ A developmental study in its design, it evaluated the role of assistant practitioners (APs), who undertook enhanced roles in Health and Social care, and were educated to FD level. This evaluation applied qualitative and quantitative approaches through a large scale postal survey to APs and service managers, three in-depth case studies which utilised one-to-one and group interviews, and some observational work. The objective of this study was to explore the effect of the AP role in the workplace. It concluded that the introduction of the AP role had a positive impact on service delivery and FDs successfully provided the skills and knowledge required. However, it did not clearly describe what the benefits were and how FDs facilitated APs practice.

Although several studies have explored aspects of pharmacy undergraduate education,⁽²²¹⁻²²⁶⁾ and evaluated the effects of education programmes in various healthcare professionals,⁽²²⁷⁻²³²⁾ the differences between these programmes and FDs makes their relevance to FDs very limited. Moreover, it is surprising that, despite pharmacy technicians having long been part of the pharmacy team, little research exists on their practice. A few studies have looked at different aspects of pharmacy technician training, but these are again small scale and refer to educational interventions rather than a programme of study.

1.5.2 The need to research FDs for pharmacy technicians

The importance of carrying out further research into FDs in general is unquestionable, and has been emphasised repeatedly. ⁽²³³⁻²³⁷⁾ Research into aspects of the pharmacy profession is also currently of considerable interest in the UK, due to the need to understand the workforce and its motivation in the current climate of change.

Pharmacy technicians have demonstrated that they can take on additional responsibilities and complement the role of the pharmacist. The practice of the former is still changing and is increasingly blurred with that of the latter; it is common that certain services are not undertaken by technicians under supervision but have become their sole responsibility. It is difficult to predict how the roles of technicians will continue to evolve, but it is possible that they will lead to profound changes in the pharmacy profession. With technicians becoming registered professionals, increasingly undertaking non-traditional roles, and the opportunity to be educated to degree level, a new division similar to the separation of apothecaries from ‘chemists and druggists’ may take place. With the re-definition of the concept of supervision ⁽²³⁸⁻²⁴⁰⁾ ‘pharmacy technician’ may become a profession, independent from and parallel to that of pharmacists, for which the minimum competency requirements could be set at degree level. With these opportunities and potential student numbers estimated to be in excess of 15,000 ⁽⁵³⁾, FDs for pharmacy technicians could play an important part in pharmacy practice and the pharmacy profession in general. However, despite its potential for facilitating this role enhancement and the fact that their development is employer-led and employer-inclusive, a mismatch is found between projected and actual recruitment across these courses. In this context, more needs to be understood about factors affecting this qualification. This project represents a unique exploration of the views of stakeholders involved in FDs for pharmacy technicians, providing insights on their perceptions of the key aspects associated with this qualification and an evaluation one such programmes. Knowing more about FDs for pharmacy technicians will provide essential information for pharmacy technician educational developments within and beyond the scope of FDs. This is essential to ensure that learning needs of this professional group are being effectively met and that their practice continues being safe and appropriate.

1.5.3 Research questions

In order to evaluate a FD for pharmacy technicians, describe the experiences of the different stakeholders and feedback findings into pedagogic practice within the Portsmouth FD course, this research project investigated the following broad research questions:

- What do people think about the FD qualification?
- What is the experience of being involved with a FD like?
- What effect does a FD have on pharmacy technicians?
- What opportunities does a FD bring for role extension and development?
- Can a theoretical model be developed to represent relationships between the experiences of stakeholders involved in a FD?

CHAPTER 2: Methods

2.1 Overview of the study methodology

This study gathered the views of different stakeholders involved in the development and delivery of the FD in Medicines Management run at the University of Portsmouth in order to evaluate this programme by answering the research questions in section 1.5.3. These stakeholders included students, graduates, employers and people involved in the development and delivery of the course.

The study followed a qualitative evaluation research approach, where data was collected from one-to-one and group interviews. These events were transcribed verbatim and subject to thematic analysis, where themes were selected based on their prevalence in the data and their relevance to the research questions. Evaluation research is action oriented ⁽²⁴¹⁾ and conducted to determine value ⁽²⁴²⁾ or impact, ⁽²⁴³⁾ with a view to making recommendations for improvement, ^(241, 244) and as such takes place within the political and organisational context of the setting where it is undertaken. ^(245, 246) It strives to represent the range of perspectives of those who have a stake in an education programme ^(130, 246) and places emphasis on ascertaining relationships between activities and outcomes. ⁽²⁴⁷⁾ It differs from other forms of evaluation in that it uses scientific and rigorous methods. ⁽²⁴⁸⁾ Elements of action research can also be found in this project as part of its focus was the enhancement of direct practice and ⁽²⁴⁹⁾ bringing about change. ⁽²⁵⁰⁾ However, its scope was wider in the sense that it went beyond practical concerns to look, in-depth, at the characteristics of the phenomenon investigated.

The overall conduct of the research project was relatively open and unstructured to adapt to the emerging views of participants, rather than imposing prior frames of reference from the researcher. To facilitate this further, data collection, data analysis and interpretation of results took place simultaneously, with the latter informing further recruitment and data collection. Through the use of this methodology, this project enabled the construction of a theoretical model that represents relationships between the experiences of stakeholders involved in a FD and facilitated feedback of findings into pedagogic practice within the Portsmouth course. The rationale for the methodology chosen and the details of the

individual steps taken in the course of this project, along with the practicalities associated with them, are described in the following sections. Figure 2.1 presents an overview of the study methodology to facilitate understanding of its design prior to describing each part in more detail.

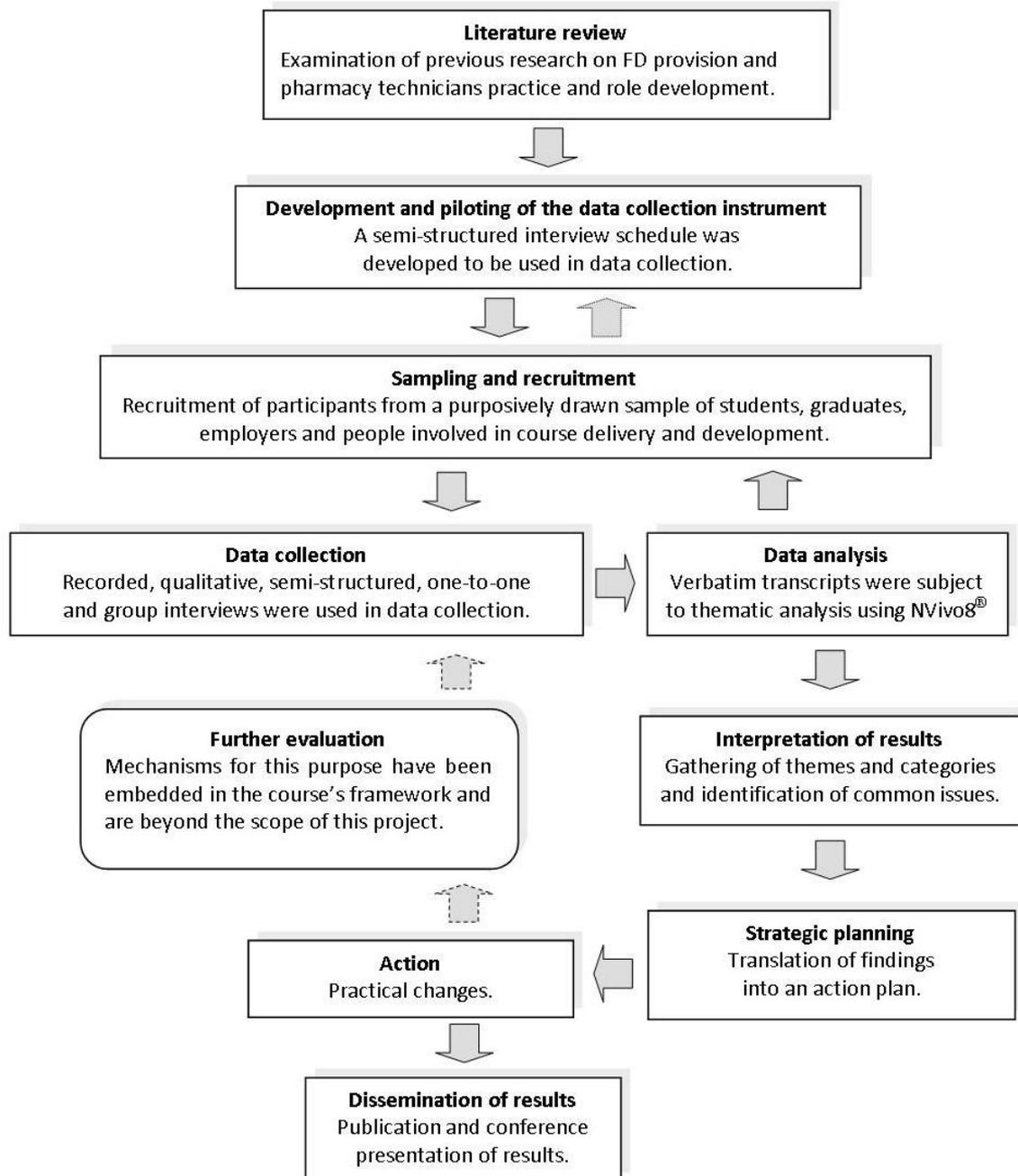


Figure 2.1: Overview of the study methodology.

2.2 Rationale for the study methodology

2.2.1 Rationale for focusing on one course

While information on other FD courses for pharmacy technicians was sought to establish a context for the study, this project focused on one programme in order to gain an in-depth understanding of events, processes and relationships taking place and to study experiences in greater depth than would be possible by looking at additional courses. The Portsmouth FD for pharmacy technicians was a suitable FD to choose for this purpose firstly due to its relevance to the topic being researched. Also, its similar characteristics in terms of entry criteria, syllabus, work-based and academic elements and student profile to other courses make this programme an example from which to obtain data that would be relevant to other courses and from which generalizations of findings could be made. In addition, its recruitment and retention trends at the time the project began indicated that the programme would continue to run for the projected length of the study, enabling a large enough sample to be available from which to collect sufficient data for the study.

2.2.2 Rationale for using a qualitative design

A qualitative design was used in this study as this methodology was the most suited to the problem under investigation. Qualitative methods are particularly effective within the context of discovery to establish relationships between events and how study subjects perceive them to be.⁽²⁵¹⁾ This relates to the research questions in this project, which focused in an area about which very little was known. Views and experiences were being sought, and these related to the context of work-based learning as a pharmacy technician. Qualitative designs are also best suited to maximise opportunities for exploration of experiences in their social context⁽²⁵²⁻²⁵⁶⁾ and to describe and analyse the culture and behaviour of groups from the point of view of those who are being studied.⁽²⁵⁷⁾ It can be argued that work-based learning is a social act, making it necessary to investigate the social context in which it occurs in order to understand patterns and outcomes, making qualitative methods ideal for their emphasis on context-embedded behaviour. In addition, due to

qualitative designs taking full account of the many interaction effects that take place in a dynamic setting, ⁽²⁵⁸⁾ they are particularly appropriate for studying healthcare education, where the methods chosen must be able to deal with complexities. ⁽²⁵⁹⁻²⁶¹⁾ Qualitative designs have been used extensively in healthcare research ⁽²⁶²⁻²⁶⁶⁾ and have successfully addressed specific problems within pharmacy practice. ^(267, 268) They have enabled the evaluation of training and education initiatives based on the views of different stakeholders, and to gather information on perceived relevance, improvements in the knowledge and skills base, changes in practice, overall value and acceptability. ⁽²⁶⁹⁻²⁸⁴⁾

2.2.3 Rationale for the choice of data collection methods

Group interviews ^(285, 286) and one-to-one interviews ^(229, 230, 285, 287-289) have been used widely in healthcare and pharmacy practice research in order to provide rich insights into people perspectives. The rationale behind combining them in this study was based on two reasons. Firstly, this enabled the timely collection of data, face-to-face, from a larger number of participants who were representative across the sample. Since the people taking part in this project were in full time employment, group interviews were run opportunistically, for example with students at the end of a study day at the University. In order to gather the views of stakeholders other than students, whose professional commitments and geographic distance apart made it impractical to attend a group interview, it was found that interviewing them on a one-to-one basis at their place of work was the only practical way to make their participation possible. Secondly, one-to-one interviews and group interviews were combined to strengthen the findings. In group interviews, the interaction between people acts as a stimulus to producing a wide range of thoughts and ideas, ⁽²⁹⁰⁻²⁹²⁾ also encouraging participation from those reluctant to be interviewed on their own. They facilitate examination of not only what people thought, but also how and why they thought that way, exploring their understanding and priorities and bringing differences to the surface ^(257, 293) They generally generate more critical comments than one-to-one interviews ⁽²⁹³⁾ and enable the researcher to explore perceptions which may have been left underdeveloped in these. ⁽²⁵⁵⁾ The use of one-to-one interviews enabled a more focused and in-depth exploration of single ideas. ^(289, 294, 295) In addition, data collected through one-to-

one interviews had the potential to overcome group polarisation expected in group discussions and group dynamics which may have silenced individual voices. ^(291, 296)

The combination of these two methods of data collection (one-to-one and group interviews) enabled the development of an overall interpretation, ^(263, 297) and allowed a check for validity, to ensure comprehensiveness of the findings ⁽²⁶³⁾ and a reflexive analysis of the data ⁽²⁶³⁾ by looking at patterns of convergence. As one-to-one and group interviews were guided by the same interview schedule, the collection of data from the multiple participants was systematic and comprehensive, keeping interactions focused on the area of research. ⁽²⁹⁸⁾

Student feedback from the programme under investigation, routinely collected as part of the University's quality assurance processes, was intentionally excluded from the data used in this work. Firstly, this was due to the fact that the completion rate of questionnaires used for this purpose was low, making the answers informative, but from which no generalisations could be made. Secondly, the questionnaires' main focus was organisational factors and the day-to-day running of the course, which were not within the scope of this research. Nevertheless, it was found that data captured using these questionnaires did not contradict that gathered in the course of this project.

2.2.4 Rationale for the use of thematic analysis

Thematic analysis is widely used in qualitative research ^(299, 300) and has been applied to similar studies looking at the views of healthcare professionals, ^(301, 302) within pharmacy practice and in education research. It enables the analysis of participants' conversations about their experiences, ⁽³⁰³⁾ a better understanding of the ideas that emerge during qualitative interviews ⁽³⁰⁴⁾ and the identification, analysis and reporting of patterns across qualitative data, which were the purposes of this research. It also has the advantage of being independent of theory and epistemology, ⁽³⁰⁵⁾ and hence is more flexible to deal with a 'real life' situation, such as that which was the focus of this investigation. ⁽²⁵³⁾ In addition, thematic analysis has the advantages that it can generate unanticipated insights, is particularly useful for under-researched areas, ⁽³⁰⁵⁾ and facilitates qualitative analysis suited to informing policy development. ⁽³⁰⁶⁾

2.3 Literature review

A systematic review of research and policy literature was carried out at the beginning of the study to examine previous research on FD provision and pharmacy technicians' practice and role development. Access to the literature was through the electronic services provided by the University of Portsmouth and the RPSGB library. Additional literature was obtained through free electronic access online or via inter-library loans. A search using information technology was supplemented by a manual search and following references in material accessed, which included key pharmacy and education databases and web pages in the English language. This literature review comprised of three parts: firstly, literature relating to pharmacy technicians training and education (including FDs), secondly to pharmacy technicians practice, and thirdly to FDs in general; consideration was given to all types of literature. Initially, there was an attempt to limit the literature review to material from the last five years, however, the lack of resources available, and the fact that some texts were of historical interest - even though they were out-of-date in the context of pharmacy technicians practice and education - led to an extension of this timeframe to the last 15 years. This was particularly the case for articles and documents that described the evolution of and development of the role of the pharmacy technician. This strategy was considered adequate in scope, as there are no FDs for pharmacy technicians outside the UK, and studies more than 15 years old would be of little relevance to current pharmacy practice or education. A list of databases searched and key terms used can be found in Appendix 4.

In addition, opinion leaders in the fields of pharmacy education and Foundation degrees were contacted for additional sources of unpublished literature. These included experts at Foundation Direct, Centre for Excellence in Teaching and Learning dedicated to FDs and Foundation Degree Forward, a Government's organisation with the same purpose. E-alerts were set up in relevant databases to keep up-to-date with new publications and a further search of the literature took place before completing the final report.

The results of the literature review were used to establish a background for the study and to identify the key topics and issues for the population being studied, informing the development of the research questions, interview schedule and discussion of results.

2.4 Data collection

2.4.1 Sampling and recruitment

In order to identify study subjects, purposive sampling was used, where recruitment is context based, ⁽²⁹⁴⁾ and sampling, data collection and analysis take place simultaneously, with the latter informing further recruitment and data collection. This strategy is advocated in qualitative studies ^(307, 308) as it enables selection of a wide range of informants relevant to the conceptualisation of a subject, ⁽²⁶³⁾ rather than achieving statistical representativeness, which is not a requirement in investigations such as this, of an exploratory rather than conclusive nature. ⁽³⁰⁹⁾

To identify a defined group for which the research questions was significant, an initial sampling frame was purposively drawn. ⁽³¹⁰⁾ This sampling frame included people involved with the Foundation degree in Medicines Management at the University of Portsmouth, who met one of the following inclusion criteria: students registered on the FD programme; students who graduated from the course at least six months previously; employers of either or both of the above or academic or teaching staff involved in development or delivery of the FD. To ensure this initial sample included individuals with different characteristics, the following dimensions were also applied: a range of settings of practice within primary and secondary care; different types of involvement in course delivery, a range of ages and geographic areas. The inclusion of key informants ⁽³¹¹⁾ and deviant cases, ^(265, 312) which forms the basis of conceptual sampling, was actively sought so the views of minorities and those that contradicted or modified the overall theory, could be sought. ⁽²⁹³⁾

As in purposive sampling, the development of theory or explanation guided the process of sampling and data collection. ⁽³⁰⁸⁾ From the selected set of initial informants, data was collected and analysed, and a preliminary explanation produced. Recruitment and data collection was subsequently informed by this preliminary explanation, with the relationship between recruitment and explanation being iterative and conceptually led ⁽³⁰⁹⁾ in the light of emergent theory. ⁽³¹³⁾

Participants were recruited through contact made by people involved in course provision. Potential study subjects were invited to participate verbally, by letter or e-mail. A study information sheet, which included details about the project, was provided on invitation. A copy of this information sheet is shown in Appendix 5. Individuals who responded and agreed to participate in the project received confirmation of this. They did not receive payment for their contribution but refreshments on attendance to group interviews were provided. Sampling, recruitment and data collection continued until data saturation was achieved and no new themes relevant to the study research questions emerged. ^(314, 315)

2.4.2 Interview design

Since the main purpose of qualitative interviewing is to minimise the effect of predetermined responses and the exploration of emerging ideas, ^(316, 317) a semi-structured interview schedule was developed to guide but not constrain the interview process. This type of schedule permits alternative wording and the use of probes to facilitate comprehension and complete responses. ^(310, 317-319) It also facilitates a form of respondent validation ⁽³²⁰⁾, with the moderator being able to clarify meaning to prevent misinterpretation. ⁽³²¹⁾ The interview schedule was designed based on non-directive and informal open-ended questions that allowed participants to respond as they wished. These questions aimed to explore in-depth the views of the participants. The questions were sequenced using funnelling, ⁽³²²⁾ introducing more general questions first in order to elicit general views, followed by prompts to promote discussion, determine more specific concerns or establish a context for study subjects to express opinions. ⁽³²³⁾ In line with the principles of qualitative research, the schedule was designed to follow an iterative rather than linear process, with questions used flexibly, and refocused in the light of participants' responses, with the moderator probing interesting and important areas which changed or developed. This made interviewing the multiple participants focused and systematic, combining flexibility with structure, ^(298, 306) which in turn facilitated the analysis of the interview data ⁽³¹⁹⁾ and enhanced validity. The number of topic areas to include in the questions was set at six with a view to a maximum interview time of one hour. Although the literature suggests that between six to nine discrete topic areas can be discussed in an

interview of this duration,⁽³²⁴⁾ it was decided to limit these to six to ensure there would be time for sufficient breadth and depth of topic exploration. Limiting each interview to a maximum of one hour was decided upon two reasons: firstly, it was deemed likely that a longer interview could put off participants and make it more difficult to schedule a time for the interview and secondly, the researcher was mindful that with longer interviews the ability to obtain a complete set of data from each participant is put at risk by interviewer and participant fatigue.⁽³¹⁸⁾ The preliminary interview schedule devised included questions around these six key topic areas and an additional one to give participants the opportunity to add to what had been discussed before. The overall layout of the schedule produced was piloted and modified to focus on areas of particular importance and to exclude questions that appeared unproductive for the goals of the research. More details about the pilot interview can be found in Section 2.4.3. A copy of the final version of the interview schedule is shown in Appendix 6.

2.4.3 Interview pilot

The preliminary schedule was piloted in an interview with a person involved in course delivery who was a pharmacist with experience in research methods. Although the researcher had experience in conducting semi-structured qualitative interviews, the pilot interview was carried out to check that the questions would elicit the required breadth and depth of responses, and to enable the researcher to receive feedback on the interview technique, prompts and probes.⁽³¹⁹⁾

The pilot interview lasted for 58 minutes and the participant remained alert and interested throughout. Furthermore, there was sufficient time to explore the key aspects of the interview in detail. Therefore the number of topic areas and the majority of the questions posed were deemed to be appropriate and remained unchanged for the main study. Although there were no major changes to the questions subsequent to the pilot interview, there were a number of minor changes to both the main questions and the prompts used in order to improve clarity. The researcher also noted the importance of emphasising the word 'you' in the questions to encourage the participant to express their own personal opinion.

2.4.4 One-to-one and group interviewing

All interviews were carried out face-to-face by the researcher following the semi-structured interview schedule produced after the pilot interview. They were closed to all except the participants to ensure confidentiality and enable people to share their views freely. Since these events were audio-recorded, the interviews took place in suitable venues that enabled optimum conditions for data collection and that prevented interruptions. These venues included one of the seminar rooms of Foundation Direct (Centre for Excellence in Teaching and Learning), the researcher's and participants' own offices.

The interviews began with a short introduction and explanation about the study and its purpose, and an opportunity for study participants to ask questions about the research. Even though all the participants had received an information sheet prior to the interviews and had signed a consent form agreeing to participate, the researcher began each interview by reiterating the nature and purpose of the research, reaffirming confidentiality and then sought the participants' permission to record the interview. Participants were encouraged to give their own and honest opinions during the interviews. It was clarified that there were no right or wrong answers and that they could stop the interview at any time and without giving a reason. Prior to beginning the interview questions, the researcher checked that each subject had understood the above and that they were happy to proceed. Following the introduction, study subjects were asked to fill in a general background questionnaire to gather information to aid interpretation and analysis of the data. On completion of the questionnaires, the audio recorder was switched on. Participants were then asked to describe their own experiences and use recent examples to illustrate their comments to the questions posed for discussion and, in the case of group interviews, for participants to discuss these with each other rather than with the researcher. The researcher's role was to guide discussions and initially stepped back to allow these to start, directing them later on to ensure points were covered, clarified or expanded, urging debate and encouraging discussion of inconsistencies between participants and within their own thinking. At the end of the interviews, the participants were thanked for their contributions and a brief explanation of the next steps in the research given. In order to ensure interviews were carried out consistently the interview check list shown in Appendix 7 was used.

In the case of group interviews, 5-11 people were invited to each session, which took place sitting around a circle in a comfortable environment. To capitalise on people's shared experiences the groups were homogeneous⁽²⁹³⁾ in that they were formed of students within the same year. To add new dimensions to the research, heterogeneous groups formed of students in different years were also brought together for two interviews, which facilitated the exploration of ideas from the perspective of students at two levels within the course. During the interviews, notes were taken by the researcher as reminders to return to a point when it needed to be expanded upon or clarified. However, these were kept to a minimum to prevent disruption of the interview or to adversely affect the concentration of the researcher or the participant. After each interview, field notes were made summarising the researcher's overall impression of the interview and any initial thoughts on apparent key themes. These notes were used to aid analysis of the audio recordings transcripts.

2.4.5 Audio recording and transcription

All interviews were audio recorded with the participants' consent, obtained using the form in Appendix 8, given with the understanding that individuals would not be identified in any output. The use of a high fidelity device (OLYMPUS DS-80) along with suitable venues for interviewing ensured appropriate sound quality and the validity of the transcriptions.⁽³²⁵⁾ While some authors argue that the intrusiveness of recording devices could adversely affect data collection,⁽³²⁶⁾ in the case of multiple interviews it is considered indispensable.⁽³¹¹⁾ It was found in this project that respondents quickly forgot the recorder and the reactive effects were believed to have been minimal.⁽²⁵²⁾ The audio-recorded interview material was downloaded to a PC and labelled with a relevant reference number. It was then transcribed verbatim using Microsoft Word® by a trained typist and checked for accuracy by the researcher. The transcription incorporated all words spoken, including the researcher's questions, false starts and laughs; names or other information that could lead to identifying participants were removed by the researcher to ensure anonymity. The relevant participant reference number was used to introduce quotes of different people.

2.5 Data analysis

2.5.1 Overview of data analysis

The entire data set, which included the transcripts of all interviews, was subject to thematic analysis following a methodology based on multiple qualitative texts, ^(302, 304, 315, 317, 319, 327-331) taking relevant ideas from each for a high quality analysis. To ensure results were strongly linked to the data, ⁽³¹¹⁾ an inductive approach was followed, where concepts (single ideas), themes (grouping concepts linked to each other) and categories (including themes that are related) were not anticipated but emerged from the data. The process was idiographic, where analysis of the first interview took place, with an initial framework of concepts, themes and categories drawn. This was extended and refined as the analysis proceeded with the second and subsequent interviews. Concepts and themes were identified directly from the data for their prevalence in the interviews and their relevance to the research questions, with categories being artificially created to group related themes together.

In terms of the analysis, two differentiated levels were considered: latent and manifest analysis. ⁽²⁹⁹⁾ Latent analysis is interpretive, with manifest analysis generally considered semantic and descriptive, although some argue both have elements of interpretation. The analysis in this study is thought to be found somewhere in between, as attention was paid to being true to what the participants expressed as their views, but also acknowledging the fact that qualitative research is not entirely 'value free'. ⁽²⁵³⁾

The researcher used the computer software NVivo 8[®] ⁽³³²⁾ to manage the data in a cross-sectional code and retrieve manner. ⁽³³³⁾ This facilitated indexing segments of the text to concepts, themes and categories, thus allowing complex search and retrieval operations and linkage to research notes. In doing this, a new file could be created with all data relating to a certain code, theme or category, with the original coded transcript remaining intact. NVivo 8[®] labels each piece of data enabling the researcher to easily find it within the original transcript and read it in context again if needed. The individual steps undertaken in the analysis of the data collected in this project are described in detail in Section 2.5.2.

2.5.2 Description of steps involved in data analysis

Data analysis began with step 1 in Figure 2.2. While each interview was taking place, the researcher identified preliminary concepts and themes, with reflection on these and the content of the interview taking place shortly after it had finished. The audio recording of the interview was listened to before transcription, with further reflection being carried out and notes taken. At the end of this process, the notes were entered in NVivo 8® and linked to the interview audio-recorded material.

When the transcript of the interview became available, it was checked by the researcher against the recordings for accuracy, which enabled further familiarisation with its content (step 2, Figure 2.2). It was then uploaded to NVivo 8®, and linked to the audio-recording and notes. These were then read again and additional points emerging from the familiarisation with the transcript added. Once the transcript had been checked and uploaded to NVivo 8®, the researcher read the whole interview transcript and, using the notes, decided upon a coding for each participant's substantive comments, building an initial framework of concepts, themes and categories in NVivo 8®. When the points included in the notes, alongside emergent ideas, had been coded, the transcript was read again carrying out further coding and refining the framework of concepts, themes and categories.

In-depth coding (steps 3-6, Figure 2.2.) was carried out after stages 1 and 2 took place, initially with the first interview, and then expanding and refining the coding with each subsequent one. The framework of concepts, themes and categories was developed as a result of this process. Once the last transcript had been subject to steps 1-6, the totality of the data set was revisited, comparing the analysis undertaken with the framework of concepts, themes and categories, checking and refining the coding further. After this had taken place a final version was produced (step 7, Figure 2.2); this is shown in Table 3.1. Key quotes from interviews were then selected to discuss the data thematically in the relation to previous knowledge and current literature. This discussion can be found in Chapter 4.

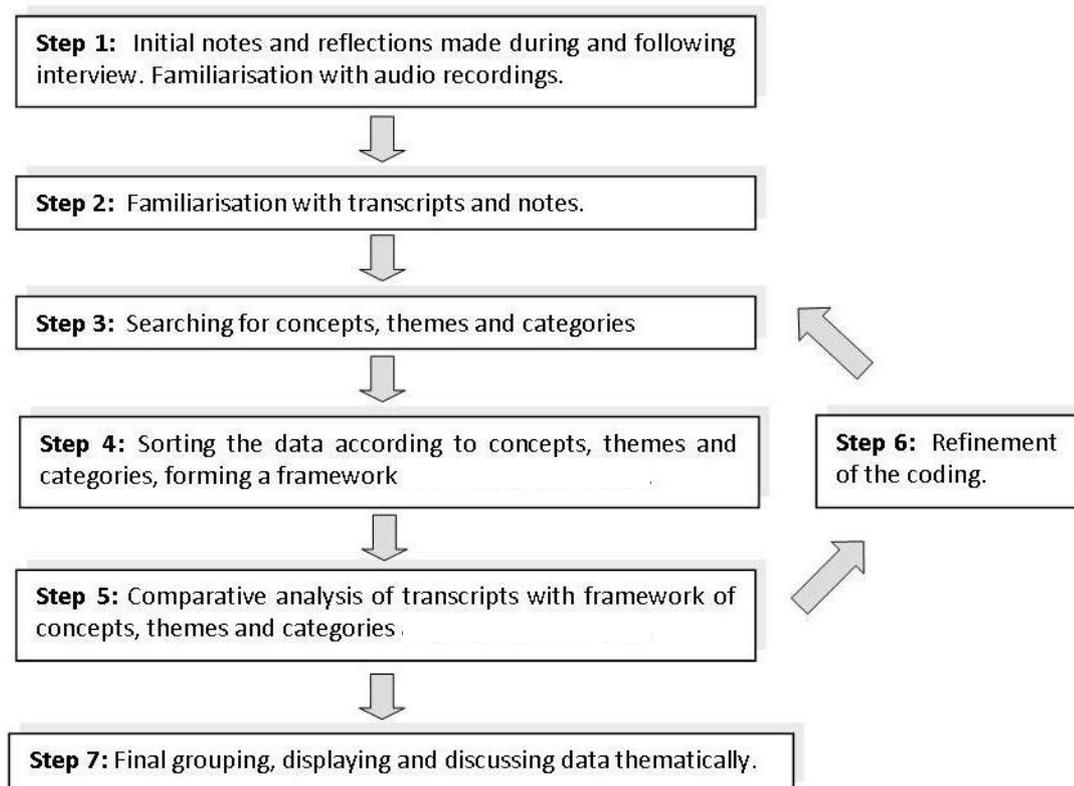


Figure 2.2: Overview of steps in data analysis.

2.6 Development of the theoretical model

The theoretical model was developed at the same time as the whole data set was revisited, as described in Section 2.5.2, prior to Step 7 in the data analysis (Figure 2.2). This model was constructed in order to represent the relationships between the different concepts, themes and categories found.

The theoretical model was developed in three stages using the drawing tools of the computer software NVivo 8, ⁽³³²⁾ also used for data analysis. As the aim of the model was to show relationships between the concepts, themes and categories, boxes with the names of each of those were drawn and distributed in the diagram in three groups. Each group included one category with its associated themes and concepts around it. No links were

made between any of the boxes at this stage, with these only being a starting point to enable the development of the different connections between them.

In the second stage, as the interview transcripts were being read, emergent relationships between each of the boxes in the diagram were drafted by drawing arrows between them. All the interview transcripts were included in this process, developing and refining the model with each subsequent one. In some cases, it was necessary to read the transcript more than once and to listen to the audio recording to clarify relationships described by the participants. As the model was being developed, boxes within the diagram were moved to ensure clarity – the computer software used enabled this to be done maintaining the link that arrows had with boxes. At the end of this process an initial framework had been developed that linked all concepts, themes and categories.

In the third stage, the model was further refined and its validity checked using the coded extracts of interview transcripts that had been indexed under each category, theme and concept. This material was read while comparing it with the model, making any further adjustments to ensure a comprehensive view of the data had taken place. To finalise the diagram, a colour code was applied that matched that used in the table of categories, themes and concepts, making it clear how each box related to elements of the table.

2.7 Strategic planning and action

Critical reflection on areas where FD provision could be improved was undertaken based on the findings of this study. This was facilitated by the participation of experts in FD and pharmacy practice education, such as pharmacy training and education leads and experts from Foundation Direct (CETL), Foundation degree Forward. A list of action points was produced that included all practical changes that could be made with the purpose of improving effectiveness of the educational intervention, timeframes within which these could be made and a description of resources needed for their implementation included in an action plan. Where this was practical, suggested actions were carried out making use of the knowledge gained through this project.

2.8 Ethics

The University of Portsmouth Department of Sports & Exercise Science / School of Pharmacy and Biomedical Science Joint Ethics Committee approval was sought and granted prior to starting the study. This was confirmed by the letter shown in Appendix 9. No Local Ethics Research Committee (LREC) or Multi-centred Research Ethics Committee (MREC) was needed due to the association of the study participants with the educational intervention.

The main ethical issues within this project related to the handling of the data and participants' consent. Throughout the course of this research, this took place in compliance with the Data Protection Act 1998.⁽³³⁴⁾ In order that participants could be fully informed about this research, a study information sheet and a consent form (see Appendices 4 and 7) were produced and provided to each participant, emphasising confidentiality and their right to withdraw from the study at any time. As described in section 2.4.4, verbal consent was also obtained from all participants to record their interviews. All data obtained from the study subjects, including notes, was treated as anonymous and confidential. The following steps were taken to ensure this throughout the study:

1. All interviews were carried out in circumstances that ensured confidentiality.
2. Participants' true identity could not be ascertained from any documents held, on their own, or in relation to one another, that were not securely kept.
3. Audio-recorded interviews and transcripts were labelled with a reference number and included no other form of identification. They were kept in an encrypted external hard drive.
4. After analysis of interview data and presentation of results, the original audio recorded material and reference list were destroyed.

In addition, this study was compliant with the Helsinki Declaration 2008. Study subjects were volunteers and were informed participants in the research project. The privacy of informants was respected and every precaution taken to minimise the impact of the study on the subjects. Sources of funding and any possible conflict of interest, institutional affiliations, anticipated benefits and potential risks were discussed.

CHAPTER 3: Results

3.1 Overview

This chapter includes the results of this project in relation to its research questions, which investigated stakeholders' perceptions of FDs for pharmacy technicians, and to feedback findings into pedagogic practice within the Portsmouth course. The following sections contain these results, including details of the study participants, data collection events, the framework of concepts, themes and categories produced, the theoretical model drawn and the results of the strategic planning. To facilitate understanding of concepts, themes and categories, these are explained fully in the discussion section (Chapter 4).

3.2 Data collection

3.2.1 Research participants

A total of 32 participants took part in this project, of which 3 were involved in course delivery, 3 were employers, 3 were graduates and 23 students. They were representative of the populations from which they were drawn and showed a variety of characteristics. Due to the limited number of individuals that have been involved with this course and in order to ensure anonymity of their statements, the characteristics of each individual are not included in this report, but a group description is provided (see Appendix 10).

3.2.2 Interview conduct

Data were collected over a period of 18 months in 11 one-to-one interviews and five group interviews. As it was not possible to arrange a suitable date to run group interviews with stakeholders other than students, employers, graduates and people involved in course delivery and development were interviewed on a one-to-one basis. One-to-one interviews were not carried out with students as group interviews successfully explored the research questions. The length of each interview was dependent on each participant or group of participants' responses and ranged between 26 minutes and one hour and 16 minutes. Details of the interviews carried out for data collection are shown in Appendix 11.

3.3 Data analysis

3.3.1 Framework of categories, themes and concepts

The data obtained in this study showed a number of significant concepts within themes, which were representative across the sample. These themes were organised into categories to facilitate understanding of how they related to each other. Table 3.1 includes the framework of concepts, themes and categories found. Further description and explanation of these can be found in Chapter 4.

Category	Themes	Concepts
Recognition of the qualification	Awareness of the qualification	Presence in the discourse
		Holistic marketing
		Careers advice
	The value of the qualification	Personal development
		Competence
		Higher education qualification
	Programme fitness for purpose	Relevance
Work-based learning		
Participation in a FD	Support from the workplace	Workforce capacity
		Workforce planning
	Gaining knowledge	Motivation
		Learning to learn
		Guidance and feedback
		Peer learning
	Developing as an individual	Awareness
		Confidence
		Empowerment
	Professional practice	Patient centredness
		Reflective practice
		Critical thinking
		Initiative
Responsibility		
Progression	Professional status	Hierarchy
		Trust
	Role development	Opportunities
		Barriers
		Aspirations

Table 3.1: Framework of themes, categories and concepts.

3.3.2 Theoretical model

The following theoretical model represents the relationships found between concepts, themes and categories in a diagrammatic form. These are fully discussed in Sections 4.2 to 4.4, with section 4.5 discussing aspects of its development, uses and limitations. The colour code used in the diagram reflects that applied in Table 3.1, where purple corresponds to categories, blue to themes and orange to concepts. This colour code is used in all similar figures throughout the report.

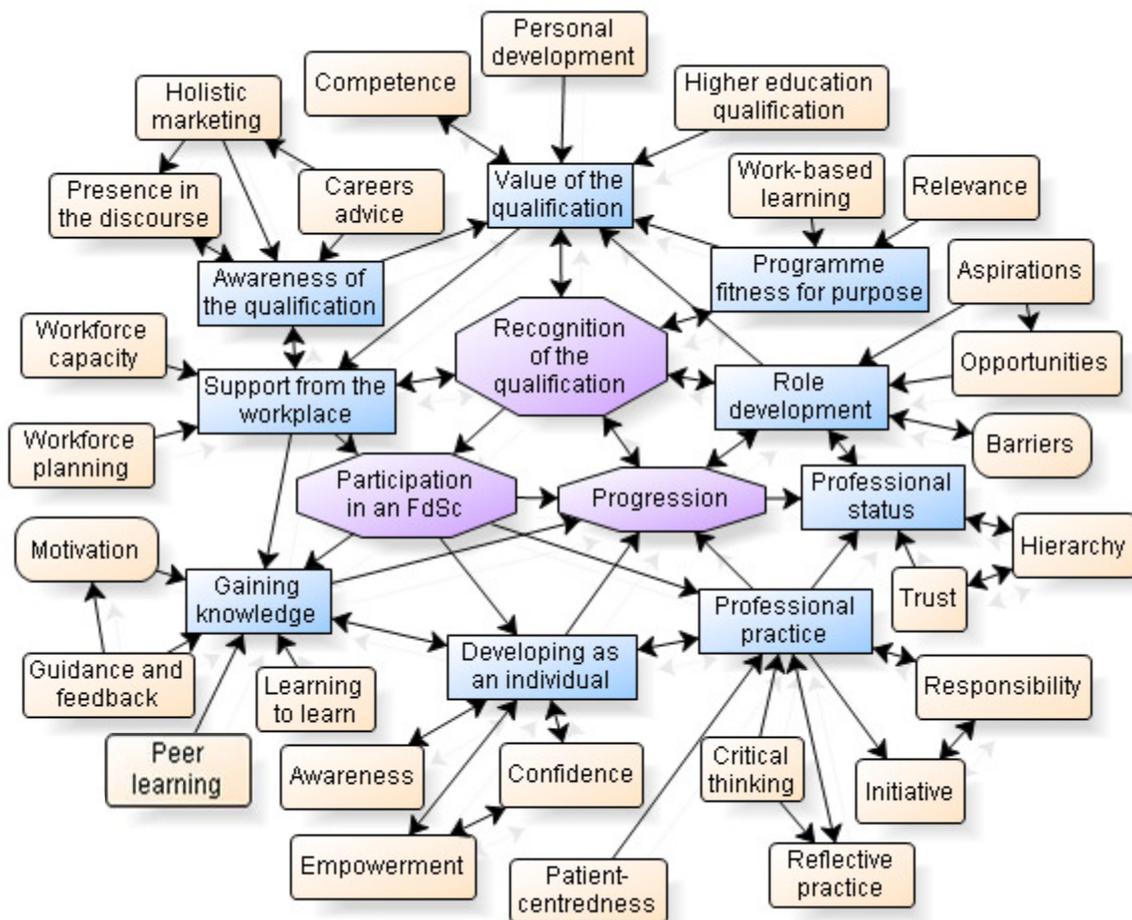


Figure 3.1: Theoretical model.

3.4 Strategic planning

In order to improve pedagogic practice, findings of this research were translated into the action points shown in Table 3.2. These action points were carried out by taking the steps described in sections 3.4.1, 3.4.2 and 3.4.3. A list of further steps to be undertaken was also formulated, and scheduled to be carried out as soon as this was practical.

Category	Theme	Concepts	Action point
Recognition of the qualification	Awareness of the qualification	Presence in the discourse	Development of a marketing strategy
		Holistic marketing	
		Careers advice	
	The value of the qualification	Personal development	
		Competence	
		Higher education qualification	
Programme fitness for purpose	Relevance	Review and update of unit descriptions	
	Work-based learning		
Participation in an FD	Support from the workplace	Workforce capacity	Implementation of a new approach to teaching, learning and assessment
		Workforce planning	
	Gaining knowledge	Motivation	
		Learning to learn	
		Guidance and feedback	
		Peer learning	
	Developing as an individual	Awareness	
		Confidence	
		Empowerment	
	Professional practice	Patient centredness	
		Reflective practice	
		Critical thinking	
Initiative			
Responsibility			
Progression	Professional status	Hierarchy	Development of a marketing strategy
		Trust	
	Role development	Opportunities	
		Barriers	
		Aspirations	

Table 3.2: Action points drawn as a result of study findings.

3.4.1 Development of a marketing strategy

This study clearly showed there was a need to develop a marketing strategy to promote FD courses to interested parties. With regards to the Portsmouth programme, this strategy was devised based on three main areas. Firstly, promotional material was designed and professionally produced. This material included two resources: a brochure outlining the characteristics of this FD and an information pack with detailed information about the course, FDs in general and support available for students. This promotional material was developed in liaison with the University of Portsmouth marketing department and experts from Foundation Direct and Foundation Degree Forward. Additional material in development included three further resources: a series of case studies illustrating how FDs enabled pharmacy technicians to further their careers, a handbook for employers and a promotional video.

Secondly, dissemination of information about the FD took place through various channels. The course brochure was sent by post to potential students and employers within a geographical area of 50 miles. In addition, it was forwarded to potential interested parties nationwide by e-mail. Course information packs were distributed to key employers and people requesting information or showing interest in the course. Also, a number of presentations and meetings covering content and application of the FD took place within relevant employing organisations.

Thirdly, in order to reach other potential interested students and employers, several articles and news items about the course and its students were published in a range of relevant pharmacy journals and publications. Networking and liaison with local NHS training and development departments also took place to open communication channels and gather input from the workplace. Further liaison with other organisations, particularly local colleges and other providers of NVQ3/BTEC in Pharmacy Services and the Association of Pharmacy Technicians UK were explored. In addition, organisation of a student conference to double as an open day for potential students, employers and people involved in pharmacy technicians education and was being considered.

3.4.2 Review and update of unit descriptions

An in-depth review that led to re-validation of the programme was carried out. A number of changes took place as a result of this re-validation: the names of some units were changed for others more descriptive of their content; aims and learning outcomes of relevant units were updated; the syllabus was adapted to reflect changing students' needs and a fast track option embedding accreditation of prior learning devised. A further review of unit descriptions is planned for 2012. This review will consider the steps mentioned above, any further issues identified and include mapping learning outcomes to KSF indicators⁽¹¹³⁾ (see Section 1.3.2) and relevant Medicines Management delivery frameworks.^(32, 335)

3.4.3 Changes in teaching, learning and assessment

As a result of the findings of this project, a number of changes in approaches to teaching, learning and assessment took place. A pre-entry induction programme, provided by Foundation Direct, was offered to students prior to enrolment. In addition, six generic tutorials per year were introduced to support students' learning of IT and study skills. A virtual learning environment through the platform offered by Blackboard® (called Victory at the University of Portsmouth) was built to facilitate the provision of learning resources, support students from a wide geographical area and make available communication and team working tools. Simulation and problem-based learning with ongoing formative feedback in skills teaching and learning were embedded in the course and marking criteria for students' coursework developed and put in place. In addition, a system for students to mentor other students within the programme was implemented and the work-based tasks adapted to account for different students' circumstances, for instance, lack of a workplace tutor. Self-directed study days at the University were also introduced to help students organise their study time and benefit from University resources. In addition, plans were drawn to further facilitate the mentoring of FD students, including the production of printed material and scheduling contact time with mentors during the academic year.

CHAPTER 4: Discussion

4.1 General overview

This chapter is divided into several sections where the different aspects of this evaluation project are discussed.

Sections 4.2 to 4.4 include a narrative explaining the qualitative findings and discussing their significance. To make this narrative explanation coherent, it is divided into themes, since this is the highest unit in which study findings emerged from the data. They are presented under the category which groups related themes. Within each theme, all concepts are discussed together as they are deeply interrelated as shown in the theoretical model, and separating their discussion would de-contextualise the findings. The narrative is illustrated by quotes from the study participants to provide examples of typical, atypical and interesting points of view, demonstrating the internal validity of the interpretation provided. ^(319, 336) The quotations were selected to illustrate a consensus view, a polarised view or a point of particular interest by virtue of a link with another theme or concept. Each quote is listed by interview number and participant number when it comes from a one-to-one interview; if the quote was extracted from a group interview, it is introduced by the participant number as only students took part in these, making it unnecessary to state the type of stakeholder. When quotes from group interviews are presented, and only a statement from one participant is included, this does not indicate that there was not discussion, but that the statement on its own exemplifies the point of view being expressed. This narrative also considers the findings in their relation with relevant literature on pharmacy practice, teaching and learning and workforce development.

Discussion of the theoretical model constructed can be found in Section 4.5, which includes aspects of its development, uses and limitations. Section 4.6 covers actions planned and undertaken in the course of this project, which are discussed considering underlying issues relevant to changes undertaken and proposed. Section 4.6 considers the methodology chosen, its usefulness and potential effects on the study findings. It also describes the overall limitations of the study and discusses to what extent the methodology enabled the research questions to be answered.

4.2 Category 1 - Recognition of the qualification

The recognition that the FD as a qualification had from the different stakeholders involved with a FD and within the context of each individual's experience and practice-base, was central in the interviews taking place in this work. Three main themes were identified as determinant of this recognition: awareness of the qualification, value of the qualification and programme fitness for purpose. Table 4.1 shows the themes within this category and their associated concepts.

Category	Themes	Concepts
Recognition of the qualification	Awareness of the qualification	Presence in the discourse
		Holistic marketing
		Careers advice
	The value of the qualification	Personal development
		Competence
		Higher education qualification
	Programme fitness for purpose	Relevance
Work-based learning		
Participation in an FD	Support from the workplace	Workforce capacity
		Workforce planning
	Gaining knowledge	Motivation
		Learning to learn
		Guidance and feedback
		Peer learning
	Developing as an individual	Awareness
		Confidence
		Empowerment
	Professional practice	Patient centredness
		Reflective practice
		Critical thinking
		Initiative
Responsibility		
Progression	Professional status	Hierarchy
		Trust
	Role development	Opportunities
		Barriers
		Aspirations

Table 4.1: Themes and concepts in the category recognition of the qualification.

4.2.1.2 Discussion of theme findings

The extent of the lack of awareness of FDs for pharmacy technicians was illustrated by the following participant in this study, who shared her frustration about this being the situation in one of the UK's top leading hospitals:

When I qualified I was in contact with the friend that I used to work with in London, who works at [] Hospital. So teaching hospitals are quite at the forefront of education. And we were exchanging what we'd been up to, and I said that I'd just got the Foundation degree in Medicines Management, and the reply from her was, 'What's that?' Never even heard of it. Totally head in the sand. Didn't know anything about it.

(P1, graduate)

FDs were then relatively new products, which may have been responsible for this situation. However, they had been around long enough to raise at least some awareness, particularly between potentially interested parties. How this was often not the case was shown by how, this same participant, found it difficult to disseminate information about the course to others, as her own awareness of its particulars was limited.

People just assume it's just a normal degree. I don't know how to expand on it, because I don't actually understand what a foundation degree is.

(P1, graduate)

This was not exclusive to FDs for pharmacy technicians:

I think there is a bit of misunderstanding. I think some think it's a degree course. [] Most people that I know that are doing a foundation degree say in education or in business management, or whatever, they say 'I'm doing a degree', and then I say 'Oh, is that a foundation degree?', and they go, 'Yes, it is.'

(P12, course delivery)

This situation of lack of awareness highlighted how these courses should have been subject to improved marketing practices and that better advice and guidance should have been

given to students prior to enrolment; the fact that these marketing practices were not generally in place and in-depth information not always available was consistent with the finding of previous research in other FDs. ⁽²⁰⁶⁾ This research showed that, in a sample of 20 FD courses across five employment sectors, very limited information was accessible to students and employers about these programmes, causing dissatisfaction and misinformation.

How marketing should have taken place was debated by the participants in this project, and a variety of views expressed. Clearly, students and graduates from a FD should have a good understanding of the qualification and teaching institutions should be responsible for ensuring that this takes place. The fact that universities could be more proactive in disseminating information about these courses was raised by several participants, for example:

If you don't have any marketing strategy to market your course, and go round and look for people who are the sorts of people you think would be interested in this, [] then people are never going to sign up to your course, because they don't know it's available. (P3, course development)

While universities could do more to promote this qualification, a study on the impact of 55 FDs showed that they are still the main source of information on these programmes. ⁽²⁰⁵⁾ This study gathered the views of 184 respondents and found that the guidance they received prior to enrolment was mainly provided by teaching institutions. It could be argued that FDs are designed in conjunction with and to meet the needs of employers. This being the case, employers would be better placed to promote courses to their own workforce. Marketing initiatives from universities were thought by the participants in this research to have limited effects, as it was employer endorsement which was key to the promotion of these courses. The fact that employers were not promoting FDs, limiting the effectiveness of other forms of marketing, was explained by some participants in this project. For example:

P25 It is just being kept quiet, people who know about it do not promote it, do not tell technicians that is, is there.

In the future, it would be expected that graduates who become employers, can potentially be important recruitment agents helping to overcome this issue. In any case, it was apparent that traditional marketing strategies that target potential students and aim to capture employers' interest were insufficient to promote these courses; thus impairing increased engagement and student numbers. This would explain, in part, the trends of low uptake within these FDs. A 'holistic' approach to marketing, based on disseminating information about FDs to all members of the pharmacy team, as stated by the graduate below, was considered necessary:

I think more perhaps needs to be done with educating the whole [pharmacy] department about the value of the Foundation degree, and I think that is, I feel that's quite important. (P2, graduate/employer)

In any case, these findings show the importance of ensuring that as many people as possible, particularly service managers, training leads and fellow pharmacists, are well briefed. One way to facilitate this would be to engage employers, key policy-makers and decision-makers to disseminate information amongst their peers.⁽²¹⁶⁾ While this would be very effective in ensuring a 'holistic' approach to marketing, it has been shown to be a major challenge for current higher education providers in general. This is thought to be caused mainly by lack of efforts being made in the workplace.⁽¹⁹⁰⁾

To reach the people in the workplace that would need to be aware of FDs was considered difficult. A reason behind this is pointed out by the following participant who thought decision-makers did not want a FD to be a vehicle to provide employees with another job:

P14 It almost feels like they do not want to know, and don't want others to know, because they [potential students] may think these are good courses and people would want to do them [...] and have better jobs.

Further discussion on this view can be found in Sections 4.2.2 and 4.4.2.

One interesting insight provided by participants was that there was generally a lack of careers' advice available for pharmacy technicians, making it difficult for this group to find

resources for their professional development. This may have been because people were expected to stay within the same role, or because when this role would change, this would be initiated by the employer, rather than sought after by the pharmacy technician. While FDs were relatively novel, different forms of training programmes for technicians have always existed, and information about these seemed no more accessible than that on FDs:

If you were a new pharmacy technician, em, we currently have, say, you know, I qualified yesterday, there is no real guidance on what next steps are and how to progress your career. Em, not even really from, er, the Association of Pharmacy Technicians. So where do you go, where do you go to for careers advice, and where should go next, what you should do, how you should develop yourself? (P1, graduate)

It could be thought to be part of the role of the RPSGB, the APTUK or training departments to provide some form of careers advice. However, as one participant suggested, the issue may be more complex than the practicalities of providing information.

P25 It's almost as they intentionally hide it away, pretend that they don't know, in a way that is malicious.

This is discussed in more depth in Sections 4.2.2, the value of the qualification, and 4.4.1, professional status. Holistic' marketing and the presence of FDs on careers advice, for example in the forms of leaflets or course brochures, were two important factors that affected awareness of FDs. It was also found that people would not openly talk about FDs. This interesting view was articulated by several participants, who shared how, when awareness existed and information about these courses was available, this was simply not discussed. For example:

Someone saying 'I want to do the foundation degree'. I've never heard that sort of talk. (P13, employer)

One participant explained how it was only the people enrolled in an FD that would talk about the course:

I work in lots of different areas of pharmacy, and I don't hear of it [the FD] a great deal. I have to be honest. It's really the students that I come across who are already doing the FD, they're the ones that are talking about it. I don't hear others particularly asking about it. (P4, student)

The reason that prevented information sharing regarding a FD was the same as that preventing more efficient careers advice for pharmacy technicians. This related to the established structure of the pharmacy team, where pharmacy technicians' development seemed controlled mainly by their employers.

I think it's [the FD] may be kept a bit quiet, because maybe it's not needed completely for the workplace. (P13, employer)

However, it can be argued that the reasons above prevented employers from disseminating information about FDs, but they should not prevent pharmacy technicians' talk about these courses. One explanation for lack of presence in the discourse among technicians, provided by several students, could be that some of these themselves also felt threatened by colleagues who could chose to further their skills and knowledge through this route.

I was going to start it [the FD] once before, and she [education lead and pharmacy technician], well, virtually talked me out of it, you know, [...] and it was all because she felt threatened that I would get this degree and she wouldn't. (P25, student)

While in the two previous factors affecting awareness of the FD, marketing and careers advice, technicians were passive recipients of information, in the case of the absence of FDs in their conversations, they played an active role, becoming what could be an even bigger barrier towards achieving a better awareness of the FD qualification.

4.2.1.3 Summary of theme findings

This section has focused on the awareness of FDs, which is a stepping stone to any possible recognition of this qualification. It has been established that there is a widespread lack of awareness of all aspects of what a FD for pharmacy technicians is; marketing practices are insufficient and finding information about it is difficult. Moreover, the whole subject of the FD is kept 'quiet', and mostly talked about by those already taking part in one.

The importance of general awareness for the success of this qualification was highlighted by all participants, with one explaining how this had been the main reason behind the failure of one of these programmes:

If marketing had been involved, if more people would have known about the course, and exactly what the course was about. And they didn't. If you were to ask technicians more locally, they didn't even know the course was available. (P3, course delivery)

Awareness is crucial for preparedness of the market, as increased awareness leads to information seeking which can lead to increased participation. It could be argued that this lack of awareness is not only related to dissemination of information but the situation of the current pharmacy workforce market, which is possibly not prepared to accept this qualification. This could be due to the fact that the qualification's main purpose, which is to develop enhanced pharmacy technicians' practice, has been, and still is, achieved by other means which are considered more resource effective. In this scope, the 'head in the sand' attitude referred to in the first quote of this section would seem more intentional than it first appeared. This would also explain why pharmacy technicians themselves contribute to the qualification being 'kept quiet', almost as if they want to develop through other ways that they perceive as being less demanding. The characteristics and dynamics of the process of pharmacy technicians progressing in the workplace further explained why this lack of awareness exists in the way described here. Further discussion on these aspects can be found in Section 4.4.

4.2.2 Theme 2 - The value of the qualification

4.2.2.1 Elements of the theme

When asked about their first impressions of the FD, all participants in this study stated that they thought they were ‘a good idea’, showing that they placed value on the qualification. Nonetheless, they had mixed feelings in terms of the extent to which this value was attributed by other people in the workplace. How FDs related to competence to practice and personal development, and the fact that it was a higher education qualification were the main factors associated with its value. How these concepts related to each other is shown in Figure 4.2.

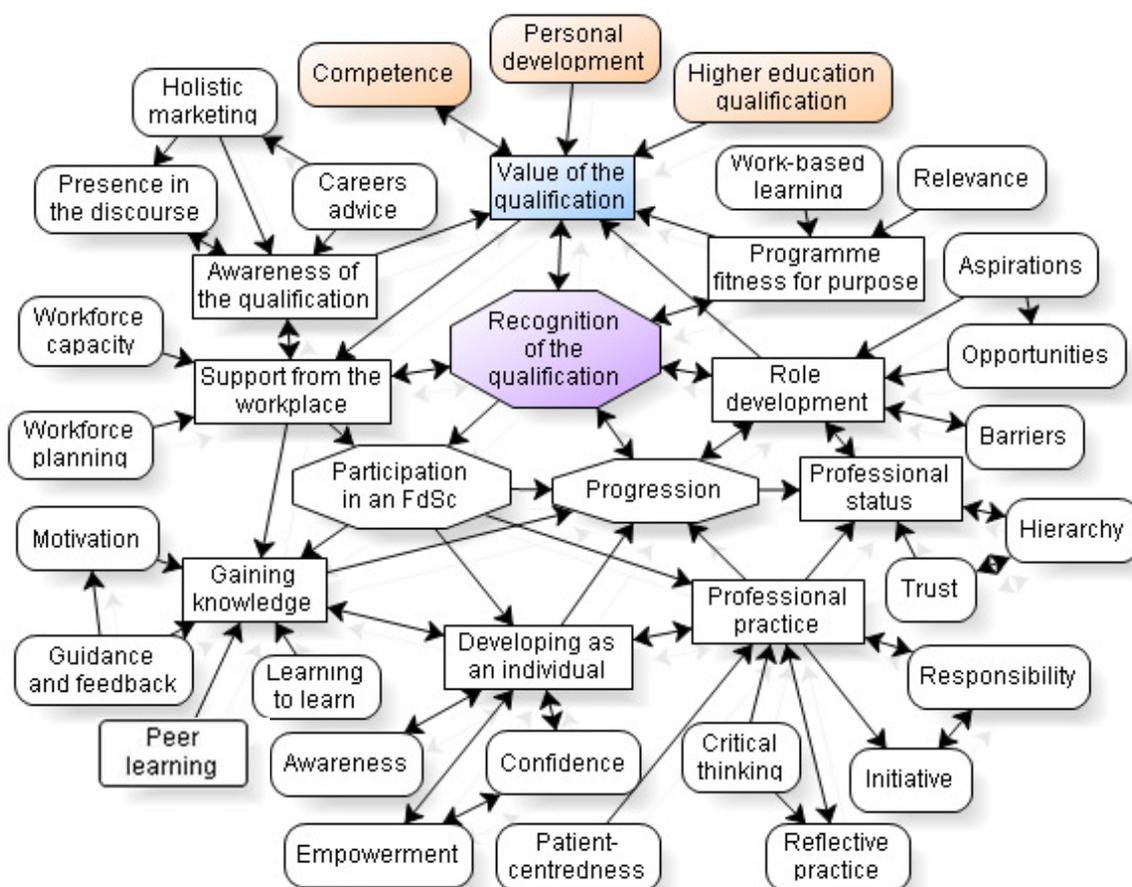


Figure 4. 2: Relationships between concepts in the theme value of the qualification.

4.2.2.2 Discussion of theme findings

The FD was considered a valuable source of skills and knowledge for personal development, as well as an opportunity to gain those.

It's nice to have the opportunity to take, er, your skills really, a little bit further. (P4, student)

I think there's a lot to learn from it. (P11, student)

This was possibly due to the fact that, when the FD was developed, there was little else available in terms of qualifications for pharmacy technicians.

There wasn't anything else really on offer at the time. (P1, graduate)

In this respect, the FD appeared to be filling a qualification gap, rather than to be a resource that people specifically needed. This would explain why, as one student described, the course was not always valued at the workplace.

P26 *Eventually it will be recognised. At the moment it's not really recognised other than being, 'Oh, just something she wants to do.'*

I would say, they [FDs] seem to be a really good idea to provide, em, further development of technicians. Em, there is only a query about how valuable that is seen by organisations, particularly within hospital, how valuable they see them over and above other training. (P2, graduate)

This exemplifies a typical trend which is that, unless employers can see a direct return from investing in training, they are sceptical about its value. This value can be difficult to show, since final results of education and training in some topics, for example leadership, communication, time management and so on, may be impossible to measure.⁽³³⁷⁾ In the case of the FD, this scepticism was found to be due to two reasons. Firstly, and as discussed

in Section 4.2.1, to the lack of awareness of the qualification, as the following quote illustrates.

P27 We've just had a Band 7 post that's been, been interviewed for, on Friday, and one of the desirable, er, criteria, is the Foundation degree in Medicines Management, which does make me laugh, because now they know that it's available, they've got a candidate on it, and they've decided, 'Oh, this might be a good thing to have this put into a person's spec for a Band 7 role,' whereas before I don't think they would have even considered it. So, I think the profile has been uplifted certainly.

The second reason found to be behind the scepticism of some was that not all pharmacy technicians' roles allowed enhanced practice, hence preventing the value of the course in developing this to be seen. This was demonstrated by the fact that where there was potential for implementation of this practice, the value of the personal development provided by FDs was acknowledged. For example:

I think it [the FD] is extremely valuable to primary care technicians because they're in a position to be given these extended roles; em, certainly in my position that would be good. (P4, student)

Now, there's lots of things going on around me, [...] and the technicians could be doing them, and that is my aim, my aim is that I'm going to be used to be doing some of these things, and I need some backing, and I need this sort of backing [the FD], to be able, for me, to push myself forward to be able to do them. (P19, student)

The presence of alternative, although restricted, training opportunities for providing 'competence' to undertake certain tasks, rather than personal development of pharmacy technicians, also limited the value attributed to a FD. This is consistent with a previous research project which showed that, when there were opportunities for a concurrent

professional accreditation, this was valued more by employers than the academic award. ⁽¹⁹⁶⁾ Although this study only included FDs provided by one HE institution (Kingston University), this situation is very possibly common elsewhere. The reasons behind preference for professional accreditations might lie in the fact that they could be achieved with a shorter course of study. In this case, the need to undertake a full FD was felt to be unnecessary:

It falls short at that point where they [technicians] get interested and then they're told, 'Well, no, we [the employers] don't actually see the... we don't actually see the point of you doing it'. (P14, student)

In this respect, it was interesting to note how pharmacy technicians felt they needed to show their value and their competence within the workplace. As one person highlighted:

I think that it's important, that even though we're doing it for ourselves, that we take it back to the workplace; because if we don't show our employers there is some benefit from us doing the course, then we won't be pioneering it for those that come behind us. (P26, student)

A FD was also valued by students for being a higher education qualification; how this contributed to the recognition it received was part of the discussions that took place in this project.

They're [FD graduates] just operating at a slightly higher level than the normal technician, and I just feel I'd like to be at that level. It's where I feel I work and I feel I need to be recognised for that, and I hope that the Foundation degree will, em, give me that, really - a little piece of paper to say, 'Yeah, she is at this level and she is competent to practise at that level'. (P4, student)

The above showed that a higher education qualification was useful at 'validating' competence and formalising experience, which has also been found in other forms of work-

based learning. In a study of 13 vocational programmes of different types including people in employment, when students were asked what motivated them to undertake a programme of work-based study within a range of different types of provision, one of the reasons commonly repeated was the value validating and formalising work experience.⁽²¹⁷⁾ Although this was a small scale study, it included programmes within eight Universities from different parts of the UK, which indicated that this situation may have been widespread. As one person taking part in this study and involved in course delivery explained how this was the case for pharmacy technicians:

Technicians that might be capable of doing something, actually have got permission to do it once they've got the Foundation degree qualification; so it actually validates their experience as well. (P12, course delivery)

This is important, particularly as much of the enhancement of this role occurs by giving technicians more responsibility and autonomy, while the accountability remains with the supervising pharmacist or employer.

I work very much alone, and I think he [employer] would be a lot happier if I had a certificate behind me to show that I was extremely competent in the role that I do. (P4, student)

However, opposite views were expressed, where it was thought that the value of the qualification was in the development and competence achieved, irrespective of achieving a higher education qualification. One person involved in course delivery explained this point:

I think the fact someone has a qualification doesn't automatically give them certain rights. But what I think it does is give them opportunities and a right to be recognised for what they're doing is the change in the individual – the competence, the confidence, the examples of the things that they've done. (P12, course delivery)

This view was shared by one employer, who expressed the same idea about how he perceived his FD student-employee.

Well, er, just because they've done, done a degree, doesn't make a scrap of difference. Er, what they have to do is demonstrate that in their work. It's about their, their competencies and their, their knowledge. (P5, employer)

This view was held by some students, who felt that the fact that a FD was a higher education qualification made no difference to how they were perceived; as exemplified by:

P26 And it's only being recognised for who we are and what we can do.

Lack of recognition of FDs within their own sectors and uncertainty of the professional standing of graduates showed that, despite FDs being thought by the Government to be a way to rationalise and enhance the quality of provision below honours degree level,⁽³³⁸⁾ this was not being achieved. In spite of this, some participants did feel that having this qualification gained them more respect.

But, em, it just meant that we had a qualification to say, 'Yes, we are competent at doing that,' and it's more respect from our peers, the pharmacists. (P1, graduate)

How FDs had an impact on pharmacy technicians' professional status and the place they held within the hierarchy of the pharmacy team is discussed in Sections 4.4.1 and 4.4.2.

The main reason identified behind this lack of recognition and FD students and graduates having to prove themselves, is that the qualification is not included in Agenda for Change,⁽⁶⁰⁾ the promotion and pay framework for NHS staff. One employer explained how he believed this was a barrier towards FDs being fully valued as higher education, and having a recognised place within individual career structures.

Em, I think what the, the limitations have been that, when you're reflecting on it, it's not recognised in Agenda for Change, and it tends to be, em... in fact, I don't think foundation degrees full stop for anyone are recognised; it tends to be looking at things at degree level, for example. (P8, employer)

4.2.2.3 Summary of theme findings

This theme captured the different views around the value of the FD, which had important repercussions for the qualification to be recognised. Value was found in providing personal development, but this was not universally the case in terms of the development of competence, for which less demanding routes, where they existed, were preferred.

While a FD was seen as a useful way to further skills and knowledge, when these went beyond those needed to carry out specific tasks, to what extent these skills and knowledge were needed, or even desirable, was questioned. This may be caused by the qualification providing, in some cases, education which is ahead of practice, leading to a 'chicken and egg' situation. While it could be argued that without the necessary skills in the workforce, practice cannot move forward, some are of the opinion that until there is market preparedness for these skills there is no rationale for providing them.⁽³³⁹⁾ In any case, and as explained by one participant, it is the value attributed by employers what would be central in this process:

I think we are very much driven by what the employer wants, which was the whole basis of it [the FD]. If employers turn around and say, 'Yeah, we've been there, we've looked at it. It's not really what we want. We don't think there's a future for it,' then there won't be a future.

(P7, course development)

Opposing views in terms of how the value of the qualification was affected by the FD being higher education were found. Some subject the FD as a vehicle 'certify' quality assured knowledge, while others thought that this made no difference. Nonetheless, until general awareness of the scope and depth of FDs is achieved, it is unrealistic to expect that they become valued qualifications, especially in the workplace, where outcomes in terms of increased productivity are the measure for value of new interventions.

4.2.3 Theme 3 - Programme fitness for purpose

4.2.3.1 Elements of the theme

FDs for pharmacy technicians are qualifications which aim to deliver workforce development. It is not surprising then that people who took part in this project felt that programme fitness for purpose was an important feature for the qualification to achieve recognition. Two factors were considered determinant to this fitness for purpose: relevance to skills needed and work-based delivery. These would enhance an individual's capabilities while allowing them to stay in employment. How these concepts related to each other is shown in Figure 4.3.

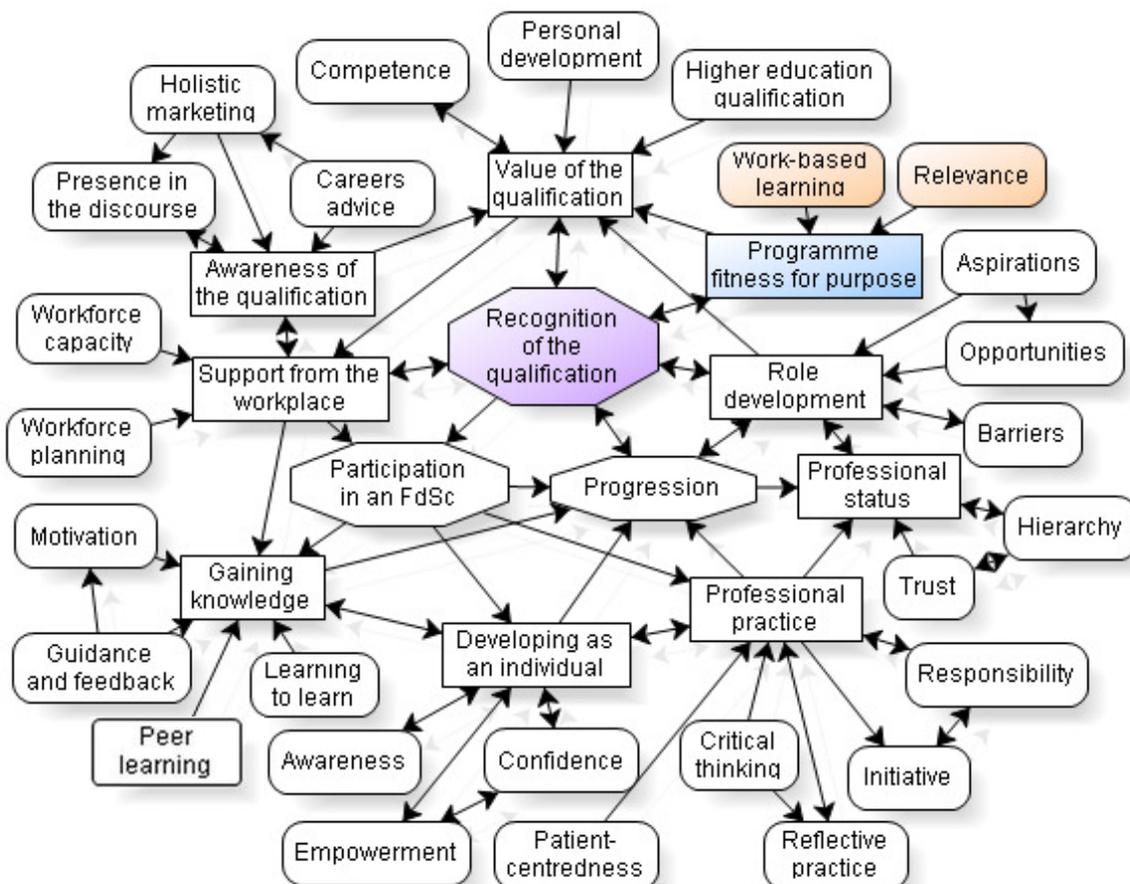


Figure 4.3: Relationships between concepts in the theme programme fitness for purpose.

4.2.3.2 Discussion of theme findings

As it may have been expected, FDs were considered fit for purpose by those involved in their delivery. For example, one participant stated that they provided useful skills:

We are producing, em, technicians with standardised skills and knowledge to be able to perform at a good level in practice, in perhaps roles that they would never have been able to do three years ago. (P6, course delivery)

This is important as when planning and implementing effective professional education, this needs to meet the needs of students.⁽³⁴⁰⁾ Relevance of skills and knowledge has been central to FD programmes being considered fit for purpose. This was the case in a national study based on a dimensional survey of fifty-five FD courses,⁽²⁰⁵⁾ which looked at the reasons why students at different stages, choose to study on a FD. The sample included reflected the national pattern of delivery in terms of region, subject area and provider institution, and its results, in addition to being consistent with those found in this project, can be thought to likely represent what would generally be the picture within the FD qualification as a whole. In terms of the FD under investigation, examples were given by students on how the topics covered had been useful:

P28 Therapeutic drug monitoring was really relevant for me...

This was also consistent with findings in the literature that showed FDs are generally, well planned and syllabuses are relevant to employment.⁽²¹⁹⁾ Relevance was found in the course under research for all settings of practice, due to its flexibility, which enabled people to meet their own learning and service needs. An example of this can be found below:

P21 That's what is nice about this, em, course is that although there's a basic structure, you can tailor it to your workplace.

On the other hand, while this relevance was acknowledged by students, these also raised the issue that other stakeholders, particularly employers, did not always see it.

I heard one of the chief pharmacists say, 'Oh, [...] these Foundation degrees for technicians, what use is it?' Having said that, I've found that this has been really useful, because it has directed my work. (P27, student)

How the students themselves would be in a good position to change this perception was highlighted and taking the skills back to the workplace was actively encouraged by the course team, who asked students to transfer and apply their academic learning to their practice and *vice versa*.

We were encouraged to pick up skills around our workplace. (P1, graduate)

I think actually, it [relevance] is actually encouraged by the practice based tasks that they [the students] are given to do. (P12, course delivery)

How relevance was central to meet employers' expectations was described by this participant, who believed course content should be directed by the needs of the workplace:

I would expect it [the FD] to deliver what was needed [...]; it wasn't just something that, em, the course leader was experienced in and liked to teach in, or that that region was good at. I think it needs to be driven by what the workplace and the workforce need. (P13, employer)

Liaison of academia with employers was suggested as essential to ensure this relevance, although this was found to be challenging. Tensions between academic and workplace viewpoints were reported in this project, which were consistent with the findings of a number of other studies of different characteristics.^(146, 170, 172, 201, 341) For example:

A foundation degree is what the employer wants, at an academic standard that is appropriate for the award of a degree. And I think, initially, when Foundation degrees were designed, across the board, there was some misconception that employers saw them as certificated training courses, as opposed to academic qualifications. (P7, course delivery)

Employers were also aware that different viewpoints within the different types of organisation could exist, and reiterated that integration between the two should take place:

We wanted to see is that there wasn't a separation between academia and service.
(P8, employer)

There is no question of the value of academia and employers working together, and that there is increasingly a shift towards work-based learning inclusion in higher education. Achieving integration of the work-based and academic elements has been found to make this approach more resource-intensive than traditional forms of delivery. Work commissioned by the Higher Education Academy on the 'state of play' of work-based learning in higher education ⁽²²⁰⁾ found this to be a significant challenge for institutions nationwide. A smaller, more detailed qualitative study on ten FDs, ⁽¹⁷⁸⁾ also led to these findings when looking at factors which influenced 'successful' FDs.

The resource-intensive nature of FDs, brought about by the need to integrate work-based and academic elements, paired with the fact that the content needs to be constantly updated may have contributed to tensions reported:

I think whoever's delivering it [the FD] needs to keep up to date with loads of current issues with regards to pharmacy, and, and to make sure you're ahead of the game, really, to make sure that we're not teaching old stuff.
(P2, graduate/employer)

A FD for pharmacy technicians is a work-based course, which encourages currency and provides a mode of delivery that was also considered an important factor for the programme to be fit for purpose and adding value to the qualification. This was due to its links to the requirements of people's jobs and to learning for work and through work. ⁽¹⁵¹⁾ Work-based learning can be considered a dynamic and unfolding process where the learning derived from the workplace is at the heart of the individual's development. The learner is placed at the interface of the two settings, the workplace and the classroom, exploring work-focused and work-related issues in the context of university knowledge, scholarship and values. ⁽¹⁴⁸⁾

4.2.3.3 Summary of theme findings

In order for the FD qualification to be considered fit for purpose and achieve recognition, it was considered that relevance of the content and the fact that it was work-based were essential. It is early days for work-based higher education at this level, but increasingly, academia is looking at developing capabilities in addition to providing knowledge and critical thinking skills. A FD course represents an innovative approach to achieving this and teaching and learning within its context was found to be demanding and require constant change. Within the work-based delivery, experiential learning or learning through work was considered essential, as it enabled students to apply and develop new learning within the context of their own individual practice.

The flexibility of its work-based elements added to its value and enabled it to be fit for purpose in a wide range of cases. This is illustrated by the quote below:

The students identify what their learning needs are with any subject, how they are going to meet those needs, and then they demonstrate how they've done that. So there's quite a degree of flexibility that actually can match the student's particular environment. So it doesn't matter what the environment is, it [the FD] does match it. (P12, course delivery)

4.3 Category 2 - Participation in a Foundation degree

In addition to perceptions of the recognition of the FD as a qualification, this project gathered views on the experience of being engaged with one of these programmes. This experience was described in relation to four themes, as shown in Table 4.2, which are discussed in the following section of this report. Themes within this category were particularly significant for students and graduates, whose experience was at the centre of many of the discussions taking place. Other stakeholders did comment on their experience of taking part in a FD but less significantly so.

Category	Themes	Concepts
Recognition of the qualification	Awareness of the qualification	Presence in the discourse
		Holistic marketing
		Careers advice
	The value of the qualification	Personal development
		Competence
		Higher education qualification
Programme fitness for purpose	Relevance	
	Work-based learning	
Participation in an FD	Support from the workplace	Workforce capacity
		Workforce planning
	Gaining knowledge	Motivation
		Learning to learn
		Guidance and feedback
		Peer learning
	Developing as an individual	Awareness
		Confidence
		Empowerment
	Professional practice	Patient centredness
		Reflective practice
		Critical thinking
		Initiative
Responsibility		
Progression	Professional status	Hierarchy
		Trust
	Role development	Opportunities
		Barriers
		Aspirations

Table 4.2: Themes and concepts in the category participation in a FD.

4.3.1.2 Discussion of theme findings

Students agreed that having support from the workplace had a marked effect on both the process of enrolling and the experience of participating in a FD. When this support was present, it was coming from individual ‘champions’, rather than the organisation as such. How these ‘champions’ had been crucial was discussed by several students from different settings.

P26 I think if it hadn't have been the person that was my facilitator and mentor at the beginning, I wouldn't be on it [the FD] now.

I certainly wouldn't be the person I am now had [manager's name] not said to me, you need to do this. (P9, student)

Often this support was lacking, with people having opposite experiences. Modest levels of support from employers and supervisors were also found in a study of certified pharmacy technicians in the US,⁽³⁴⁷⁾ where a self-administered survey was mailed to a sample of 3,200 individuals. Of these, only 56.5% agreed that their perceived employer support was adequate. While this study was undertaken in the US, where there is wider representation of technicians in the community setting than in the UK, and requirements of minimum education and training are more lax, this is indicative of the approach this profession takes to promoting development within this part of its workforce. However, it has to be noted that of the 3,200 surveys mailed, only 1,004 were returned, which make the results indicative but inconclusive.

Support from the workplace was found to be important for taking part in a FD for pharmacy technicians; people involved in course delivery agreed with this, and believed lack of encouragement had been a determinant in the limited uptake within these courses:

They haven't found the support that they would need from a, from a tutor who says, 'Oh, yes, go for it. That's fantastic.' (P12, course delivery)

While the ‘champions’ and individuals who discouraged others from enrolling in a FD were common, they were not found to be from a consistent group of people. Both attitudes were reported to have existed in individuals who occupied a range of positions, including employers, colleagues, pharmacists and other pharmacy technicians.

In some cases, lack of support was thought to be caused by the limited capacity within pharmacy departments, which had to reconcile the needs of the student as a learner with providing demanding pharmacy services:

We’ve got two [students] in year two, em, and it’s only because we’re four short of staff that nobody started year one. (P11, student)

Staffing issues are common in the NHS and in this case they are clearly having an impact on education and development made available to employees. It could be argued that FDs are work-based programmes and that this minimises the need to release pharmacy staff,⁽¹¹⁴⁾ hence where capacity is limited, this would not be so much of an issue. Nevertheless, it should be noted that while work-based programmes such as FDs are flexible, opportunities within the student’s working day must exist for them to focus on their learning.

How limiting the support for people to develop through a FD could be a case of false economy, was discussed by a group of students, who explained how their increased skills in the workplace led to clear time savings and larger work capacity without additional staff:

P14 The fact that you could reduce the workload [...] if somebody got in there at the beginning and sorted it out ...
P14 ... rather than sort of like at discharge.
P15 That’s the whole point.
P14 Exactly, but then our department’s saying, ‘But we haven’t got the staff to send out to train’.

Time constraints have been reported in the literature to be a key inhibiting factor for workforce development within pharmacy⁽¹¹⁴⁾ and employer engagement with FDs.⁽³⁴⁸⁾ Due to the fact that no systematic study exists on how this issue may in reality affect the support provided from the workplace, it is unclear if time constraints were real or perceived causes. Lack of time has also been considered a major barrier to extending the role of pharmacists, with this perception going back on time for over a decade and affecting pharmacists outside the frontiers of the UK.⁽³⁴⁹⁾ Extending the role of technicians would enable pharmacists to spend more time undertaking more complex tasks, as is described further in Section 4.4.2; this would support them in the enhancement of their role and also justify the view that time savings can be achieved by providing education and training to pharmacy technicians.

Time constraints due to staff shortages and unfulfilled vacancies were not the only factor preventing people from accessing a FD. It was reported that, in some cases, workforce planning was carried out without allowing sufficient time and resources to be invested in the education of technicians. Some organisations have been found not to be primarily concerned with long term objectives and associated training needs when doing workforce planning,⁽³⁵⁰⁾ but with dealing with the here and now. It has been argued that planning in pharmacy should take into account the whole of its workforce – with mounting evidence that technicians are supplementing or substituting pharmacists, they should be taken into consideration in any planning process of the pharmacy profession. Moreover, this being the case, it would make sense that employers show more interest in providing technicians with training and education. Lack of an active approach towards this provision has been observed generally, and not only in pharmacy, with one third of employers in the UK seeking little or no training at all for their employees.⁽¹³⁸⁾

Some departments are fantastic; they're very forward thinking; they're very, er, visionary. They want, you know, they can see that they need to train 'x' amount of technicians to have these extra skills to meet predicted targets in five years, to meet whatever the, the coming trend is. But I think a lot don't.

(P6, course delivery)

This view was held by another participant in this project:

They [managers] are so stressed out and worried about the whole, keeping the whole show on the road that actually being bothered to worry about technicians doing courses is just one thing too many, and they don't possibly see the merit in encouraging their technician population.

(P12, course delivery)

For pharmacy technicians working for the NHS this situation would contradict the principles of the NHS's self-defined nature as a 'learning organisation'. While attempting to enforce policy that promotes lifelong learning could be a way of encouraging support for FDs, it has been suggested that a more effective way to promote workforce planning that supports this should focus on showing employers its value. This was one of the findings of a study carried out by the Centre for Higher Education Research and Information (CHERI), on a sample of 20 FDs in five different employment sectors.⁽²⁰⁶⁾ While in contrast with the current study, this project involved programmes offered to prospective employees rather than existing ones, it is clear that in both situations the perceived value of the course was relevant, and in the case of a FD for pharmacy technicians, a determinant of the support provided by the workplace. Arguably, academia could do more to facilitate this value been perceived in this way by seeking further employer and sector interests through links formed for this purpose, or utilising existing ones; for example those built around post-graduate diplomas or placements for MPharm students.

Workforce planning was also found to be accountable for the opposite effect by preventing students from accessing courses. This was the case when it was thought that gaining additional qualifications could lead to a change of career:

There was little support from local hospitals. They didn't really want to let their technicians go [...], and it was a very real worry that they had – 'If we make them too equipped, they'll go off and be pharmacists'. That's exactly what was said. So it was almost like, I suppose, at the most extreme, keeping them down to keep them in.

(P3, course delivery)

While evidence shows that in-house developed talents are normally retained in the organisation, in the case of pharmacy technicians this would possibly not be in the roles they had at the time of enrolment in a FD, but as a result of their increased capabilities, in more senior ones. If technicians increase their capabilities and gain experience carrying out enhanced tasks, they would not longer fit the profile of the role with which they originally started their training and education; a promotion to a different post would in these circumstances make sense. This, coupled with difficulties in recruitment into students' original posts could be responsible for this effect. Nevertheless, appropriate planning needs to exist and, as explained by the following participant, this can maximise the benefits in terms of gaining skills and motivating pharmacy technicians.

For example, the previous Chief Pharmacist in [] recognised that this was a good way of empowering technicians, [he] had a specific strategy of getting technicians through the course. (P12, course delivery)

This same situation has been found in a study of the role of the Assistant Practitioner in healthcare, a support role to nursing staff, which found that there is a requirement for thorough workforce planning and service re-design to fully achieve the potential benefits of the role extension made possible by FDs. ⁽³⁵¹⁾ This study, the first undertaken on FDs in healthcare, showed how this would be the case irrespective of the sector of practice. Despite its designed been based on quantitative data collected inconsistently throughout several sites and three qualitative case studies only, it clearly pointed out to this been a key aspect of FD provision. In pharmacy, any strategy for workforce planning that were to affect pharmacy technician would need to also take into consideration how to better use of the skills of pharmacists. This largely increases the difficulty of this task, as not one, but two professional identities would need to be redefined. The potential impact of this on the dynamics within pharmacy departments is explained in Section 4.4.1.

4.3.1.3 Summary of theme findings

Support from the workplace is central to FDs, ^(205, 341) particularly as the workplace itself is the learning environment. ⁽³⁵²⁾ This centrality is relevant to both the process of enrolling in one of these courses and the experience of undertaking it. This was summarised by the following quote from one person involved in course development:

It does come down to employer commitment. If employers are committed to it, and are prepared to give the time and resources to it, then I think it will work. (P7, course development)

This study showed that the people taking part in this project found it challenging to secure support from the workplace. In the majority of cases, where support was found, this was the result of the commitment of 'champions' which could be employers or colleagues. In cases where workforce capacity enabled engagement with FDs, these 'champions' influenced workforce planning to enable time and resources to be dedicated to support FDs. In other cases, attending to short term issues and fear of losing the students once they graduated prevented this support from being available. It was noted how, when capacity was thought to be limited, this could be overcome by providing individuals with education, which would make their practice more effective.

Enhanced employer engagement with FDs could be the solution to overcome barriers to support from the workplace being available for students undertaking a FD. This would enable a long term vision of how services could be run to provide the necessary support for FDs and delivery of better patient care. It could be argued, however, that the benefits of this education may not outweigh the investment in resources needed to recognise. In any case, either academia or representatives from the workplace would need to lead on initiatives to discuss how this support is to take place to efficiently balance the needs and aspirations of both when it comes to workforce development.

4.3.2 Theme 2 - Gaining knowledge

4.3.2.1 Elements of the theme

Gaining knowledge and the process of doing so were very important in the discussions that took place with participants in this research. This would be expected due to the importance of outcomes of education in the context of work-based learning. Key concepts within this theme were motivation, learning how to learn, guidance and feedback and sharing knowledge. Figure 4.5 shows how people taking part in this project associated the concepts within this theme.

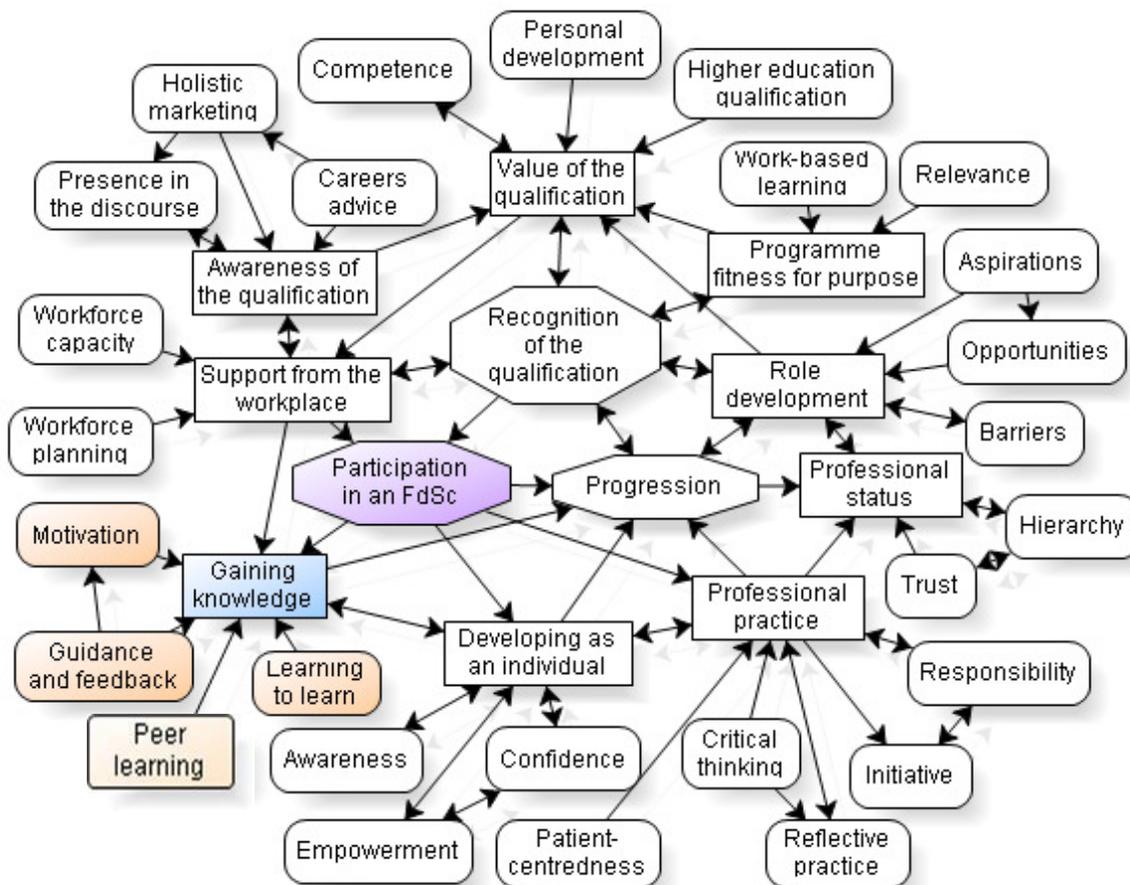


Figure 4.5: Relationships between concepts in the theme gaining knowledge.

4.3.2.2 Discussion of theme findings

The gaining of knowledge has been found to be the main and often the only driver for people to engage with the FD under research. Similar findings were arrived to by a project involving 55 programmes representative of the different subject for which these courses were available.⁽²⁰⁵⁾ While in this work other factors such as ‘career prospects’ and ‘to get a job’ also were relevant, a significant proportion of participants gave reasons as ‘to continue education’ (45%), ‘interest’ (25%) and ‘doing current work better’ (28%) as reasons taken into consideration when enrolling in a FD. Rewards, intrinsic and extrinsic, are necessary for change in individuals to take place.⁽³³⁷⁾ For the pharmacy technicians in this project, gaining knowledge was their reward as it was felt it enabled people to do a better job in providing patient care. This explained the importance attributed to the relevance to practice of the knowledge acquired through a FD for this qualification to be considered fit for purpose (as discussed in Section 4.2.3).

I chose to do it because I wanted to expand my knowledge, and obviously patient care really. (P11, student)

I think [to do a FD] you have to have a personal ambition to do well in your job, and have a real passion for Medicines Management. (P4, student)

One person involved in course delivery explained how she found this in students:

They're hungry for learning. Actually, I think, really, the big motivation is they want to know about stuff. (P12, course delivery)

Employers agreed with these views and realised that pharmacy technicians wanting to enrol in a FD course did so for the reasons cited above. For example:

I was very interested to see what their motivation would be, and, em, the most common reason was a desire to learn and improve their skills and to be better at their job in the workplace. (P8, employer)

This would be consistent with the literature, which shows that adult learners need to see how they can apply the knowledge they gain in order to engage in this process,⁽³⁵³⁾ and with the situation in other FDs, where students were the driving force behind the willingness of the employer to support them in engaging with a FD course.⁽²¹⁷⁾ Interestingly, the potential for an increased salary was not a motivator for these students, who did not think completing a FD would be of financial benefit.

*P14 So once I've finished it, that's it, I don't get any pay rise.
There isn't anything to gain from it from a ...
ALL Same with us.
P14 ... pharmacy point of view, but from a personal point of view
from the service that I would like to provide that I see a gain.*

Gaining knowledge and hence the ability to do their jobs better increased these pharmacy technicians job satisfaction, which was very important for this group. Evidence of a link between knowledge, competence and job satisfaction has also been found in a study using surveys and focus groups to gather information on different categories of pharmacy support staff in the UK.⁽³⁵⁴⁾ While this work looked at the perceptions of non-registered pharmacy staff exclusively in community pharmacy, it is indicative of what could be a trend of opinions by pharmacy technicians in general. This study concluded that high levels of commitment to, and enjoyment of, their work and customers was found between pharmacy employees, who took pride on providing a good service. In the case of the group of FD students under research, they had a common interest to develop beyond what pharmacy technicians would normally do, and this motivated them to engage in further knowledge gaining to experience increased job satisfaction. How this was seen as being the case was explained by one person involved in course delivery:

We do see a cross section of students on the course, but they're often people that want to make a difference, so they're prepared to go and see what's around and about. (P12, course delivery)

The motivation to do this course enabled people to overcome difficulties throughout the FD. As discussed in one interview, students needed to be self-motivated to gain this knowledge:

P30 *If you're not self-motivated...*
P26 *... you won't get, you won't do it...*
ALL *Yeah.*
P26 *... you'd just drop out, wouldn't you?*

This self-motivation was important, as for the students in this research, this was their first experience in higher education and, as such, they had to deal with gaining a whole new set of specialist skills and knowledge, alongside generic and study skills. They identified this process as 'learning to learn', which was an important aspect of their participation in a FD. Learning to learn was perceived as a daunting task by students in this – and also other work-based programmes^(217, 355) – where participants felt that the self-directed aspects of the course were difficult manage. This is consistent with the literature, which shows that students entering programmes of study without having learned the skills of self-directed learning will experience anxiety and frustration,^(345, 356) particularly in a work situation.⁽³⁵⁷⁾

In self-directed learning, students have the primary responsibility for planning, carrying out and evaluating their learning experiences;⁽³⁵⁸⁾ self-directed learning, as opposed to traditional forms of teacher-led learning, has been deemed to be dependent on personal autonomy, self-management, learner control and the pursuit of learning opportunities.⁽³⁵⁹⁾ In this approach, control shifts from teachers to students, with the former having the role of scaffold learning by guiding and directing students' own learning processes.⁽³⁶⁰⁾ For individuals, such as the participants in this study, who expect more traditional forms of

teaching and learning to be in place, adapting to this new approach could be difficult; preparation for this transition is an important critical factor for success⁽³⁴²⁾ as students do not necessarily understand or are not able to apply self-directed learning principles. This is exemplified by the following quote:

It's very difficult because we are all of the age where we went to school and we did work, homework, and had exams. So it's very difficult to go from that education to learning yourself and more touchy-feely education is what I call it, where it's all a bit hazy boundaries. (P1, graduate)

It may be that the students taking part in this work lacked the preparedness to engage with this activity, with preparedness understood as possessing both a motivational aspect and involved skilled behaviour.⁽³⁶¹⁾ As these students had motivation, it could be deduced that they lacked, at least to a certain extent, the skilled behaviour to do their own learning. The key difficulty identified with this is making sure that the 'right' topics are being covered at the 'right' depth. The topics, and particularly the depth, are what these students assumed that lecturers would take responsibility for. This expectation has also been found in pharmacists' diploma courses,⁽³⁶²⁾ which indicates that not only pharmacy technicians new to higher education, but also junior pharmacists, found difficult to adapt to self-directed learning. One solution to this problem found in the literature is to better define what to learn in the form of learning objectives, which should relate to an individual's practice and be negotiable.⁽³⁵⁵⁾ It is also recognised that students with the cognitive abilities but without matching learning skills need to be supported and assisted.⁽³⁶³⁾ In the case of work-based learners, this support must take place in a way that meets their specific needs; these will be different than those of the conventional full-time students. One must not forget, however, that it would be expected in higher education that is worthy of its name, that students encounter a degree of strangeness,⁽³⁶⁴⁾ and situations that make them feel unsettled and uncertain, which are caused by the proliferation of ideas or experiences to cope with. In this respect, self-directed learning assumes that individuals grow in capacity and need to be self-directing as an essential component of maturing, and that this capacity should be nurtured.

It considers that learners are motivated to undergo this growth by internal incentives, such as a need for achievement and satisfaction, ⁽³⁴⁵⁾ which were found in the participants in this project.

As academic progression and completion within the FD under investigation was comparable to that of FDs in general, it could be considered that an alternative explanation to lacking the skilled behaviour to do their own learning could be accountable for the difficulties of having to adapt to self-directed learning. In a study exploring available data on FD progression, completion and attrition, it was found that around one-sixth of enrolled FD students withdrew from their programme of study. ⁽³⁶⁵⁾ One -third of programmes had a withdrawal rate of over 30% and a small number recorded a rate in excess of 50%. With a figure of 23%, the programme under research could be considered as having a satisfactory completion rate, especially as this indicator is affected by additional factors such as mobility within and in and out of the workforce. It could then be argued that rather than lacking the skilled behaviour to do their own learning, the students involved in this research were affected by previous cultures of teaching and learning. These would first be the ones which were encountered at school, which were followed by those built around NVQs or BTECs; the latter considered by the author to be restrictive educational provision with narrow educational objectives. How people felt about this change in culture was expressed by several participants, for instance:

P23 I think it was a bit off-putting to start with that in the past, probably a long time ago, you were given a unit, you sort of learnt it, read it, learnt it, and then you answered questions on it. Whereas in this version, you seem to have to... you're not really given any boundaries, as such. It's, 'Find this out,' and then you think, 'Oh, [laughs], how do I find that out?' and you have to find your own way through it more than before.

This situation would be further complicated by the fact that this FD was work-based, and that people often find it difficult within their mindsets to view work as a context in which real learning takes place. ⁽³⁶⁶⁾

Nevertheless, students felt that they slowly developed into being able to do this learning:

P24 Sometimes you think, 'Oh, I wish I knew what I was supposed to be doing.' [laughs]. Sometimes I feel like I don't exactly know what I'm doing, but I have a go, and it seems to work out alright [laughs]

All in all, students did adapt to self-directed learning and saw value in this approach beyond more traditional ways of learning:

P21 I also think that traditional learning methods wouldn't help your confidence, whereas I think this possibly would.

P24 It's sort of like the guidelines are there, but it's up to you to go out and learn. You know, you're not actually being taught anything in parrot fashion, so you're going to retain more of what you've picked up.

There is evidence that self-directed learning leads to learning more deeply and permanently, ⁽³⁶⁷⁾ with reflexive strategies where learning evolves into a more complex, personal and deeper experience. ⁽³⁶⁸⁾ This deep learning would be in contrast with surface levels of processing, ⁽³⁶⁹⁻³⁷¹⁾ both of which have been much discussed in published literature. Deep learning involves the critical analysis of new ideas, linking them to already known concepts and principles, and leads to understanding and long-term retention of concepts so that they can be used for problem solving in unfamiliar contexts. Surface learning works on the basis of acceptance of information and of unlinked facts; not promoting understanding or long-term retention of knowledge. Surface learning has traditionally taken place within educational systems and is linked to a behavioural approach, whereas the modern concept of deep learning is associated with a constructivist approach, favoured in modern times. ⁽³⁷²⁾ Behaviorism assumes that a learner is essentially passive, responding to the environment, while constructivism as a paradigm considers that learning is an active, constructive process, where the learner actively creates their own subjective representation of objective reality. ⁽³⁷³⁾ In this context, for students which are familiar with traditional teacher-led, superficial approaches to learning, the change to becoming deep learners in a constructionist way can be difficult.

Possibly, for the reasons discussed above, students believed that guidance and feedback, in addition to motivation, facilitated the process of learning how to learn and ultimately, gain the skills and knowledge necessary to complete a FD.

P27 We can discuss and get the feedback and discuss how to change things and what to do. That's a huge difference.

This would relate to the role of the lecturer or mentor as one who facilitates scaffolding of knowledge and provides the guidance required for quality and successful self-directed learning. It was clear that having someone to provide feedback face-to-face was highly valued, considered more effective and improved the teaching and learning experience. For example:

P21 I think it was just all about what the criticism [feedback] that was given back because it was given in person is something that I'll probably remember for a long time.

P25 You could discuss it. It wasn't just written, written feedback. You were there to have a one-to-one conversation about it.

The value of face-to-face feedback was also found when evaluating the impact of re-designing a technician training programme at a Naval School of Health Sciences in the US, where changes in the curriculum and facilities led to more interaction between students and instructors, and in turn much greater satisfaction and less 'student downtime'.⁽³⁷⁴⁾ Also, a study exploring how students undertaking a professional programme developed emotional resilience found that the guidance and especially positive feedback were crucial as they enhanced the student's ability to re-frame difficulties or problems.⁽³⁷⁵⁾ Although this was a small scale project based only on a pre-registration nursing programme, it looked at how mature students adjusted to challenges such as that posed to pharmacy technicians in a FD, making its results to some extent transferable, and support anecdotal evidence that technicians feel the need for encouragement, which would also have a positive impact on gaining knowledge and overcoming difficulties. In the case of this research, it is still unclear

to what extent students had opportunities to get this guidance and feedback from the workplace, and why in some cases they were not more proactive in seeking these. As one group explained:

P25 I hardly go to my mentor at all, actually.

P30 All mine [my work] is on my own.

P27 I don't go to her either.

The perceived relationship between the student and the workplace as an educational setting is important, and has shown to be a significant factor facilitating or impairing progress. ⁽³⁶⁴⁾ Seeking guidance and support from people in the workplace, in addition to that received in the classroom, would help to build further links that bridge the workplace and the academic environment as the two domains of learning in a work-based course.

The limited interest in seeking feedback from the workplace could be due to the fact that students involved in this project built a strong community, where they enjoyed learning from each other.

P11 And we've learned a lot about each other, haven't we?

ALL Yeah.

P15 We do support each other.

One student explained how this peer learning was very important for her and how she valued the contact with her fellow students:

P21 When we get together, it all makes sense. I go away and I'm working on it, and I'm kind of confident that I'm doing it okay, but I just love when we meet up and, and I ask someone what they're doing, and it's similar to what I'm doing, and it all makes sense then.

Peer learning has been described as a way of moving beyond independent to interdependent or mutual learning. ⁽³⁵⁶⁾ There is the assumption that this peer learning – learning with and from each other – is an important aspect of all courses and without it students gain a less complete education. Peer-learning, alongside self-directed learning, has been cited as a key method by which to encourage the conversion to lifelong learners and helpful in the development of reflective practice and critical self-awareness. ⁽³⁷⁶⁾ The peer learning reported in this project went beyond involving the other people participating in a FD and extended to supporting those working with them in practice. As it was explained:

P10 I'm taking back what I've learnt and training other staff at my practice.

P21 My team, I would go back and say to them, 'Well, you know, have a look at this,' or whatever, things that I've done here [at University].

The motivation of students to gain knowledge to improve patient care explains their commitment to supporting others which would have a direct impact on this care. This is consistent with the literature, ^(220, 366) which in different studies and reviews shows emphasis on the value of peer group support for students engaged in work-based learning, not only in terms of what they gain for themselves but in what they provide for others. In the FD under research, peer learning took place in what has been called in the literature 'communities of practice'. These can be defined as groups of people who share an interest in something they do and learn how to do it better as they interact regularly ⁽³⁷⁷⁾ – following a constructivist approach, the learning that takes place is not necessarily intentional.

One of the aims of higher education is to facilitate dialogue among students and between students and those supporting their learning, in a way facilitating the development of communities such as this. Nevertheless, in this case and those involving work-based learning, the social interactions that take place have a strong bearing on people's experiences and the development of communities where people learn. Students must not only accept knowledge and guidance from other students, but also be willing and actively involved in sharing expertise and guiding each other. In the case of this research, the

exchange of ideas was not only in terms of points of view, but also in specific subjects and practices, relating this learning to activities that would take place in the workplace:

P25 We're all in different settings, so we're all learning from each other in that way as well, which is nice.

P30 Yeah.

P25 Because we're all professional people working in sort of a health situation, a health setting, so I just think that it's nice that you get different people's views on everything and how different people are working.

Constructivist learning in a 'community of practice' has a social character which is the result of gradually increasing participation in this community. This is in contrast to the behavioural assumption that learning is an individual process based on the reception of conceptual knowledge that is best separated from other actions. ^(377, 378) These communities provide environments for fostering informal learning and, while there is no consensus as to whether they can only naturally emerge or on the other hand can be cultivated, it has been mentioned in the literature that they develop around a certain activity or profession, such as pharmacy, and that shared professional identity is the glue that binds the members together. ⁽³⁷⁹⁾

This effect can be attributed to a culture where students were accepted by each other and their mentors and lecturers, and resilience was fostered, which can be thought to be the result of what has been called 'gift relationships', ⁽³⁸⁰⁾ a special class of socially constructed interaction that depends on reciprocity, trust and shared values, where people help and support each other outside the bound of self-interest. While it is uncertain what supports these relationships to develop, in this case it could be thought to be the challenges these people encountered and their unique new identities as FD students; collective trust in this situation must have been reassuring and comforting. The social space created by these 'gift relationships', alongside the dialogue that was taking place between students, opened up new possibilities and supported effective learning and the gaining of knowledge and development of skills.

4.3.2.3 Summary of theme findings

Gaining skills and knowledge to become better pharmacy technicians was the key motivator for people to enrol and overcome any difficulties found when undertaking a FD. While the students' learning experience was generally good, the majority of them had encountered difficulty getting used to self-directed learning and making their own decisions about how to engage in gaining the necessary knowledge. This was found to be caused by lack of familiarity with higher education teaching and learning practices and the change in identity experienced by the student. Once this identity was better defined, the value of self-directed learning was perceived by participants. Active guidance and feedback, especially face-to-face, were essential to guide the process of gaining and constructing knowledge, as it was the peer learning that took place between those involved in this project. This peer learning extended outside the boundaries of the course, and can be thought to be the result of the special relationships developed between the people involved with a FD. Cultural values had a strong influence in the dynamics taking place in peer learning and the development of communities of practice.

The complexity of gaining knowledge, personal to each individual, where all the previous factors were involved, is exemplified by the following quote from one graduate:

You put your own PDP down, you put own CPD down, and you actually look at what you're doing, and you think, 'Actually, doing quite a lot.' But if you don't look at it yourself and don't look at what you're doing, you can't sort of evaluate it. You can't reflect on it. And so I think going back through that process was quite useful – so the reflection and writing those up, which I always find I hate, but it's good for you to do it because I think it makes you think differently.

(P2, graduate/employer)

4.3.3.2 Discussion of theme findings

Development and changes in perspectives and behaviours beyond gaining skills and knowledge can take place as a result of studying for a FD. The following quote illustrates how one student, half way through her first year, thought she was facing situations differently:

P16 My friend said to me yesterday, actually, I was talking to her on the phone, that she feels that – we weren't necessarily talking about, em, the course – but, er, how she feels that I've developed in my communication skills. I will, em.... I won't be the last one to talk anymore. I will join in and, you know, start a conversation, whereas before, I wasn't always the first one to talk. So I suppose it's, it has made a difference in other aspects of my life as well.

This is consistent with the findings of the study on emotional resilience described in Section 4.3.2.2, ⁽³⁷⁵⁾ which also showed that development and personal reflection outside an academic discourse, which were beneficial at a personal and professional level, happened. In this investigation, this effect was reported to be significant, as one graduate reported:

The timid person I was in year one on that first induction day, is not the same person as I am now, and it's... before, I would back away from challenges, and now I might actively seek out challenges and contribute. Compared to where I was, to where I am now it's just amazing.
(P9, graduate)

For many students, increased awareness was something that the experience of learning through a FD provided them with, and the first change they thought to have undertaken. In some cases, this increased awareness was noticed as students realised they were better able to recognise their own learning needs.

P10 The more you learn, the more you know you have to learn. You start thinking, 'Oh god, there's so much out there'.

Also, knowing more about themselves as learners was facilitated, possibly as a result of learning to learn. As one student explained:

P23 I suppose you have to understand yourself to a certain extent don't you, what your own, as you say your own barriers are, understand why you look at something in a certain way, ... so you understand what's stopping you.

This form of reflection has been identified as the key to turning experience into learning,^(381, 382) through a process of exploration which arrives at new understandings and appreciations.^(381, 383) This could be the mechanism by which students' awareness was developed as a result of activities undertaken as part of their FD course: self-reflection brought about rising awareness as students were increasingly able to understand and apply reflective learning principles. How this increased awareness influenced ways of working was not clear, as changes in the individual were gradual and different ways of working were progressively introduced.

P25 I don't think my work has changed as much, it's just made me very much aware, and to look at things slightly differently, so maybe it has changed, yes.

P28 I'd probably approach things differently.

This awareness was often defined as realising when something was potentially wrong, even in circumstances where people were unable to establish what the exact issue was. This was felt to be useful in students' jobs and to make a difference in their workplace.

They [technicians] can go to the point where they can clearly recognise where there is an issue that needs addressing, and can flag it to, appropriately, to a pharmacist to deal with it. Em, so it's not just the sort of technical dispensing side of things; they should have a sufficient awareness to be able to say when working under a standard operating procedure, 'This is something that requires a pharmacist's input'.

(P7, course development)

In order to be able to identify and refer the need for an intervention, pharmacy technicians felt they needed confidence, and they universally agreed that a FD provided them with this:

I suppose it's not only the things that I've learnt, it's the confidence it has given me. (P9, graduate)

P14 From a confidence point of view it's, makes a huge difference.

P10 Yeah, definitely. Confidence, definitely yeah.

P27 Em, I feel far more confident about carrying out some of my daily duties, because after doing everything I was really sort of, 'Oh, no, maybe I'm no good at doing this at all,' so my confidence has improved and my knowledge has improved on how to deal with people and situations.

Students associated this confidence with having and being aware of their skills:

P19 Well you said that earlier didn't you, if you know your subject well then you can, it will roll; off the tongue easy wont it?

These skills and knowledge also gave students a sense of importance in relation to others in the pharmacy team, which in turn contributed to increasing their confidence further. The effect of the perceived status of pharmacy technicians involved in a FD is discussed in more detail in Section 4.4.1. The fact that, in some subjects, their skills and knowledge were believed to be superior to those of other colleagues had an influence on how pharmacy technicians perceived themselves. As one person involved in course delivery mentioned, some skills provided are more advanced than those of pharmacists:

I think they come out with some greater skills than pharmacists have got in some of those areas. (P12, course delivery)

This could have a negative effect on the way that people worked as team. Although generally this was not found to be a problem, one case was reported by a participant where excessive confidence had been observed.

It [the FD] gives them more confidence [...]. I think sometimes they can be a little bit, em – not cocky – but a little bit, you know, ‘I’ve done the Foundation degree,’ and, em... But it does, if it’s... it depends on the personality of the person.
(P2, graduate/employer)

In general, the increase in confidence was positive and led to people feeling empowered to contribute towards service delivery beyond what they felt they would have done before.

P25 You’re not shying away from things.
P23 That’s right.
P25 You’re ready to go and tackle something which you would never have done before perhaps.

P11 And it’s how you can change that, really, because it’s all these things we’ve learnt since that we know how to make that change now and how to be more, you know, proactive and do these things and be confident as well, and to be able to do it.

One participant involved in course delivery shared these views and felt this was part of the role of these programmes:

I think they feel very empowered by the Foundation degree, which is what they should do, because that’s what foundation degrees are supposed to do.
(P12, course delivery)

This was certainly an area of satisfaction for students, who felt they had developed attitudes towards job roles which enabled them to better use their new skills and knowledge to do more for their patients. The development of these attitudes was important, and an interesting finding of this research; little attention has been paid in the past to developing the right attitude through education (in addition to developing the right skills through training); in contrast, this has been done primarily, and largely unsuccessfully, through bonuses and information campaigns.⁽²⁰²⁾

4.3.3.3 Summary of theme findings

It is clear that the pharmacy technicians involved in this work thought that a FD had a positive impact on the development of some qualities and dispositions. As one person involved in course delivery believed:

P3 I think, em, from talking to the students [...], they themselves had said that it had made a huge difference to their life generally. They were much more knowledgeable, much more confident, and felt much more able to put themselves forward for things that they thought that at one time they would never be able to do, and now they find that they can. So, yeah, I think it has a huge impact.

How the process of developing as an individual takes place in the context of education is described in the literature, where this education is considered a means of personal growth, ⁽³⁸⁴⁾ which in the present study, was marked.

P20 Well, one of the things I've learnt is I've learnt something about me, and what I can do. I just feel there's a lot I can do that I couldn't do before, and, or I've got the confidence to that I couldn't do before...

This growth was caused by three main changes in pharmacy technicians: awareness, confidence and empowerment. They were intimately interrelated and present across the sample interviewed. The large increase in confidence reported led to pharmacy technicians being empowered to become more proactive and involved in their practice roles, with the increased awareness of themselves and situations around them facilitating this involvement and the overcoming of barriers found. While these changes were not unexpected by students, whose motivation was to gain skills and knowledge, they were welcome as they enabled them to improve the quality of the services they provided, utilising the knowledge and skills gained.

4.3.4.2 Discussion of theme findings

It was thought that a FD for pharmacy technicians led to a holistic development of an individual's professional practice, as one person involved in course delivery stated:

What the Foundation degree is producing is an all rounded, em, pharmacy technician as a professional. (P6, course delivery)

Unsurprisingly, patient-centredness was one area of professional practice that was enhanced by doing a FD. Since pharmacy technicians' main motivator to enrol in this course was to gain skills and knowledge to provide better patient care, the perception that participation in a FD would enhance this aspect of patient care would be expected.

*P23 You're looking at it [a task] from their [patients] point of view rather than dispensing their medicine, without a... you know, sending...
P25 Just giving them what they've been given a prescription for.
P23 ... filling that out, and then you're thinking, Oh, this is Mr So-and-So having his... I wonder how he's getting on with that,' you know, which is... rather than, 'Let's just get this out,' you know.*

This change was particularly obvious in the case of pharmacy technicians employed in primary care, possibly because their roles were not predominantly patient-centred.

P21 What it [the FD] did for me was made me think of the patient more than I'm used to doing. [laughs]. Because I send letters out all the time, em, informing patients of medication changes, and this allowed me to see it more from the patient's point of view, and it was a good thing.

Some students thought seeing things from the point of view of patients was important, not only to improve care, but because this would increasingly become part of the role of pharmacy technicians, and skills and experience on this would be necessary.

P21 I think that's where the future of technicians lies, really – you know, more face to face with patients.

It was also reported that a patient-centred approach to practice added job satisfaction. One graduate, when describing her career options, explained how:

Whilst this job they've offered is a lovely Band 7 and it's loads of money, it's not actually... it's not actually who I am and where I'd be happy. It's too much paperwork and not enough patient care. (P9, graduate)

A greater awareness of themselves and a more reflective approach to practice may have led to these views and the realisation that, as professionals, the identity of pharmacy technicians was that of front line practitioners. How this reflection on practice was taking place was expressed by some students.

P11 It's again what that chap said this morning, isn't it, about questioning.

P10 You tend to question things all the time.

P15 It's looking at why are they doing it that way.

It was believed that the FD teaching and learning activities promoted this behaviour, making people reflect more on what they did.

P22 I think, for me, sometimes you find yourself doing something and you can almost sort of like put yourself back in the room here and think, 'Oh, I should be saying it like that,' or 'Have have I done this?'

P19 Yeah. I've done so much reflecting lately, I feel like I've built a mirror around myself.

How reflection was becoming part of students' approach to situations, beyond an academic exercise, was found in the study of a sample of FDs within eight universities discussed in section 4.2.2.2 ⁽²¹⁷⁾ and was mentioned by several students in this project. For example:

P22 It [reflecting on practice] is spreading into everyday tasks, like, 'Had I done the shopping differently...'

Reflecting on practice was considered a valuable exercise by students, for example:

P22 I think it is, it is useful actually, taking that step back and looking, because I think everyone's, you know, we don't just, our job is not just our world, we have everything going on outside, you know, all our lives away from work and stuff like that, so it, it's nice sometimes to actually just sit back and think, 'What did I do today?'

Critical thinking has been reported to also develop as a result of undertaking a FD. This has been defined as the active, persistent and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it leads. ^(385, 386) As a result of this, instead of accepting established or imposed ways of working, students thought about what they were doing and why they were doing it in certain ways, considering different possible approaches to specific situations.

P15 It's made me see things really different.

P11 You tend to question things all the time.

P15 It's looking at why are they doing it that way.

P27 Yeah, definitely. Makes me, it's made me think more about what I'm actually doing as opposed to just trying to get information, and how I go about it is different now.

The development of critical thinking as an active process in this group of pharmacy technicians is a significant achievement of a FD, as this group of practitioners has in the past received ideas and information in a passive way from trainers, workbased tutors or managers. Gained skills and knowledge, in addition to the development experienced as individuals described in Section 4.3.3, could have been responsible for this more critical thinking. As one student explained, knowing more made them question more:

P19 You would clinically know perhaps more now, so therefore you would be questioning that more for, you know, better patient care, you know, with doses and all sorts of things that you may not have done at the beginning, you know, or before you did this [the FD].

Another reason why students questioned more what they were doing and what others were doing was the confidence and the empowerment that the FD provided them with, which made them feel they were entitled to doing so.

P14 I think it makes you, em, generally more inquisitive, even in simple things, [...] now you're looking at things and you're thinking, 'Oh god,' you know, 'Why have they written that, that shouldn't be' whereas before you didn't, [...] mainly because you were told that you don't need to think that way so much.

The fact that, in some cases, pharmacy technicians were not expected or allowed to question certain aspects of patient care, was discussed by another group, who also felt this was the case particularly in clinical tasks:

P23 It's really hard in a way being a technician, because we're always told that the pharmacists deal with the clinical side of things, and we deal with the not-clinical side of things, but when you've been doing this for a long time, it's very difficult to look at things not-clinically.

Issues to do with the hierarchy of the pharmacy team arose as pharmacy technicians' professional practice started to spread into doing things that had not been their responsibility before - this aspect is explained in more depth in Section 4.4.1.

Critical thinking was applied not only to direct patient care and clinical tasks, but also to other aspects of practice.

P29 I was interviewing for three Band 5 medicines management technician, and because of this course, I was able to sit down and think, 'Now, what do I want from these technicians?'

The FD intended to promote this behaviour, as explained by one person involved in course delivery, who believed critical thinking skills were embedded in the programme:

I think we're asking the students to be not quite so pragmatic, but more conceptual, so they don't just dive in with both feet, but they actually say, 'Okay, well, what's the evidence for doing that?' (P12, course delivery)

In addition to patient centredness, reflective practice and critical thinking, this study found that FD teaching and learning enhanced students' initiative and promoted them to do something about what they found that they could change. The fact that education sessions have an impact on empowering pharmacy technicians to change practice was also found in another study,⁽³⁸⁷⁾ where a survey of 216 pharmacy technicians taking part in a workshop showed that 102 (70.3%) of the respondents, had as a result of it put some learning into practice. Several examples where this had happened were found.

P11 All these things we've learnt make us know how to make changes now and how to be more, you know, proactive and do these things and be confident as well, and to be able to do it.

P10 [...] Before I would go to talk to a GP, I would just think, 'That's wrong,' and go to the doctor. Now I look on the computer, I look in the records to get all my facts, [...] whereas before, I wasn't doing that.

This increased initiative could be explained by an increased sense of responsibility that was reported to have taken place as a result of doing a FD. Particularly, graduates talked about this responsibility, how they felt they had to conduct their practice professionally, and how this feeling developed throughout the course. For example:

I think it's, it [the FD] makes you more conscientious as a technician, and it gives you more motivation to be conscientious for three years whilst you're doing it. Definitely. And then after you've got it [the FD], you feel a responsibility that, 'Okay, I've got that.' You know, it's important to – I don't know – to have this professional approach. (P1, graduate)

I would hope that being professional is what they [FD graduates] would do, because that is part and parcel of the course.(P2, graduate/employer)

4.3.4.3 Summary of theme findings

FDs for pharmacy technicians are qualifications which aim to enhance the skills and knowledge of professional people, and as such, the impact of the FD teaching and learning on professional practice was of great importance. Several elements necessary to underpin this practice were enhanced in students as a result of a FD and the application of these elements in their jobs enabled them to improve the way they worked and cared for patients. Patient-centredness was developed, especially in primary care pharmacy technicians, which added job satisfaction and was perceived as important for future practice developments. Reflection on practice was also developed as a result of engaging with a FD, which extended to day-to-day activities in addition to professional practice. Critical thinking, which had not been previously encouraged in the workplace, also started taking place and this, alongside the previous aspects mentioned and the development as individuals caused by the FD, led to pharmacy technicians taking more initiative and responsibility.

How, overall, improved professional practice was achieved was summarised by the quote of one graduate:

I'm much more focused and thorough. I was a little bit, no I was more than a little bit, em, unprofessional really, but that was purely because I didn't know the right words, I didn't know the right pathways. So now I am much more professional in how I conduct myself and my practice. (P9, graduate)

This would be an important achievement of a FD, which as a higher education qualification, is intended to develop qualities and behaviours,⁽³⁶⁴⁾ that make people think and behave differently as professionals.

4.4 Category 3 - Progression

Different aspects of the relationship between FDs and progression were discussed by the participants in this study. Progression in this context had the meaning of 'being able to do more' in the workplace and was related to the motivation to develop with the purpose of providing comprehensive care to patients. Two main themes were found to be relevant to progression: professional status and role development. How these themes and their associated concepts related to each other in this research is shown in Table 4.3.

Categories	Themes	Concepts
Recognition of the qualification	Awareness of the qualification	Presence in the discourse
		Holistic marketing
		Careers advice
	The value of the qualification	Personal development
		Competence
		Higher education qualification
Programme fitness for purpose	Relevance	
	Work-based learning	
Participation in an FD	Support from the workplace	Workforce capacity
		Workforce planning
	Gaining knowledge	Motivation
		Learning to learn
		Guidance and feedback
		Peer learning
	Developing as an individual	Awareness
		Confidence
		Empowerment
	Professional practice	Patient centredness
		Reflective practice
		Critical thinking
		Initiative
Responsibility		
Progression	Professional status	Hierarchy
		Trust
	Role development	Opportunities
		Barriers
		Aspirations

Table 4.3: Themes and concepts and themes in the category progression.

4.4.1 Theme 1 - Professional status

4.4.1.1 Elements of the theme

As reported repeatedly by people taking part in this work, FDs were seen to provide an opportunity to improve practice to further individuals' involvement in patient care. Progression, as defined by participants, was the ultimate goal, where the capabilities developed would be utilised and the efforts put into carrying out a programme of study rewarded. The theme of new acquired professional status emerged in this project as being important in these circumstances and was influenced by existing and changing perceived hierarchy within the pharmacy team; with an associated development of trust from other team members. Figure 4.8 illustrates how these elements related to each other.

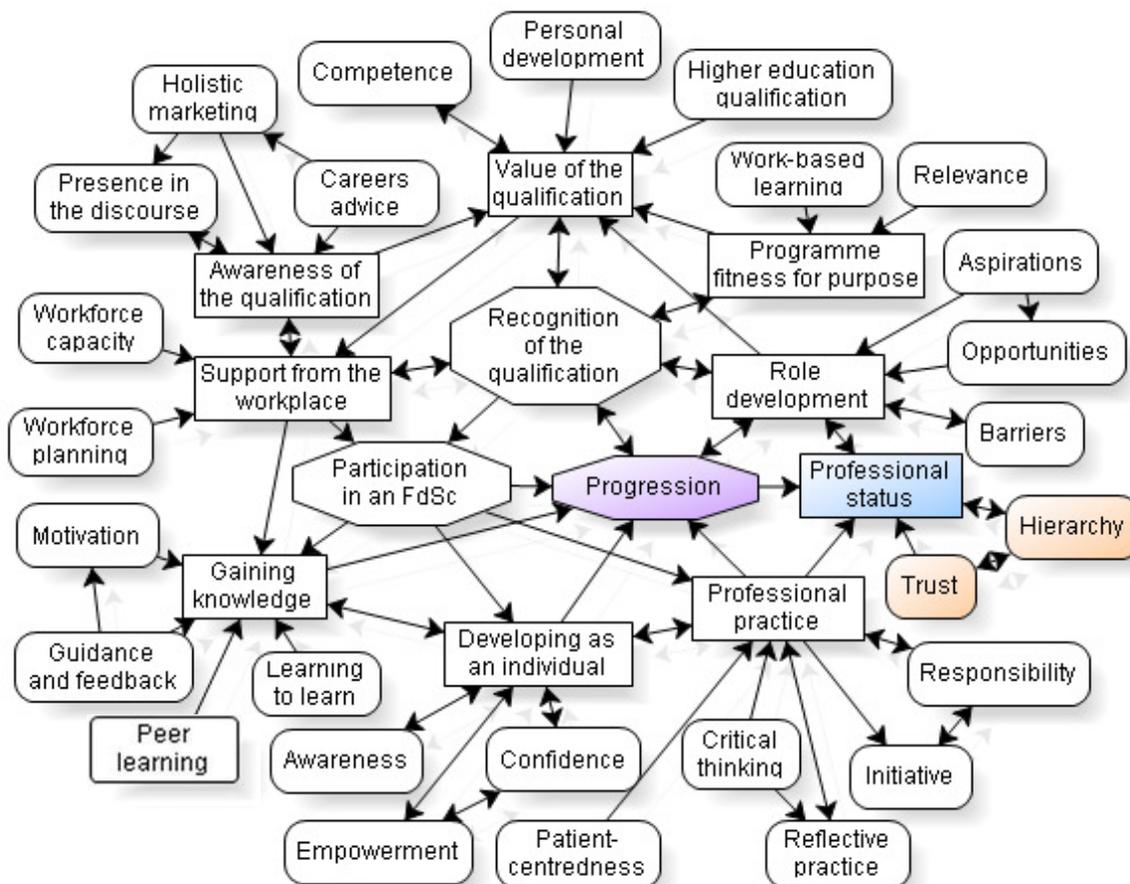


Figure 4.8: Relationships between concepts in the theme professional status.

Various participants described how they were disadvantaged when, despite having been accepted and respected for their knowledge, letting others know that they were pharmacy technicians changed their perceptions:

P21 I've taken my badge out in meetings and things, and people just won't assume I'm a technicians because I am [] manager. Before I was just not getting the respect, especially by community pharmacists.

Another instance of this was reported by another student:

P20 I spent all day chatting along with one pharmacist in a training day, and when over lunch he discovered I was a technician, just stopped talking to me.

This even had implications that prevented people registering as a pharmacy technician; one graduate taking part in this research thought that not being registered as a pharmacy technician would prevent her from being considered as having lower capabilities. Naturally, it would make sense that pharmacy technicians with an FD would prefer to be registered professionals, and that this would have the effect of raising their profile.

I wonder about being registered [as a pharmacy technician], I do not need it for my work and people would know then that I am a technician.

(P1, graduate)

Further discussion on how threats to the hierarchy of the pharmacy team obstructed role development of pharmacy technicians can be found in Section 4.4.2.2. Despite the tensions found, recognition and perceived increased status in the hierarchy of the pharmacy team led to increased trust by others. This was discussed by several groups and in one-to-one interviews.

P15 I think they show a little bit more trust perhaps. I don't know if 'respect' is the right word, but a little bit more trust in what you know and what you can do.

P14 Respecting your opinion I think.

This trust was important to persuade others to believe in the capabilities of technicians:

P20 This is enabling me to take those things forward, for people to have the confidence in saying, 'Well, yeah, okay, go for it. Do that.'

Examples of where this had happened, and how this trust was enabling people to be involved further in services included:

P22 I took that, ... that unit, and incorporated that into my job, after talking to the clinical pharmacist, saying and showing her what we'd done and showing her my case study, em, she said, 'Yeah, that's brilliant, get you access to the, em, monitoring service from pathology.' So now if I'm walking up on the ward with her, em, I will look at patients' results.

And another example:

She [a FD graduate] behaves very much like a clinical pharmacist, but she has had support and a champion, a pharmacist, has sort of, you know, cheered from her corner. (P12, graduate)

This trust, which was needed for pharmacy technicians to function effectively, was not easy to develop. How this was a lengthy process was explained by a graduate:

We had a discussion about job descriptions at the beginning [of a new job] and we decided that I would develop it as I went along. To be truthful, it's taken a year to develop that, and that's really about building...it's about building trust. The trust the GPs and the matrons and nurses slowly have in me, so they'll ask me to do something, report back, and they'll tell the other GPs and it's really taken a year for them to feel confident that they can leave medicines management in my hands. (P9, graduate)

This trust enabled pharmacy technicians with a FD to be valued, with their position in the hierarchy of the pharmacy team becoming slowly more settled. Time will be needed to evaluate how this situation evolves.

4.4.1.3 Summary of theme findings

There were mixed views on how FDs affected professional status, an important step towards progression within the workplace. While in some cases they were considered beneficial, in others the opposite effect was found. This was thought to be due to territorial tensions with others in the workplace and FDs challenging the existing hierarchy within established pharmacy teams. This hierarchy was found to be strongly linked to people's perceived knowledge with territorial tensions were found with both other pharmacy technicians and pharmacists.

In those cases where professional status was raised, increased trust in pharmacy technicians occurred. Where this trust was put in pharmacy technicians' practice, development of their roles was facilitated and took place, with them starting doing things that were previously outside the scope of their responsibilities or functions.

How the professional status was perceived to exist within these pharmacy technicians' practices is summarised by the quote below:

P21 Your perception is that the doctor knows more than you ...
P19 Definitely.
P21 ... would you say?
P16 Well the same as a pharmacist knows more than us.
P16 But then I don't feel the same between a pharmacist and a doctor. I don't feel that hierarchy isn't the same to me for some reason.

The place which pharmacy technicians studying or graduating from a FD occupy within this hierarchy will be dependent on how the qualification continues to be perceived and the uptake of individuals within these courses.

4.4.2.2 Discussion of theme findings

FDs aim to develop skills and enable individuals to carry out roles where they can fully utilise these skills. It would also be expected that this development was linked to better remuneration. While this project indicated that the first was being achieved, at least in part, salaries of FD students and graduates were found to not always improve.

Although this was not universally the case, there were examples where students' roles had extended with opportunities for utilising what had been learnt through a FD; for instance:

I now have an input into SEMMED [an NHS education provider], I have a supporting role on the PDT team. I have one GP practice that I have sole medicines management into into, and much more. (P11, graduate)

These results are consistent with what the situation was found to be elsewhere, ^(217, 389) with FDs providing professional benefit in the form of giving employees advantage when applying for senior posts.⁽²¹⁷⁾ Of particular interest around this subject would be previous work undertaken on knowledge-driven economy, and the concept of 'education for employment', ⁽³⁸⁹⁾ which are relevant to the subject under investigation. This work showed how vocational education such as FDs is having a positive effect on employment for those involved. It also showed that it generated new inequalities, which would relate, as reported by some pharmacy technicians, to the lack of opportunities encountered by some others to undertake a FD.

In any case, as one graduate explained, progression was taking place in terms of the care provided to patients:

From a personal point of view, obviously, you can, you can extend your role as much as you, as you want to within the department. Nobody is going to stop you providing a better service, are they? (P1, graduate)

How FDs enabled the progression of pharmacy technicians into more advanced roles was also recognised by some workplaces. The following student explained that this was the case within her employing organisation – a large district hospital.

P27 My pharmacist on the ward is like, 'You're so invaluable, we can't do without you on the ward, we really like the fact that you do this [the FD]' and when they're so busy you can go and do device counselling, and they really, they think that's great that I can go and do it, and they want me to persuade other people to change jobs. We have like a team briefing each week for the whole of the pharmacy, and in it it was like, 'We've got jobs advertised, please send this email link to all your friends [FD students], encourage them to come and apply for jobs here.

Similar opportunities were found in primary care settings, where enhanced skills and increased trust had led to pharmacy technicians being involved in activities for which they would have not previously been considered.

P20 People now ask me if the nurse practitioners or equivalent are busy, and if the clinical pharmacist is busy, they'll ask me to go to do home patient visits now.

Unfortunately, even where roles had become more complex, often remuneration had not progressed in parallel with responsibility. This was observed by students:

P14 Once I've finished it, that's it, I don't get any pay rise. There isn't anything to gain from it from a ...
ALL Same with us.

This has also been reported to be the case with pharmacy support staff, for which even when a requirement for a qualification was introduced, achieving it was not accompanied by adequate remuneration.⁽³⁵⁴⁾ This would be in contrast with most courses of study, which are thought to be to some extent, a preparation for the students' economic future. Although

this situation caused frustration, the lack of financial reward was not a deterrent to these pharmacy technicians expanding their roles:

Does that [monetary gain] give you more motivation every day? Does that give you something extra to get up for in the morning that you can't put money on? I don't think so. (P1, graduate)

Here, it emerged again how gaining skills and knowledge, as discussed in Section 4.3.2, alongside progressing in their roles to do more for patients, was the main motivator for this group of pharmacy technicians to engage in a FD. As one person involved in course delivery explained:

There's a reason they want to do it, and it's possibly because they want to do something different in the workplace, and this allows them the opportunity to do that. (P12, course delivery)

It was also discussed that some opportunities for role extension were not present within existing employing organisations, irrespectively of the lack of potential for improved remuneration. For instances, as one student discussed:

P26 It [the FD] is still regarded as 'something she wants to do'. I am not getting to do anything else, my job is not going to change, there is nowhere to go, really.

This view was shared by others in all the different settings of practice, who explained how they were aware of the potential lack of extension of their roles on graduation. Similar limitations have been found in a FD on Public Service Management, ⁽²¹⁸⁾ where it was common that students remained in the same employment undertaking the same tasks that they did before carrying out a FD. In the present research, this situation may be related to the high vacancy rate for pharmacy technicians (11.4% in primary care organisations and slightly lower in secondary care), alongside the belief that both settings are set to require

more of such staff. ⁽³⁹⁰⁻³⁹⁴⁾ In these circumstances, it could be argued that the need was for those pharmacy technicians to continue doing the jobs they were already doing.

It is also worth considering that pharmacy technicians undergoing a FD often occupy positions as senior / specialist practitioners (band 6 in AFC) or even advanced practitioners (band 7 AFC). This would make it very difficult for them to progress further as they are already crossing professional barriers prior to undertaking a FD. On the other hand, as a similar recruitment problem exists for junior pharmacists, it would seem possible that technicians could be recruited into these posts, which could also incorporate some of the responsibilities that technicians currently have. The benefits of this have already been shown in reviews on skill mix, where pharmacist shortages and services re-engineering had led to reliance on support staff for an increasing number of tasks. ^(390, 391, 395)

Different barriers were cited as impeding progression and the development of the role of the technician. Some of these were introduced by the characteristics of organisational systems in situations where the requirements of the workplace and the skills and knowledge of individuals would have enabled this development to take place. How technical tasks within pharmacy services took a priority and limited time available for other practices were discussed:

P15 I think that the problem with the hospital is the dispensary is the main focus.

This, paired with the limited capacity within some pharmacy departments (as discussed in Section 4.3.1), contributed to a situation in which maintaining the minimum services used most of the resources available.

P14 Everything is just about getting the work out.

P15 Yeah.

P15 Getting the patient home. They're not thinking about the bigger picture at all.

It was also found that, in some cases, territorial tensions with pharmacists prevented delegation and acted as a barrier for role development. This would be expected as it has been found that technicians can be considered a threat by pharmacists.⁽³⁹⁶⁻⁴⁰¹⁾ For example, one study looking at work patterns and CPD of 148 pharmacy technicians in New Zealand found that pharmacy technicians' aspirations and activities were perceived by some as challenging the traditional role of pharmacists.⁽⁴⁰¹⁾ This study also found concerns about pay rises on delegation of tasks to these technicians, similar to what it had also been found in the US.⁽³⁴⁹⁾

P16 At the moment, I was still, in some ways, I still find it hard to get work out of some pharmacists. They just don't want to give it to me. Whether they're frightened of losing their job, I don't know.

As seen in Section 4.4.1, role development of pharmacy technicians challenged the hierarchy of the pharmacy team by enabling this group to go beyond the traditional 'allowed' or 'desirable' practice. The fact that technicians have a more autonomous view of their roles than pharmacists was found in a project looking at dispensing in community pharmacy.⁽⁴⁰²⁾ This study surveyed through mail questionnaires a random sample of community pharmacists (n=2,000) and pharmacy technicians (n=2,000) in the US state of Florida in 2007. Participants attitudes regarding whether technicians should perform 26 community pharmacy dispensing functions were measured. The groups significantly differed on eight items, which related to patient care and extending technicians' responsibilities. Pharmacy technicians taking part in this study had a wider view of their responsibilities than pharmacists did, and supported a more expanded patient care role for themselves. Although this work was carried out outside the UK, the similarities in the dispensing process between the US and the UK would indicate that this could also be the situation here.

The view that technicians could see themselves doing more than their counterpart pharmacists has also been the subject of opinion articles, where it has been explained how education of technicians may lead them to seeing their role as complementary to rather than supportive of that of pharmacists.⁽⁴⁰³⁾ In this light, some tension would be difficult to avoid. Consequently, while some pharmacists are happy to free themselves of certain tasks

to concentrate on more specialist practice, where the possibilities of this are limited, the situation can be confrontational. It has been noted that pharmacy technicians can be instrumental to realising pharmacists' potential for more clinical roles, ^(397, 401, 404-408) but if they face difficulties in expanding these roles, it is understandable that they are reluctant to give up the traditional remit of their practice. Where the role expansion of pharmacists has been limited, fear that strong cost-containment pressures would lead to technicians taking parts of pharmacists' jobs without them expanding their roles has been reported. ⁽⁴⁰⁹⁾ It is unlikely that technicians will replace pharmacists as the Government and the public demand them to broaden their scope of practice, but it is uncertain what opportunities for them doing so currently exist in practice.

Nonetheless, tensions were also found with other pharmacy technicians, again as a result of issues of hierarchy. The explanation why they were a barrier towards role development can be found in the following quote:

P24 *They [other pharmacy technicians] may think to themselves, 'Oh, cripes, I might have to do some work later on'...*

P30 *Yeah, I've had that as well.*

P24 *... 'get to that, that stage,' and, 'That sounds like too much like hard work because I just want to come into work, do my dispensing, do whatever I want to do and go home.'*

With some people embracing advanced practice and some not, a 'second level' technician could appear, which would lead to resentment from those unwilling to change. As in the case of tensions between pharmacists and pharmacy technicians, employers had to manage these emerging between technicians themselves while attending to the demands of running a pharmacy department. This led to a situation where their support for role development of pharmacy technicians was related to the resistance encountered within their organisations. In general, however, they favoured this development; although they did not make it part of their public agendas or actively encouraged this to be so. The following quote exemplifies how this situation was approached, where the choice of words mirrored the attitude in the workplace.

hmm...progress. I don't want them to, to not, if that makes sense.

(P13, employer)

The situation was found to be further complicated by factors external to the organisation, changes in policy and strategic developments beyond the scope of pharmacy. The graduate below gave an interesting example of where one workplace had changed its views with regards to FDs for pharmacy technicians and the role development of these individuals:

The intention was to up-skill technicians to a point where they could use them for, instead of pharmacists, in practices. Then in [studying for a FD], when I got to about year two to three, we had a bit of a PCT shuffle and, which ended up treating technicians in a different way completely; it was back to, 'We must only have pharmacists in practices, and our technicians, we want them auditing, and that's it.'

(P9, graduate)

Other cases where pharmacy technicians' roles have been extended, and as a result of a change in management their activity has then been stopped, have been reported in the literature.^(403, 410) This shows how what it is considered to be the 'allowed' or 'desirable' practice of pharmacy technicians can change according to management changes.⁽⁴¹¹⁾ It was common in the interviews carried out as part of this project for participants to make reference to their aspirations. At the time of enrolling in a FD, these were vague, and related to progression and 'doing more'.

P19 I wanted to increase my knowledge with it [the FD], with a hope of it opening some more doors. [Laughter]

Despite any difficulties encountered, students remained optimistic in terms of what would be the situation in the future.

P21 This course, the medicines management is about future, you know. I see... I think that's where the future of technicians lies, really – you know, more face to face with patients, more... don't you?

More time may be needed for further opportunities to exist within service provision, and a group of students related this situation with previous developments of their role.

P11 Our roles have changed. I mean, like 20 years ago, we wouldn't be doing this ...

P15 We wouldn't be out on the wards, would we?

P11 ... or you wouldn't be out on the wards. We never did that. We just covered the actual pharmacy and that was it.

P14 You just literally would be dispensing.

How things are starting to change was expressed and the potential for services to evolve sufficiently to accommodate and need new roles described. The fact that this was the situation in primary care was mentioned by participants.

P21 But I think in primary care there will come a point where there will be technician lead clinics.

P23 You hear more and more of it don't you, yes, yeah.

Pharmacy technicians with higher qualifications have been reported to be able to help with the delivery of a wider range of services in community pharmacy. The concept of a 'pharmacist assistant' has emerged, and although it has not been properly defined, it was described as a role which would be undertaken by technicians with additional qualifications with a biological and sociological foundation.⁽⁴¹²⁾ Confidence also existed that the roles of secondary care technicians would develop. One participant highlighted how she thought this was already happening:

P24 I think, you know, the technician role is going to expand on to ward based stuff more than dispensary based. In the Acute Trust, they're taking on dispensing ATOs, so the technicians are out of the dispensary.

At a personal level, profound changes in individuals took place as a result of their own aspirations for role development. As one person involved in course delivery stated:

We do something quite radical; we raise their expectations. (P12, course delivery)

In FDs for pharmacy technicians, aspirations seemed to change for most, even those who thought they had a clear idea of their career path. For instance:

P19 It's changed my whole view really, on even where I want to be in the next five years, you know. I think everybody should have like a five year plan, and I think probably what I thought a couple of years ago is completely different now after I've done this.

In order for these aspirations to be fulfilled, profound changes need to take place which will require time and increased awareness of what the FD qualification enables pharmacy technicians to do.

It [the FD] changes their aspirations in practice, but their environment doesn't change to allow them to put those things into the working, day to day working. (P12, course delivery)

This could lead to situations where, after undertaking a FD, job satisfaction decreased as people want to do more. For instance:

I found myself five days a week, auditing technician, which - once I'd got the Foundation degree [...] didn't challenge me at all. (P9, graduate)

A number of factors indicate that role development will be facilitated in the future and that the increased confidence of pharmacy technicians will be opening new possibilities. One person involved in course delivery expressed with optimism how she thought FDs would be eventually recognised as an automatic step of career progression:

So it [doing an FD] will be an automatic step on from doing one's BTEC or NVQ 3, but it hasn't happened yet. (P12, course delivery)

4.4.2.3 Summary of theme findings

Role development and progression as a result of undertaking a FD did occur with several examples across all settings of practice. This was normally not followed by an increased salary, but this did not deter pharmacy technicians from embracing these initiatives. It was also found that in many cases this role development was not taking place due to variety of circumstances. The situation was summarised by the following quote:

What I tend to say to them [pharmacy technicians wanting to do a FD] is, 'You should definitely do the Foundation degree, but you should do it for yourself rather than because you think that you are going to be promoted to a band 6 and you're going to be doing wonderful things with it in this role at the moment.'

(P9, graduate)

Barriers such as pharmacy technicians being used exclusively in dispensaries alongside territorial tensions with pharmacists and resentment from other pharmacy technicians were found to prevent role development. Sometimes, organisational strategies beyond pharmacy departments and other factors external to the qualification such as employer's management styles were also responsible for impairing this development, even in situations where this had already occurred, bringing practice back to what it used to be.

In any case, pharmacy technicians remained optimistic about the future of their role. At a personal level, individuals changed as a result of undertaking a FD, but alongside a lack of change within the environment within which they worked, brought frustration to some. This had an impact on job satisfaction, which was reported to have decreased in circumstances which did not enable pharmacy technicians to use in their practice the skills and knowledge gained through a FD.

Maybe in the future, once there is an increased awareness of the qualification, more people have taken part in a FD and a clear progression path for pharmacy technicians is established, FDs may become commonplace, as with pharmacists' post-graduate diplomas.

4.5 Theoretical model

One of the purposes of this research project was to describe experiences of stakeholders and as such, relationships between these experiences were sought in order to determine if a model representing them could be developed. The presence in the data of consistent associations between different concepts, themes and categories did enable the construction of this model, included in Section 3.3.2.

The theoretical model developed supplements participants' descriptions in this research, building on the richness of the qualitative data by adding structure to it, showing the nature and direction of relationships and hence broadening understanding of the phenomenon. Its associations also set the basis to predict behaviour in a way which is transferable to other relevant situations; however, it has the limitations imposed by the need for a similar social context to be possible to do so. This is consistent with the principles of qualitative research, where generalisability has to be approached with care, since the findings are context-based ⁽⁴¹³⁻⁴¹⁵⁾ and linked to interpretation of experiences. In this respect, relevant situations with similar social contexts would include those involving novel programmes of adult learning with equivalent constructivist perspectives on teaching and learning. These would have to be delivered to provide workforce role development within settings characterised by a clear hierarchy linked to standards of education. These can be thought to include other work-based FDs and education and training opportunities for pharmacy technicians, as well as vocational programmes of study within and outside the scope of the FD qualification.

In terms of the methodology, it was felt that the steps used in the development of this model, (see Section 2.6) enabled the author to explore fully and efficiently the relationships that the different stakeholders reported to exist. Particularly useful for this purpose was the computer package used, whose model building facilities enabled making changes to associations and move components without the need to draw new diagrams as the model was being refined. Nevertheless, the software used was found to have the limitation of not allowing linkage of components of the diagram with their corresponding coded extracts. This slowed down the process of refinement, when material other than the transcript being worked on, had to be accessed to ensure coherence of the interpretation provided.

4.6 Strategic planning and actions

The results of this research have enabled a better understanding of the problem under investigation and have suggested set of steps to improve practices in course delivery and development. Translation of this project's findings into actions and their subsequent initial evaluation became part of a cycle, where interpretation of results led to strategic planning, practical changes being made and an initial observation of effects. This enabled the integration of the processes of research and action, where knowledge gained proved to be useful to bring about change. It was outside the remit of this work to evaluate the results of this strategic planning; further research would be needed to assess these outcomes. Nevertheless, with the limitations of the timeframe available and mindful of the processes and procedures within higher education, anecdotal evidence was collected indicating that many of the changes that took place were perceived as useful by the different stakeholders. Initial student and employer feedback indicated that these changes were welcome and seen as positive by those affected. Staff involved in course development and delivery also saw the changes in a positive light and considered them to be an improvement.

While the changes taking place as a result of this project were made at a micro-level and applied to programme specification and practices within course delivery, looking at higher levels such as department or University wide policies would be beneficial. With respect to departmental levels, further integration of FDs with other programmes, such as the Master of Pharmacy course, could be a positive change, as separation does not need to exist between people learning the same subjects at the same level. This could bring advantages to both groups of learners by bringing people from different backgrounds and different perspectives to learn together. In the case of pharmacy technicians, some degree of integration of their education through a FD and that of pharmacists would build on the pre-existing expertise of technicians on technical tasks, and lead to a better understanding of the background training of the second. This could take place within inter-professional learning units which, surprisingly, do not include representation of this group. An example of collaborative studying between pharmacy technicians and nurses already exists in the USA,⁽⁴¹⁶⁾ which has proven to be very useful to experience the collaboration necessary to provide quality care. Integration between pharmacy technicians and MPharm students

would also lead to an increase awareness of FDs by MPharm graduates, addressing one of the key areas identified in this project.

At a level of practice involving University wide policies, further consideration should be paid to how widening participation takes place and how support is provided to students coming into higher education through non-traditional routes. While resources tend generally to exist for both of these, this research has indicated that more effective initiatives could be possible. Moreover, cross organisational resources, to build on the expertise of different institutions, would be well placed to guide in the process of providing support and guidance on this matter. At the time of writing this report, two centres of excellence in teaching and learning support work-based learning: Foundation Direct, at the University of Portsmouth, and The Centre for Excellence in Professional Placement Learning, at the University of Plymouth. However, the first will cease to exist in July 2010, while the future of the second is uncertain beyond December 2010. With increasing numbers of students learning 'at work' and ambitious Government targets, support mechanisms at this level to sustain work-based learning are decreasing rather than expanding.

Further development would also be beneficial in order to achieve a more emancipating level ⁽⁴¹⁷⁾ when it comes to work-based learning in higher education. This would not only focus and take into consideration technical and practical improvement, but bring about transformation within the existing boundaries and conditions that potentially impede improvement within systems and organisations. Changes taking place in this direction would have a bearing on the way organisations and individuals involved in work-based learning interpret their participation in the process of education and application of knowledge. Since FDs are work-based qualifications, this development could commence by promoting a deeper understanding that the learning environment in this case goes beyond the higher education institution, towards and into the world of work, where the culture of supporting learning may not have been implemented. In the same way, better understanding at the workplace of academic requirements and the benefits that generic skills can bring to the development of the workforce would be necessary. In this context, where learning takes place can be considered as the workplace plus the University, this would need to be seen as an integrated pathway by both parties.

4.7 Critique of research methodology

4.7.1 General discussion

This section includes a discussion on how the methodology used related and potentially influenced the research findings with the purpose of facilitating interpretation and application of results.

The qualitative methods used, described in detail in Chapter 2, were found to be adequate for the issue under investigation. While it was believed that the methods chosen were best suited for this purpose when designing this study, this was confirmed once the project progressed and they had been applied to data collection and analysis.

In terms of the conduct of the interviews, a few interesting points are to be noted. Firstly, there were seldom any questions asked by participants before agreeing to and taking part in the interviews, with answers to these questions being rapidly accepted by participants. This could imply that the people involved in this project had clear thoughts on the matter that was being discussed and the purpose for which these discussions were taking place. This is further supported by the fact that requests for clarification were made during the interviews and prior to expressing an opinion, which indicated participants wanted to ensure their answers were directed towards the questions being asked. This did not prevent unexpected aspects of the subject under investigation being explored, but ensured this took place with a focus on producing valid data that was meaningful and useful to answer the research questions in this study.

As was expected, interaction between different participants in group interviews stimulated debate and development of ideas,⁽²⁹¹⁾ with these producing a wider range of thoughts. The fact that participants within most groups shared a common background seemed to have facilitated this, as most individuals did actively participate in the discussions. Group polarisation, or the group-produced enhancement of people's pre-existing tendencies, did

not prevent different experiences being shared and discussed in many areas, with these conversations being polite and respectful at all times. One-to-one interviews were very helpful in exploring certain issues in depth, as these took place with individuals purposively selected for their expertise or particular experiences, and the potential richness of ideas that they could bring to the study.

In both one-to-one and group interviews, few negative perceptions of FDs were found, which could be due to some of the participants not fully revealing their true feelings. Nonetheless, it was observed that, in the case of students, the rapport that they had built amongst themselves and with the researcher enabled them to express their opinions about many issues honestly, showing no concern about professional recrimination or peer pressure to conform. The fact that the study focused on one case, rather than exploring a sample or all available FDs, ensured that people were talking about the same experiences and they shared a common vocabulary. While it would be useful, as recommended in Section 5.2, to ascertain to what extent the findings of this study relate to experiences elsewhere, it would have not being possible to do so in one single project.

The choice of thematic analysis as the method to analyse the data collected facilitated categorisation of concepts, themes and categories that clearly described and explained the areas under investigation and provided answers to the research questions. The simplicity of this method made it possible to dedicate more time to interviewing more participants and look at a wider range of ideas in more depth than would have been possible with other methods of qualitative analysis. The use of QSR NVivo® also proved very useful due to the large amount of data gathered from the multiple participants, and enhanced the quality and depth of the analysis undertaken. The fact that with this tool the researcher could label each piece of data, enabling it to be easily found within the original transcript, overcame the disadvantage of the traditional 'cut and paste' methods which segment text from the interview and do not allow for multiple codes to be assigned to the same statement.

4.7.2 Study critique

Potential methodological issues were attended to throughout this study to ensure a robust approach to data gathering, interpretation and answering the research questions. In this section, how these could affect results is explained and discussed.

Qualitative methods have been criticised for the perceived subjective nature of data collection and analysis.⁽⁴¹⁸⁾ Their potential to influence practitioners and policy makers⁽³¹³⁾ and to strengthen aetiological and health services research has been questioned.⁽⁴¹⁹⁾ Poor understanding of the principles of qualitative enquiry has been held accountable for these views, which with the development of guidelines for producing^(309, 420) and judging⁽⁴²¹⁻⁴²⁷⁾ qualitative research, are increasingly being discarded. A rigorous approach, such as that followed throughout this project, ensures potential methodological problems are overcome. However, this piece of research is inevitably unique and linked to its own context with the purpose of making conceptual rather than statistical inferences. This being said, its findings relate to similar contexts offering an insight in which to develop theory which can lead to generalisable claims. Also, while some think that there is an underlying reality which can be studied,^(428, 429) it could be argued that there are multiple perspectives of the world, rather than an unequivocal social reality, created and constructed in the research process,⁽³²⁶⁾ with this research showing one of those realities. In any case, the data obtained from qualitative interviews is used to increase our insight into social phenomena rather than assume representativeness.⁽²⁵²⁾

The sample in this study was conceptually informed and relevant to the research questions, although it was not typical of the general population of pharmacy technicians as it represented people with innovative roles or a strong commitment to lifelong learning. In time, subsequent studies will be conducted with other groups and, gradually, more general claims could be made.

It has also been argued that in the analysis of interviews, it is difficult for data to be consistently evaluated.⁽⁴³⁰⁾ This issue was overcome⁽³⁰⁹⁾ by paying attention to a wide range of different perspectives, deviant cases⁽³⁰⁷⁾ and alternative explanations of the data collected, searching for and discussing elements in the data that contradicted.^(431, 432)

Study participants were assured confidentiality and encouraged to reveal their true feelings. However, confidentiality is not obtained in group settings, and the presence of others can be inhibiting to some respondents in group interviews.⁽²⁵²⁾ For this reason, groups were carefully balanced and included people who knew each other and shared a common background or experience.

As the principles of qualitative enquiry have been followed, the data should be seen as having 'inherent validity', and being a true reflection of the perspectives of the participants on the issue of interest.^(433, 434) Truth value of this research has been strengthened by rigorous sampling, attention to negative cases, and using two different methods of data collection. However, there was a potential for what people said to be different from what people thought, and the complex relation between language and action could have had an influence on participants' responses. From the students' perspectives, they may have wished to show their course in a positive light or felt concerned with possible recrimination in revealing inadequate practice by course lecturers. They may have also felt reluctant to admit to academic difficulties or topics in which they are lacking knowledge. In order to overcome these problems, it was emphasised that the purpose of the research was to bring about change that would help students develop and improve their knowledge.

It is recognised that both the data collection process and analysis, and hence the results, are subject to possible bias due to the 'positionality' of the researcher. Since the researcher was also a stakeholder within FDs for pharmacy technicians, particular effort was made not to discuss with potential participants any of the issues under study prior to, or between, the research interviews. Throughout the data collection and analysis the researcher endeavoured to be aware of her own opinions and was careful not to impose her views on the participants or the analysis, and instead focussed on remaining faithful to the views expressed by study subjects to ensure that the analysis emerged from the data collected and not the researcher's preconceived ideas. Acknowledging intellectual bias helps reduce the likely impact of such preconceptions, by helping the researcher to suspend assumptions, however, the potential for this bias to be present must be taken into consideration.

CHAPTER 5: Conclusion

5.1 Overall conclusion

5.1.1 Introduction

This project has evaluated a FD for pharmacy technicians by exploring the different stakeholders' perceptions of one of these programmes. It has investigated these perceptions by looking into five broad research questions: what people think about the FD qualification; what is the experience of being involved with a FD like; what effect does a FD have on pharmacy technicians; what opportunities do FDs bring for role extension and development and if a theoretical model can be developed to describe the experiences of stakeholders involved in a FD. This work does not offer definitive judgements on people's views but results that evaluate one FD and contribute to the literature which attempts to understand this qualification, alongside education and training of pharmacy technicians. It will inform those interested on how different people perceived a FD and its findings should be considered when planning and developing similar education interventions.

The study has shown that key themes within people's perceptions could be grouped in three categories: recognition of the qualification, participation in a FD and progression. While these relate to the original questions posed, as per the principles of qualitative research, they encompass ideas as they emerged from the data, rather than direct answers to the research questions. In addition, this project has established that it is possible to create a theoretical model that illustrates relationships between concepts, themes and categories found. These findings as a whole successfully described the FD under research and enabled feedback of the findings into pedagogic practice within this programme.

In the following sections, conclusions drawn regarding the different parts of this research project are summarised, highlighting key findings within this work which merit further consideration. These have been grouped according to which part of the project they relate to in order to put conclusions into context within the work undertaken.

5.1.2 Category 1 – Recognition of the qualification

In the first category - recognition of the qualification – awareness, value and fitness for purpose of FDs featured as determinants. The evidence from this study suggests that, while there was consensus on the fact that the qualification was fit for purpose and useful for pharmacy technicians' personal development, its value was considered limited when it came to developing competence for work-based roles. This was presented by the different stakeholders as a complex issue; despite having positive views about FDs, participants in this research generally thought difficulties with demonstrating clear outcomes on completion of a FD made it difficult to prove their superiority to less demanding training courses. FDs seen in this way as long routes for personal development, were not considered a useful resource by employers. In addition, they were perceived by technicians not involved in this type of course as giving colleagues a further qualification which provided knowledge with which they would have to compete. These factors prevented more information about FDs from being disseminated in the workplace when it was known and available.

The lack of awareness of these FDs is a critical finding with significant implications for these programmes. Unless there is more awareness of these courses, recruitment problems are likely to get worse. With a limited pool of individuals for whom FDs are suitable and many of them not being aware of their existence, achieving significant student numbers within FD courses seems challenging. This is likely to be made worse by current and potential future cuts in training and development budgets alongside increased tuition fees, limiting places being funded within this type of education. Small numbers of students enrolling in a FD, paired with the fact that these are demanding qualifications from a pedagogic point of view, would inevitably make these courses non-viable and lead to their disappearance.

If pharmacists continue to expand their scope of responsibilities into more clinical pharmacy practice, functions that do not require complex judgements are likely to be increasingly delegated to and performed by pharmacy technicians. As responsibilities of pharmacy technicians change, the skills and knowledge that they will need to effectively execute their roles will increase. This certainly indicates that to ensure safe and effective pharmacy services, there will be a need for robust pharmacy technician education. It has been the

argument in the past, and the evidence in this study points to this, that because technicians were not empowered to make independent decisions, there was no need for 'personal development' as such, but for training to perform the tasks which made up their traditional roles. Furthermore, it was thought that to provide technicians with some theoretical knowledge may encourage them to exceed their current autonomy. While it is uncertain how much more autonomy technicians are likely to gain, it can easily be argued that little more than what they have now would be needed for most of their decisions to be taken independently. It would seem sensible in this situation to have a qualification to provide them with the specialist pharmacy knowledge required, which also prepares them for the decision making processes involved in applying this knowledge. Without an alternative for education and training of this group, it would seem that the potentially failed FDs could be in the future, after all, of value beyond what was found to be the case in this work.

Lack of recognition of the qualification and success of FDs for pharmacy technicians, the only higher education qualification developed specifically for this group, could also act as a deterrent for academia to engage in further developments orientated to providing resources in this direction. This would make a return to in-house schemes the most likely outcome; which raises questions in terms of how consistency between organisations will be sustained and which quality assurance systems will ensure that this education enables safe practice. The solution to facilitate recognition of this qualification, as the literature often highlights, would be further negotiation of the curriculum and regular contact with employers. As shown by this and previous research, this remains a challenging area, since 'the workplace' and academia are organisations with very different perspectives in education: universities want to enhance learning whereas employers want a workforce with productivity that can work safely. It would be ideal then to reach a compromise where more is taken into consideration in terms of the needs and expectations of employers, while they themselves try to understand better the principles behind higher education. Achieving a balance between key skills, generic skills, specialist knowledge and experiential learning that a FD addresses, meeting the requirements of academia and employers, and overcoming the training versus education tension, would enable these FDs to provide both and become a well-rounded recognised and valuable qualification for all.

5.1.3 Category 2 – Participation in a FD

Regarding the second category – participation in a FD – this research found this to be generally a positive experience. The key motivation for this participation was pharmacy technicians' interest in acquiring further skills and knowledge to enhance their practice and ultimately patient care. This led to support been sought from the workplace for enrolment in a FD. Participation in one of these courses brings about the development of students as individuals in terms of confidence, awareness and empowerment, as well as of their professional practice, where dispositions such as reflective practice, patient centredness, critical thinking, initiative and responsibility were observed.

Significant challenges were found in securing support from the workplace, which is central to maximising opportunities for work-based learning and to enable individuals to enjoy the process of doing so. Some fundamental changes were found to be necessary to take place in the way organisations approach pharmacy technicians' education to enable more resources to be given to students for this purpose. Workforce planning for capacity to account for the needs of pharmacy technicians as work-based learners would need to consider the entire pharmacy workforce. To make this possible and to overcome difficulties in this process, employers should be shown the value of FDs for developing attitudes within their workforce that increase productivity, highlighting this as an outcome of undertaking one of these programmes of study.

Without appropriate workforce planning, work-based learning often becomes home-based learning with little guidance from the workplace and the practice activities seemingly being rushed through between daily jobs, rather than being undertaken as an integral part of these. It could then be argued that using work-based learning which has no prominence in the workplace, defeats the purpose of this type of education. A learning contract could be a way to overcome this issue, where the conditions under which a FD is undertaken, the time commitment and practice activities are all clearly specified. The use of learning contracts would also facilitate the process of workforce planning, as it would be clear what resources would be needed and when. In addition, it would be particularly useful to maximise the

impact of actual and potential 'champions' within the workplace, who can have a critical impact on the opportunities and experiences that pharmacy technicians have with regards to their participation in a FD. For this purpose, a strategy that seeks and supports these 'champions' in order for them to support students would be necessary.

Lack of support from the workplace can be blamed for some of the difficulties students found when adapting and coping with self-directed learning in a FD and the experience of undergoing higher education. It is clear that to properly make use of this approach in post-qualification pharmacy technician education, a culture change will be necessary, where students are explicitly invited to move away from traditional teacher-led forms of learning and embrace a constructivist approach. Those technicians taking part in this project gained their previous education experiences mostly from NVQs/BTECs, which are very competency based and use essentially a very different learning philosophy to the self-directed approach FDs require. This could be thought to have had a significant impact on their expectations of what their role would be when studying for a FD. Nevertheless, despite finding self-directed learning challenging, students successfully achieved the skills for this, developing confidence, awareness and feelings of being empowered to achieve more. The way students gain knowledge also needs to be considered in order to use appropriate pedagogies that help sustain them in their development – the prominence of peer learning and communities of practice within FDs for pharmacy technicians has implications for the way teaching and learning should be delivered, and targeted towards the community and social group, rather than the individual, where this learning is taking place.

Something which also merits consideration is the fact that currently the majority of opportunities for training and education is provided to pharmacists. This contributes to widening the skills divide between both groups at a time when their roles are increasingly blurred and gaps in their responsibilities are becoming narrower. Moreover, with technicians increasingly developing a patient-centred approach to care and a professional identity of front line practitioners, limiting learning opportunities at their disposal can be expected to have a negative impact on patient care.

5.1.4 Category 3 - Progression

In terms of the third category – progression – professional status and role development emerged as central themes, and the underlying factors behind students' motivation to gain the additional skills and knowledge referred to by findings within the second category. 'Progression' was students' ultimate aspiration, with this term understood in a wide sense. The capabilities gained through a FD and the fact that this was a higher education course raised the status with which they were perceived by themselves and others, which fed their aspirations for the development of their role. These aspirations remained in many cases unfulfilled, again, questioning the value of carrying out such a programme of study.

While many uncertainties remain with respect to the parameters within which FDs affect 'progression', a key barrier to this process was the absence of consensus on which functions are suitable to be undertaken by pharmacy technicians and what training is required for these. The hierarchy found to exist within the pharmacy team, determined by perceived knowledge and qualifications achieved by both pharmacists and technicians, was found to further complicate this matter. As a result, practices are inconsistent and the level of training and education alongside AFC bandings of pharmacy technicians varied among different organisations. The criteria to make judgements around these issues seemed strongly influenced by economic interests such as budgets or recruitment difficulties, rather than patients' quality of care and safety. The situation is further complicated by the fact that regulations, which can be obscure and impractical, have not kept pace with the expansion of pharmacy practice; in particular around the concept of supervision and how this should be exerted. The fact that pharmacists are professionally and legally responsible for technicians' actions has a bearing on which functions they are allowed and encouraged to take part in; which will depend on the supervising pharmacist's perceptions of what the role of the technician should be and the trust they have in individuals. The lack of control of pharmacy technicians over their professional role can have dual implications on the expansion of this role, firstly preventing this but also encouraging its expansion beyond what would naturally happen should this not depend on pharmacists. In this situation, technicians are found

having to accept new responsibilities and likewise having to change their attitudes towards their jobs, whether they agree with this or not.

A way to improve this situation will be new regulations which would relate to a competency framework including the activities of technicians, their underpinning training and education and how to judge competency. This would enable the establishment of a framework with different levels of technicians' practice, which would account for modern practices within pharmacy, and provide a clear career ladder depending on individuals' responsibilities and the expertise required. A similar model has been proposed in the US by some members of the American Society of Health-System Pharmacists, where a hierarchy of 'levels' is established, a definition is provided of roles, alongside pre-requisites skills and experience.⁽⁴³⁵⁾ Such actions could be viewed as a natural process in the evolution of this group towards professionalisation.⁽⁴³⁶⁾ In the UK, this process could take place within the NHS Knowledge and Skills Framework⁽¹¹³⁾ and alongside tiers recognised by Agenda for Change.⁽⁶⁰⁾ While some work has been undertaken to develop a framework to determine competence of pharmacy technicians,⁽³³⁵⁾ this framework is not yet comprehensive and is still in pilot phase. Should this be further developed and implemented, FDs would be best placed to underpin competency for roles in the higher levels of this structure, providing additional value in preparing individuals and enabling their progression within the workplace. Inevitably, for a career pathway to be developed in this way, pharmacists would have to redefine parts of their roles, re-adjusting in some cases attitudes towards pharmacy technicians. Since technicians share with pharmacists the ethical commitment towards safe and effective medication use, a view of pharmacy technicians as partners rather than assistants could be helpful. While it is likely that it continues to be an overlap at the boundaries of responsibilities, especially as some technicians push further into the territory claimed by an older generation of pharmacists, newly trained pharmacists could see this as an opportunity for both professions to advance, and to improve the service they provide for patients. Opposing views would have to be considered and understood; despite pharmacy technicians' practice having proved to be safe, efficient and effective,^(45, 50, 437, 438) there is no hard evidence that new roles lead to improved health outcomes compared with traditional practice.⁽³⁹¹⁾

5.1.5 Evaluation and strategic planning

Looking retrospectively, when HEFCE invited bids to develop prototype FDs, these were to be '*valued HE qualifications in their own right, equipping people with skills for tomorrow's jobs*'.⁽¹⁴⁴⁾ FDs were created with the hope of unifying education provision beyond bachelor's degree level in one qualification that would be widely recognised and transferable within the workplace and between different institutions. Taken together, the findings of this project draw a picture where these objectives have not been met, with the qualification failing to achieve recognition. FD courses are likely to encounter further challenges, and fundamental changes in systems and processes are needed for the barriers found to be overcome.

Despite a FD being a programme initially developed and subsequently delivered to meet the needs of employers, it has failed to be perceived as a solution for wide workforce development within the pharmacy team and to be valued and useful unifying training and education at this level. Several complex and important aspects of introducing this qualification for pharmacy technicians remain unaccounted for, particularly the impact on professional identities and individuals' perceptions of their own development needs, both of which have an effect on how services are designed and delivered.

However, FDs seem to be potentially providing skills for tomorrow's jobs, and in this way education which is ahead of practice, where competencies and knowledge gained are not required for current standard or enhanced pharmacy technicians' practice, but for that which may be needed later on. With employers generally uninterested in developing these skills at the present time, difficulties found by pharmacy technicians developing their roles further, and academia needing to adjust to the demands of work-based learning, it could be concluded that FDs for pharmacy technicians have been a great idea ahead of its time which has found many challenges to be implemented in practice. This would explain how evaluation strategies within these courses, alongside strategic planning to improve quality and responsiveness of delivery alongside satisfaction of the different stakeholders, have a limited impact on uptake by individual pharmacy technicians or employing organisations.

5.1.6 Final conclusion

The following main conclusions can be drawn after evaluating a FD for pharmacy technicians and looking at the different stakeholders' perceptions of this qualification. These are thought to be at the core of current and future issues within these programmes and provide an underlying explanation for the characteristics of the phenomenon investigated.

Firstly, in terms of FDs' focus on facilitating economic growth (see Section 1.4.1), it can be concluded that the drive to increase prosperity through productivity and quality - the ultimate aim of FDs - has to come from, rather than been imposed on, the workforce. If FDs are to bring about real capabilities and innovation, preparedness within the workplace to receive this qualification needs to exist, with a full understanding of its features and objectives. With the absence of such conditions in pharmacy departments, the use of FDs as educational resources would continue to prove challenging for the different stakeholders involved, causing dissatisfaction and preventing their full benefits to be gained.

Looking at the key reforms that led to the current structure for pharmacy services, (see Section 1.1.2), it could be argued that a progression can be found after an initial taking of stock, first by a movement to ensuring services met patients' needs and followed by policy looking at meeting those needs efficiently. It took over a decade for changes, first on the range and quality of services, and then on service re-engineering and skills mix, to shape the way pharmacy practice currently takes place in the UK. At the present time with the new white paper *Equity and Excellence: Liberating the NHS*, empowering clinicians to innovate and improve healthcare services, a similar process might have been initiated. Should this be the case, another decade might be needed for this new structure to develop, before new services are established and further service re-engineering and skill-mix takes place. This could become in the future the turning point for the FD qualification, when professional identities are better defined, pharmacy departments adopt universally innovative enhanced pharmacy technician practice and the workforce shows, generally, an attitude towards increasing productivity and innovation within a new framework for services.

In terms of educational aspects of the FD qualification, it could be concluded that perceptions of higher education have to change for individuals to be prepared to access and benefit from the development these programmes bring. For FDs for pharmacy technicians to be successful, access to higher education would have to become a mainstream aspiration for those involved within pharmacy services at this level. For this to happen, it would be necessary to de-mystify higher education by creating links with other providers of training and education for technicians, so university education is seen as a potential natural next step, rather than a pathway for just a few. In addition, FDs would have to be considered an option of proportionally similar rather than lesser value than traditional degrees. To achieve this, well articulated progression routes into bachelor degrees would have to exist. If this were to be the case, FDs could become a valued option for studying, rather than an opportunity for those who cannot enrol in a full-time degree. Clear Government driven strategies for widening participation by promoting higher education to students in employment would have to exist, supporting employers and Universities promoting these courses in the workplace. A change of culture could then be possible, where higher education institutions' efforts to offer programmes which can attract a greater diversity of students are widely disseminated. It would be necessary within this change of culture to ensure there is awareness of the fact that contemporary learning models take into consideration the diversity of learners, and that vocational higher education can be accessible for individuals who found, in the past, further academic learning unsuitable for their learning styles and preferences.

It is uncertain how changes to fee regimes and student contributions would also have an impact on FDs' participation rates, but in any case, these would have to be carefully assessed in this type of education, where financial aspects can be determinant to individuals' opportunities to engage with further education. This is particularly the case as often places are funded by employers, who face the challenges of having to maintain quality and capacity within their services, with limited funding available for the development and training of staff.

5.2 Recommendations for further work

5.2.1 Introduction

The complexity of processes taking place within a FD for pharmacy technicians prevent perceptions from being fully described in a single piece of research. Despite having provided a general picture of the different stakeholders' views, this exploratory study has raised many questions in need of further investigation.

Suggestions for further work around this subject, which would require a variety of additional methodologies and settings, are made in the following sections under headings that relate to the different aspects covered by this project.

5.2.2 The FD qualification and pharmacy practice

To understand more about the FD qualification for pharmacy technicians, a similar project could be carried out looking at the perceptions of people involved with other FDs for this group. This would enable the investigation of how other settings affect views on these programmes. In addition, it would be interesting to widen the scope of this enterprise to ascertain the views of individuals that, having knowledge and awareness of FDs, choose not to engage with the qualification and the reasons why they decide not to do so; these would include pharmacy technicians and their employers. In particular, the views of junior pharmacists, whose roles are being re-shaped by enhanced pharmacy technicians' practice, should be considered, alongside factors that influence the decision to allow and facilitate delegation of tasks. This would provide knowledge on how professional identities change as a result of pharmacy technicians undertaking a FD, which is essential to understand the effect that these courses have in the workplace. Of particular interest would be looking at the role of those who act as 'champions', supporting prospective and actual students in their educational journey. These perspectives are essential to describe and explain fully the effect of the hierarchy and dynamics of the pharmacy team on this role development.

In terms of impact on pharmacy practice, the novelty and evolving nature of the qualification suggest the need to consider that – provided FDs for pharmacy technicians continue to exist - certain questions could only be answered in the future. This would apply to aspects of FD work-based learning by pharmacy technicians, for which ways of working would need to be consolidated in the workplace beyond the initial stages, for findings to be meaningful. Further investigation would be recommended in particular into work-based ‘learning hours’ and the conversion of the workplace from a working environment to a learning environment; for example, when these hours take place and what support could maximise their efficiency. This could include an evaluation of the preferences in terms of a delivery method for this education, whether work-based is preferred and considered more effective, or if this is only chosen because it enables participation of full-time employees.

More work could also be undertaken better to understand the processes of peer learning within this group and to define further the dynamics within the unique communities of practice found in this project, where technicians from different settings share knowledge and expertise interacting with each other and with individuals within their practice-base. Mechanisms of how these communities would benefit from including further inter-professional learning with pharmacists, nurses and doctors, would also be of value. This would inform teaching and learning strategies, and in particular, their work-based elements. In terms of more academic elements within FDs, pharmacy technicians’ perceptions of their own development needs could be investigated further, as these have been found to change as they progressed through a FD. In addition, how constructivist and behaviourist approaches could be used in combination to meet those needs would be interesting. This could bring about advantages by establishing how knowledge provision and skills development, could better take place.

Time will be needed to be able to know more about the effect of FD graduates on service provision, provided that larger numbers have had an opportunity to put their skills and knowledge to use. However, for the time being, case studies looking at impact on service delivery and skill mix for each of the different settings within which there have been FD graduates would be very useful.

5.2.3 Experiences undertaking a FD and the theoretical model

The qualitative research methodology used in this work has enabled an in-depth exploration of the perceptions of the different stakeholders on a FD for pharmacy technicians. These perceptions were gathered with the view of evaluating one such programme, describe the phenomenon of participating in a FD and make appropriate changes when this was practical.

Further work could be carried out to look at key lived experiences of the participants. This would involve an approach that focussed on detail - rather than consistent themes - across a small number of participants. To make the findings meaningful, a sample including only students should be used. In particular, it would be very interesting to know more about the process of developing confidence, as this has been found to have a major impact on how pharmacy technicians conduct their practice. It would also be very useful to carry out further research along these lines looking at the experiences involved in the conversion of pharmacy technicians into self-directed learning learners. Attention should be paid in both cases to considering the language being used and how this is applied to make sense and order experiences. This would provide initial knowledge on the way that language makes sense to them in these contexts.

In terms of the theoretical model, further work could be undertaken on a number of different aspects. Modification and reformulation of the model with further generation and refinement could take place by undertaking further work as described in Section 5.2.2. This would widen the model's boundaries of applicability, at the same time as providing greater explanatory and predictive power. Many hypotheses are also synthesised by this model, which could be tested with additional work; further research into these would not only establish if the model does predict behaviour outside the context where it was created, but may facilitate further refinement to the model itself. As a whole, further work around the theoretical model can be seen as part of an ongoing process of development.

5.2.4 Evaluation and strategic planning

As part of a process of ongoing improvement, it would be desirable to carry out further evaluation research based on the changes that took place as a result of undertaking this project, completing the cycle shown in Figure 2.1. This would focus on the impact of these changes on the phenomenon of participating in a FD, which would be outside the current scope of programme evaluation embedded in the course's framework. Results of this further work would need to be considered alongside findings of the previous research and in relation with the theoretical model.

In addition to indicating areas where further research could be undertaken, the findings of this project suggest two courses of action above individual courses delivery and development which would involve adjustments of the FD qualification framework and the way that national initiatives promote and support this programmes.

Certainly, as a significant feature of these courses, consideration could be given to the appropriateness of the name 'Foundation degree', to what is effectively a 'professional development' work-based course. As these are qualifications in their own right, and not designed to be a 'foundation' course for a bigger purpose, this should be reflected in the name. The word 'foundation' here also accentuates the divide between traditional and vocational higher education, which is not necessary in the scope of workforce development, and is misleading in terms of what the qualification aims to provide.

Another important practical implication of the findings of this project is the need for comprehensive and up-to-date information on FD courses. Currently a database of UK programme provision is made available by the Government funded national network, Foundation Degree Forward. However, the information in this data base is incomplete and in some cases inaccurate, in addition of being presented in a way which makes it difficult to ascertain precisely which courses are suitable for pharmacy technicians or other types of students. In addition to modifications to be made to this database, a reasonable approach to tackle the issue of accessing information about these FD courses would be that the APTUK would maintain an up-to-date record of UK provision, which could add value to the services this organisation provides to their members.

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APPENDICES

Appendix 1: Foundation degrees for pharmacy technicians

Institution and course	Details	Syllabus
<p>University of Portsmouth ↓ FD in Medicines Management</p>	<p>3 years Part-time</p>	<p>See course brochure (Appendix 3)</p>
<p>University of London (Birkbeck College) ↓ FD in pharmacy</p>	<p>3 years Part-time</p>	<p>Year one</p> <ul style="list-style-type: none"> - Physical, Chemical and Life Processes - Science and modern science - IT in pharmacy - The effective pharmacy manager <p>Year two</p> <ul style="list-style-type: none"> - Applied clinical pharmacology - Medicines Management - Managing the pharmacy supply chain <p>Year three</p> <ul style="list-style-type: none"> - Clinical pharmaceuticals and medicines science - Clinical Governance - Managing pharmacy services - Work-based project
<p>Aston University (Mathew Bolton College) ↓ FD in Pharmaceutical Technology</p>	<p>3 years Part-time</p>	<p>Year one</p> <ul style="list-style-type: none"> - Human physiology - Pharmacology - Accuracy and risk management - Health care registration - Pharmaceutical formulation - Essential skills <p>Years two and three</p> <ul style="list-style-type: none"> - Evidence-based therapeutics - Financial management - Medical informatics and clinical trials - Operational management - Medicines management - Technical services - Project

<p>Kingston University ↓ FD in Pharmacy Services</p>	<p>2 years Part-time</p>	<p>Year one</p> <ul style="list-style-type: none"> - Foundation sciences for pharmacy professionals 1 - Introduction to pharmacy practice - Introduction to management - Foundation sciences for pharmacy professionals 2 - Pharmacy law, ethics and practice 1 - Understanding patient behaviour - Foundation sciences for pharmacy professionals 3 - Pharmacy law, ethics and practice 2 - Health education and health promotion <p>Year two</p> <ul style="list-style-type: none"> - Therapeutics - Clinical Governance - Resources management 1 - Medicines management - Evidence and information retrieval - Resources management 2 - Work-based project - Option module (teaching skills, pharmacy production, aseptic services, clinical governance of prescription accuracy checking)
<p>Liverpool John Moores University ↓ FD in Medicines Management</p>	<p>3 years Distance learning</p>	<p>Year one</p> <ul style="list-style-type: none"> - Key skills for pharmacy technicians - Introduction to Medicines Management - Patient focused pharmacy practice - Biological chemistry <p>Year two</p> <ul style="list-style-type: none"> - Clinical skills 1 - Patient focussed pharmacy practice - Pharmaceuticals <p>Year three</p> <ul style="list-style-type: none"> - Clinical skills 2 - Medicines Management research project - Pharmaceutical sciences
<p>University of Huddersfield ↓ FD in Medicines Management and Pharmacy Services</p>	<p>3 Years Also for nurses and others</p>	<p>Year one</p> <ul style="list-style-type: none"> - Develop skills for CPD and lifelong learning - Medication safety or accredited accuracy checking - Medicines Management - Reflective practice

		<p>Year two</p> <ul style="list-style-type: none"> - Pharmacology and therapeutics - Pharmacy law and ethics - Research skills and methodology - Management of change <p>Year three</p> <ul style="list-style-type: none"> - Pharmacy management - Drug development and registration - Project
<p>Medway School of Pharmacy (University of Greenwich)</p> <p>↓</p> <p>FD in Medicines Management</p>	<p>3 years Part time Work-based</p>	<p>Year one</p> <ul style="list-style-type: none"> - Professional problem solving - Medication management for technicians - Medication management for technicians 2 - Working in NHS teams <p>Year two</p> <ul style="list-style-type: none"> - Medication management for technicians 3 - Introduction to therapeutics - Therapeutics 1: GI and pain management - Therapeutics 2: cardiovascular <p>Year three</p> <ul style="list-style-type: none"> - Accredited checking by technicians or supporting medicines management in primary care - Health promotion or technicians as educators - Therapeutics 3: respiratory and infection - Therapeutics 4: mental health and diabetes - Practitioner project
<p>Leeds Metropolitan University (Hull College)</p> <p>↓</p> <p>FD Pharmacy and Dispensing</p>		<p>Information not available. These courses were listed in the national database of FD courses maintained by foundation Degree forward but institutions confirmed they were not running and their details were not available.</p>
<p>University of Central Lancashire (Preston College)</p> <p>↓</p> <p>FD in Pharmacy Services</p>		

In addition to the programmes for pharmacy technicians, two FDs have been designed and accredited by the RPSGB to provide access to the MPharm. They are provided by Medway School of Pharmacy and Kingston University. Both are two years part-time and comprise year one of the University's MPharm plus work experience. They permit access to the institution's year two of the MPharm course.

Appendix 2: Programme specification

1. Awarding Institution or Body	2. Teaching Institution
University of Portsmouth	University of Portsmouth
3. Programme Accreditation	4. Final Award
N/A	FdSc
5. Programme Name (Title)	6. UCAS Code and HEMIS Codes
Medicines Management	HEMIS Course code C1793 No UCAS number
7. QAA Benchmark Group(s)	8a. Document Control Information
Health Care Programmes – Pharmacy QAA 2001	(Version 3) March 2007
8b. Effective Session	8d. Author
<i>Academic year the description is effective for: Sept 2009 - 2010</i>	Helena Herrera
8e. Faculty	8f. Department or School
Science	School of Pharmacy and Biomedical Sciences
9. Educational Aims	
<p>a. The General Aims of the Programme:</p> <ul style="list-style-type: none"> • To provide a challenging and stimulating study environment. • To provide a framework allowing students to follow a flexible coherent programme of study. • To develop and assess a range of key skills by means of opportunities provided in the study units. • To provide a high level of work-based learning • To develop technical and work specific skills underpinned by academic learning. • To equip graduates with the necessary transferable skills for lifelong learning, employability and flexibility in the context of changing labour markets. • To provide students with the skills and knowledge required to maximise career opportunities. <p>b. The aims of the Foundation Degree</p> <ul style="list-style-type: none"> • To equip the student for an extended medicines management role within primary or secondary care. • To provide a broad knowledge of pathophysiology and pharmacology of main treatment areas. • To provide a therapeutic framework for medicines management. • To impart a detailed knowledge of the pharmacy technician profession and ethical aspects of medicines management. • To develop skills in Continuing Professional Development (CPD), checking of dispensed medicines and patient consultation. • To develop a reflective and questioning ethos of practice. • To develop an understanding of the role of pharmacy technicians within multi-professional healthcare practice. • To develop transferable skills to facilitate personal development, including progression to honours and postgraduate options. 	

10.1 Programme Learning Outcomes - Reference Points: Subject Benchmark Statements and Other Reference Elements

This section sets out the reference points that have been consulted in the development of the course and which demonstrate that the programme has currency and relevancy within the academic, professional and employer communities.

Reference points include:

- The University of Portsmouth policy regarding Key skills.
- University of Portsmouth Curricula Framework.
- University of Portsmouth Framework for the Development and Management of Foundation Degrees.
- The research and scholarship expertise of academic members of staff.
- University of Portsmouth Policy for the Award of Credit for Prior Learning.
- Pharmacy Benchmark Statements.
- RPSGB code of Ethics for Pharmacy Technicians.
- Draft Occupational Standards for allied healthcare workers.
- NVQ National Occupational Standards.
- QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education.
- University Policy for work-based learning.

10.2 Programme Learning Outcomes - Details of the learning that students should be able to demonstrate

A. Knowledge and Understanding

Students will at threshold level be able to:

- A1. Describe the content of information sources used in the interpretation and management of an individual patient's disease and drug therapy.
- A2. Describe the effects of age, liver and kidney disease on drug absorption, distribution and metabolism and assess their relevance in drug therapy.
- A3. List the important, general features of therapeutic drug monitoring in individualising therapy.
- A4. Describe compliance, adherence and concordance.
- A5. Describe the principal functions of the clinical settings in primary and secondary care and ways of collaborative working relating to medicines management.
- A6. Describe the role of formularies and prescribing guidelines to promote best use of medicines across primary and secondary care.
- A7. Apply the concept of receptors to explanations of mode of drug action.
- A8. Describe the autonomic nervous system and neuromuscular transmission.
- A9. Describe a therapeutic framework approach to medicines management.
- A10. Describe and demonstrate understanding of audit / research methods available for solving pharmacy related problems and their uses and limitation.
- A11. Describe the learning cycle and principles of adult learning when designing a teaching programme.

Teaching and Learning Strategies and Methods:

Lectures (A1, A2, A7, A8)

Subject specific tutorials (A3, A4)

Personal tutorials (A10)

Presentations (A6)

Seminars (A9, A10, A11)

Practice-based learning (A5)

Practice-based tutorials (A10)

Web-based support (A1,A2,A3,A4,A5,A6,A7,A8,A9,A10,A11)

Assessment:

In-class tests (A7, A8, A9, A11)

Practice assessments (A1, A2, A3)

Portfolio (A1, A2, A3, A4, A5, A6,A11)

Assignments/reports (A1, A2, A3, A10)

B. Cognitive (Intellectual or Thinking) Skills, able to:

Students will at threshold level be able to:

- B1. Discuss the merits of a patient-centred approach to care.
- B2. Reflect on own contribution to teamwork approaches in clinical practice.
- B3. Discuss the legal and ethical implications of technician checking/ practice support role.
- B4. Demonstrate the ability to recognise own limitations in the checking process and make appropriate referrals.
- B5. Evaluate and interpret information for application in the practice setting.
- B6. Apply the "ideal consultation" model.
- B7. Critically discuss strategic and professional developments within technician practice.

- B8. Review and apply appropriate methods for the dissemination of the results of research/audit.
 B9. Identify the learning needs of an individual or group.

Teaching and Learning Strategies and Methods:

Lectures (B3, B6)
 Subject specific tutorials (B5, B7, B8)
 Personal tutorials (B1, B4)
 Seminars (B1)
 Practice-based learning (B2, B5, B6)
 Practice-based tutorials (B2, B9)
 Web-based support (B1, B2, B3, B4, B5, B6, B7, B8, B9)

Assessment:

Objective Structured Clinical Examinations (B4, B6)
 Practice assessment (B8, B9)
 Portfolio (B1, B2, B3, B4, B5, B6)
 Assignments/reports (B2, B7)
 On-line discussion (B2)
 On-line test (B3, B7)

C. Practical, Professional or Subject Specific Skills, able to:

Students will at threshold level be able to:

- C1. Prepare a professional development plan.
- C2. Perform the final accuracy check of dispensed items*.
- C3. Ensure the legal requirements for dispensing of medicines are met*.
- C4. Apply knowledge and skills to patient-focused medicines management.
- C5. Use appropriate medicines information sources to resolve patient counselling queries.
- C6. Document a patients' full medication history using a full range of sources.
- C7. Assess a patient's ability to self-administer their medicines.
- C8. Conduct an appropriate audit/research project.
- C9. Develop and deliver an appropriate teaching session.

* Only applicable to those students with direct patient contact

Teaching and Learning Strategies and Methods:

Lectures (C5, C6, C7, C9)
 Subject Specific tutorials (C2, C3, C4)
 Personal tutorials (C1)
 Presentations (C8)
 Seminars (C8)
 Web-based support (C1, C2, C3, C4, C5, C6, C7, C8, C9)

Assessment:

In-class tests (C5, C7)
 Objective Structured Clinical Examinations (C4)
 Portfolio (C1, C2, C3, C6)
 Assignments/reports (C8)
 Summative teaching session (C9)

D. Transferable and Key Skills, able to:

Students will at threshold level be able to:

- D1. Seek ways of establishing and maintaining co-operative working agreements within a team.
- D2. Reflect on personal strengths, areas for development and evidence to establish achievement in team working.
- D3. Evaluate and interpret information for application and review within the practice setting.
- D4. Use reflective practice to inform and improve consultation and counselling skills.
- D5. Demonstrate effective referral to other healthcare professionals.
- D6. Demonstrate reflective practice in medicines management activities.
- D7. Critically assess the need for underpinning knowledge in work-based learning.
- D8. Examine own achievements in the context of role development.

Teaching and Learning Strategies and Methods:

Lectures (D5, D6)
 Subject specific tutorials (D2)
 Personal tutorial (D5, D6, D7, D8)
 Presentations
 Seminars (D1)
 Practice-based learning (D3, D7)

Practice-based tutorials (D4)
Web-based support (D1,D2,D3,D4,D5,D6,D7,D8)

Assessment:

In-class tests (D1)
Objective Structured Clinical Examinations (D5)
Portfolio (D2, D3, D4, D6, D7, D8)
On-line discussion (D1,D2)
On-line test (D2,D7,D8)

11. Programme Structure, Progression and Award Requirements:

11.1 Overview

This course runs as a three year, part-time unitised Foundation degree Programme, predominately centred on work-based learning, leading to the award of a Foundation degree and advancement in the professional development of the pharmacy technician role. There are four (20 credit) units in each year of part-time study, two being delivered in each semester. The number of credits required to achieve the degree is 240 credits, Standard University rules apply. Assessment is normally completed within the appropriate semester (except where evidence for a portfolio needs to be collected over more than one semester).

In line with the Foundation degree Framework there is provision for the student who has achieved the award of FdSc in Medicines Management to achieve full honours within 1.3 years in BSc in Combined Studies. There is currently no provision for advanced standing in the MPharm degree as the FdSc does not focus on chemistry. A better alternative entry route to the MPharm is BTEC plus A level chemistry. The FdSc is considered to be a separate academic pathway for the professional development of the technician's role.

Although the course is planned as a continuous programme, it will be possible for students to complete the first unit followed by one or more individual units leading to a competency in a specific area of pharmacy technician practice. Additionally, students may "step on and off" the programme, and return to it as their needs or those of their employers vary. As the clinical proficiencies of the units are all at the same level, the normal concepts of academic progression apply to formal learning but not to clinical assessment.

This programme has been developed in conjunction with the local healthcare providers (Hampshire and Isle of Wight NHS Workforce Development Confederation, Pharmacy Service Managers, Pharmacy Education and Training Managers, the SE (South Coast) Pharmacy NHS Education and Training Team). It is intended to address the workforce shortages within the profession, elements of the NHS modernisation agenda (e.g Agenda for Change) and Widening Participation, (the Government's drive for higher levels of academic achievement for a wider range of individuals).

The course encompasses career development and continuous professional development. Optional units are available, reflecting the practice-base of the student and providing choice between primary and secondary care based development.

12. Support for Student Learning

- The Course will be managed by a Course Leader and Deputy Course Leader.
- Extensive induction programme introduces the student to the University and their course.
- Each student has a personal tutor, responsible for pastoral support and guidance.
- University support services include - careers, financial advice, housing, counselling etc.
- A new Student Centre incorporating Students Union and Student Services.
- Excellent library facilities.
- The University of Portsmouth has consistently been awarded an excellent rating for student support and guidance in a number of Quality Assurance Agency inspections
- Student course and unit handbooks provide information about the course structure, regulations etc.
- Key Skills opportunities are incorporated into all units.
- Written feedback is provided for all assessments.
- Work-based learning students supported by academic tutors and workplace learning facilitators
- Access to academic staff through the "open door" policy.
- Teaching within the Science Faculty by the same course team as the MPharm programme and supported by a dedicated technical support team.
- Work-base learning students supported by a learning contract with their departmental manager/employer/workplace learning facilitator.
- Protected study time for all employed / hosted students.
- Access to hospital based study resources to include IT and library facilities.
- Practice placement facilitator to support learning and pastoral care in the work-base.

13. Admission Criteria

a. Academic Admissions Criteria

It is anticipated that most students will be seconded by NHS employers and so will enter through non-traditional education pathways. Entry criteria will be, one of the following:

- A BTEC National Diploma (pass)
- NVQ level 3
- Non-standard AP(E)L

And

- Satisfactory interview
- Practice base

Clinical placements in NHS hospitals are an operational constraint, which will largely mitigate against recruitment of international students, such students, if recruited, must be able to demonstrate a pass in IELTS at level 7.

All students will be interviewed and fully appraised of the expectations of the course.

b. Disability

The University makes no distinction in its admissions policy with regard to disability and will endeavour to make all reasonable adjustments in order to make it possible for students to study at Portsmouth on a course of their choice.

All students irrespective of disability are required to have health clearance from NHS Occupational Health Department. Acceptance on the course is dependent upon the outcome of the medical assessment.

14. Evaluation and Enhancement of Quality and Standards in Learning and Teaching

a. Mechanisms for review and evaluation

Mechanisms will be according to current University policy and be consistent with other pathways managed in the School of Pharmacy and Biomedical Sciences. These will include:

- Informal discussion
- Student Staff Consultative Committees
- Board of Studies
- Student unit and course questionnaires
- Subject External Examiners
- Award External Examiner
- Annual Standards and Quality Report and Evidence/Action Plans to Board of Studies
- ADA's Faculty report to QA committee
- Audit of clinical placements

b. Responsibilities for monitoring and evaluation

Responsibilities will be according to current university policy and will be consistent with the other pathways managed in the School of Pharmacy and Biomedical Sciences. These will include:

- Course Leader, Deputy Course Leader for day-to-day running of the pathway.
- Unit Co-ordinators monitoring and managing their individual units and submitting Evidence Action Plans (EAPs) to the Board of Studies.
- The Board of Studies will have overall responsibility for monitoring, evaluation and enhancement of the pathway, via EAPs
- Quality Audit will be the responsibility of the Course Leaders, the Head of Department and Associate Dean - Academic.
- The Course Leaders Committee and Faculty Teaching and Learning and Assessment Committees will provide an opportunity for evaluation and sharing of good practice.
- The Examination Boards and Unit Assessment Approval Boards will have responsibilities towards assessment issues.
- The University will monitor the success of the pathway in meeting targets. External audit will be the responsibility of the QAA.

c. Mechanisms for gaining student feedback

Feedback will be gained through a variety of mechanisms and will be consistent with other pathways managed in the School of Pharmacy and Biomedical Sciences. These include: Formal, anonymous feedback from students about their learning in individual units. This will be conducted for all units and will include students' ratings of several aspects of their learning in the units together with written comments. These will be collated and fed back to staff teaching on the units. This information will be used by unit leaders as part of their annual evaluation reports. In addition, students' ratings of units will be available to all teaching staff and the student body and will be discussed at the Board of Studies. Particular consideration will be given to units where less than 70% of students express satisfaction with their learning in the unit or where the average unit mark is exceptionally low (<45%) or high (>65%).

Formal, anonymous feedback will be sought from students about the Foundation degree in general, this will include feedback about, course management, teaching, learning, assessment, facilities, resources and outcomes. A summary of the feedback will be made available to all teaching staff and the student body, and discussed at Board of Studies and in the annual course review.

In addition to the above, there will be informal mechanisms of feedback through discussions between students and teaching staff and all staff will be encouraged to conduct periodic surveys to ascertain student's opinions of their teaching.

d. Staff Development Priorities

- Academic staff undertake activities related to research, scholarship, teaching and learning and student support and guidance.
- Annual staff appraisals match development to needs.
- Managers undertake a variety of management development programmes.
- New academic staff required to undertake PgCert Teaching and Learning in Higher Education.
- All academic staff encouraged to seek membership of the Higher Education Academy.
- Support Staff are encouraged to attend short courses in areas such as minute taking, and specific IT packages.
- Staff development (induction and ongoing) for workplace learning facilitators.

15. Assessment

15.1 Assessment Strategy

Level 1

The assessment approaches for units within level one include essays, portfolios, Objective Structured Clinical Examination (OSCE), an on-line test and participation in an on-line discussion. These have been selected so as to enable students to practice the acquired skills, demonstrate knowledge and build confidence. Essays will provide an opportunity to assess reflective writing, knowledge of Continuing Professional Development (CPD) and skills in undertaking case studies. Portfolios will be used to show a breadth of experience has been gained in CPD, medicines management or primary care practice while OSCE.s make possible the assessment of consultation skills. On-line assessment will complement an essay and portfolio and assess the understanding of CPD and the on-line discussion assess understanding of teamwork processes skills related to teamwork. On-line forms of assessment also demonstrate students' competence in generic skills.

Level 2

The assessment approaches for units within level two include essays, presentations, a portfolio and the production of an audit report. Essays have been selected so as to enable students to apply acquired skills and knowledge in information retrieval, evidence-based practice and Continuing Professional Development. The presentations will provide an opportunity to demonstrate skills in disseminating good practice and facilitating learning, and the portfolio show a breadth of experience in teaching and facilitating within the workplace. The audit report will provide an opportunity to show knowledge application of audit techniques and reporting findings.

15.1 Assessment Regulations

a. Assessment and Classification Rules

Standard university rules apply, in summary the main points relating to assessment are as follows but the regulations as stated in University handbook AR.1.10 must be consulted for a full description:

- Unit overall pass mark is 40%.
- Clinical assessment artefact pass mark will be 40%
- Referral is allowed to a student in all or some assessment components, who has failed a unit or units at the first attempt but is only permitted at level 1 and to limits prescribed in the regulations with unit overall marks capped at 40%.
- Referral assessment is allowed in all or some assessment components, to a student who has failed a unit or units at intermediate and final levels to limits prescribed in the regulations with unit overall marks capped at 40%.
- Repeat assessment is allowed to students who fail a unit or units after referral or limited repeat assessment and such students must attempt all the assessment components specified in the assessment schedule and is usually expected to attend all class sessions and on passing the unit the unit marks will be capped unless the student chooses to repeat the entire stage.
- At the final stage units, to limits prescribed in the regulations, failed at the first attempt may be compensated at the discretion of the Award/Progression Board.

Special provision may be made in approved Extenuating Circumstances cases, usually by allowing the affected assessment to be undertaken again, as if for the first time.

b. Interpretation of Marks in Classification

Foundation Degrees consist of units graded fail/pass and credits obtained via AP(E)L. Therefore they will be graded on a fail/pass basis. Transcripts will indicate the level of achievement in individual units.

c. Role of Externals

Subject External Examiners – oversee unit assessment and:

- Approve unit assessment strategy
- Sample assessment artefacts
- Present report to Unit Assessment Boards

Award External Examiners – a Subject External Examiner who will oversee and attend award/progression Boards

16. Indicators of Quality and Standards

a. Professional Accreditation/Recognition

Not applicable.

b. Previous Subject Review (or equivalent)

In November 1999, the most recent inspection involving pharmacy, the School was awarded the maximum points (24) for all aspects of teaching and learning.

c. Periodic Review (or equivalent)

The first Periodic Review of the programme in its current format is June 2010

d. Quality Assurance Agency

- QAA Institutional Audit, April 2004, concluded that confidence can be placed in the soundness of the institution's current and likely future management of the academic standards of its awards and in the quality of the learning opportunities available to students. For full report see <http://www.qaa.ac.uk/reviews/reports/institutional/Portsmouth04/summary.asp>
- QAA Institutional Audit, December 2008 concluded that confidence can be placed in the soundness of the institution's current and likely future management of the academic standards of its awards and in the quality of the learning opportunities available to students. For full report see <http://www.qaa.ac.uk/reviews/reports/institutional/>

17. Other Sources of Information may be found in

- Course Approval Document
- Student Handbook
- University of Portsmouth Curricula Framework
- University of Portsmouth Undergraduate Prospectus
- Assessment Regulations
- Quality Assurance Agency Reports
- Quality Assurance Agency Quality Audit Report for University of Portsmouth, November, 1999
- University of Portsmouth <http://www.port.ac.uk> and School of Pharmacy and Biomedical Sciences website
- University policy regarding Key Skills
- University policy regarding Personal Development Planning
- University policy regarding Award of Credit for Prior Learning
- University Department for Learning Development <http://www.port.ac.uk/departments/dld>
- Key skills http://www.qca.org.uk/nq/ks/?fp_clk
- Personal development planning <http://www.qaa.ac.uk/cmtwork/progfileHE/contents.htm>

Course Structure - Unit Details

	Code	Title	Sem	Type	Cred	Ex/Cw	Comments	
LEVEL 2	Year ONE						Exit Award FdSc = 240 credits	
	1CPH201 / U12145	Introduction and Lifelong Learning	1	C	20	CW		
	1CPH202 / U12146	Scientific principles and Interprofessional Team Working	1	C	20	CW		
	2CPH203a / U12147	Dispensary checking	2	O	20	CW/EX	No more than 3 failed units (max 60 credits). May be taken as limited repeat assessment and no more than one repeat unit (max 20 credits) may be trailed into the next stage.	
	2CPH203b / U12148	Primary care role in Medicines Management	2	O	20	CW		
	2CPH204 / U15581	Intermediate Medicines Management	2	C	20	CW/EX		
	Year TWO							
	1CPH205 / U16130	Advanced Medicines Management	1	C	40	CW/EX		
	2CPH206 / U12151	Pharmacology and Applied Therapeutics	2	C	40	CW/EX		
	Year THREE							
	1CPH207 / U12152	Strategic and Professional Development Plan	1	C	20	CW		
1CPH208 / U16131	Practitioner Audit	1	C	40	CW			
2CPH209 / U16132	Train the Trainers	2	C	20	CW			

Amend as necessary

C = Compulsory unit / O = Optional unit / E = Elective unit / 1 = Semester 1 etc

Appendix 3: Course brochure

Foundation Degree in Medicines Management

This Foundation degree course is designed to encourage practising pharmacy technicians into higher education and to equip them with the necessary skills and knowledge for extended medicines management roles.

The course is suitable for individuals already practising in community, primary care, hospital and prison pharmacies or GP surgeries, who wish to further their skills in patient-focused and inter-professional aspects of medicines management.

The University of Portsmouth is committed to providing excellence in all areas of teaching and learning and pioneered the development of this Foundation degree specifically for pharmacy technicians. The course is run by an experienced team that includes members of different sectors of the pharmacy profession. State-of-the-art facilities and extensive tutorial and online support is available for students undertaking this Foundation degree.

The course is a three year part-time programme running from September to May, with attendance at study days for an average of eight days per year. The course is predominantly a work-based programme that takes work commitments into consideration as well as prior learning, which could be credited towards your Foundation degree.



Course content

The course provides a therapeutic framework for the development of patient-centred care and will prepare you for effective team working, delivery of training, audit design and strategic development. You will study nine units, including one optional unit:

Year one

- **Introduction and Lifelong Learning:** patient-focused care and Continuing Professional Development (CPD)
- **Scientific Principles and Teamwork:** monitoring of drug treatment and multidisciplinary working
- **Intermediate Medicines Management*:** patient consultation skills and medicines management

You will also choose to study one of the following optional units:

- **Dispensary Checking*:** accuracy checking of dispensed items
- **Primary Care Role in Medicines Management:** practice-support role of pharmacy technicians

Year two

- **Therapeutics for Medicines Management:** pharmacology and therapeutics for medicines management
- **Advanced Medicines Management*:** enhanced development of medicines management and inter-professional working

Year three

- **Practitioner Audit*:** development of a practice-based audit
- **Strategic and Professional Development:** advanced CPD and enhancement of the pharmacy technician's role
- **Train the Trainers*:** teaching and facilitation within the workplace

*Students with current accredited certificates from South East Medicines Management Education and Development (SEMMED), South East (South Coast) Pharmacy Education and Training (SE(SC)PET) or similar, such as regionally accredited Checking Technician or Medicines Management qualifications, or the National Pharmaceutical Association Checking Technician course, can apply for accreditation of prior learning for the above units indicated with an asterisk. These units will then not have to be undertaken.

Additional information

Your learning experience

This programme is centred on work-based learning within your own practice setting. There are a variety of assignments which will be undertaken in your workplace and reflective practice is encouraged. The ethical aspects of medicines management, facilitation and leadership skills and personal development will be considered.

Course content will also be delivered using a student-centred approach. This will include lectures, group work and a wealth of resources and communication tools available within the course Virtual Learning Environment (an online learning tool).

A variety of assessment methods will be used to assess your knowledge and ability including assignments, recorded activities and CPD records. There are no exams within this Foundation degree.

Our facilities and resources

You will have access to University-wide resources including our student support services, computer suites and our newly extended library, which houses an excellent collection of journals and books. In addition you will have access to Foundation Direct, our support centre for all students studying Foundation degrees. The centre will provide you with study skills advice, subject-specific guidance, careers management and CPD planning.

Career prospects

It is envisaged that after completing this course participants will take on new management and patient-centred roles traditionally undertaken by pharmacists and other healthcare professionals. Graduates will be able to make a considerable contribution to the enhancement of patient care and service delivery.

If you are interested in further study, successful completion of this Foundation degree will also allow you to progress on to the BSc (Hons) Combined Studies course.

Entry requirements

You will need an NVQ3 (or equivalent) in pharmacy services, plus two years relevant pharmacy experience.

Course fee

The course fee is £1,200 per annum.

South Central and South East Coast Strategic Health Authorities will fund a number of places for technicians employed within the NHS.

Employers and Primary Care Trusts may also fund places.



Appendix 4: Databases searched and key terms used

Search terms used for MEDLINE, PHARMLINE and EMBASE International Pharmacy Abstracts

1. Pharmacy Technicians ti,ab,sh
#1 and medicines management
#1 and education and training
#1 and Foundation degrees

Search terms used for Cochrane Library database

(PHARMACY and TECHNICIAN)

Search terms used for ERIC

(PHARMACY and EDUCATION)

RPSGB databases and fDf database

(see my.rpsgb.org)

Hand searching

Health Education Journal
International Journal of Pharmacy Practice
Pharmacy education journal
The Pharmaceutical Journal
Journal of Social and Administrative Pharmacy
Pharmacy World and Science journal
Forward journal
fDf database

Appendix 5: Study information sheet



What do you think about Foundation degrees for pharmacy technicians?

The University of Portsmouth would like to invite you to take part in a research project looking at people's views of Foundation degrees for pharmacy technicians. The following information explains why this research is being done and what it involves.

What is the purpose of this study?

This study aims to explore different stakeholders' views on Foundation degrees for pharmacy technicians, focusing on the skills and knowledge they provide, and if these support the development of extended pharmacy technician roles. Its findings will inform current and future provision of these and similar education strategies.

Who is carrying out this study?

This research is being undertaken by Helena Herrera, Senior Lecturer in Pharmacy Practice at the University of Portsmouth.

What does it involve?

Group interviews (focus groups) and individual interviews (face-to-face or by telephone) will be carried out with pharmacy technicians, employers and people involved in course delivery. These events take approximately one hour and will be audio recorded, transcribed verbatim and analysed to ascertain people's views. All data collected will be anonymised and remain confidential at all times. A final report, containing only group results, will be disseminated at conferences and by publication.

Can I change my mind?

You are free to withdraw from this project at any time without having to supply reasons. If you decide to do so, the data collected prior to withdrawal can be removed from the study.

What are the benefits of taking part?

You will be actively contributing towards the limited research available in this area. You will receive refreshments and reimbursement of your travel costs as a thank you for your time.

**Please contact Helena Herrera (helena.herrera@port.ac.uk - 023 9284 3692)
to ask any questions and discuss your participation in this project.**

Appendix 6: Final interview schedule

“I want you to think about yourself before engaging with a Foundation degree and tell me about why you wanted to do / use this course? You can use examples if you want”

- What did you take into consideration?
- What expectations did you have?
- Did anyone else influence your decision?

“Can you tell me about your experiences about the Foundation degree? You can use examples if you want”.

- What have you found challenging?
- What has been good?
- What support have you found necessary?

“Now I’d like you to think about jobs. How relevant is this Foundation degree to people’s jobs. You can use examples if you want”.

- How relevant is it to present roles?
- How relevant is it to extended roles?

“What do you think a Foundation degree has enabled technicians to do differently? You can use examples if you want”.

- Has the way of working changed?

“Thank you for that. I’d like now you to consider other people you work with and describe how you think they perceive Foundation degrees. You can use examples if you want”.

- What do others think about the course?
- What do they think about you using / doing the course?

“I’d like you to consider how Foundation degrees affect progression. It would be useful if you could give examples from your own experience”.

- What opportunities do you see to progress?
- Do employers recognise this qualification?
- What are the aspirations on completion of the Foundation degree?

“Finally, I’d like you to think about the Foundation degree as a whole and summarise key issues for you. You can use examples if you want”.

- What do you think about the qualification?
- Has it met your expectations?
- What do you like the most?
- What would you like to see changing?

Alternative wording, as explained in page 30, was applied when using this schedule to interview the different stakeholders.

Appendix 7: Interview check list

Date:	Time:	Venue:
Participant name(s) and number(s):		
Moderator:		

Pre-interview:

- Check batteries and test equipment.
- Check venue (table and chairs) and refreshments (if applicable).
- Set up equipment.

Notes:

Introductory phase:

- Welcome the interviewee(s): domestic arrangements – if applicable – switch off mobiles.
- Presentations: each person to introduce themselves and explain briefly their role.
- Explanation of the study (inc. purpose, anonymity, audio-recording, noises).
- Explanation of process of the focus group (notetaking, moderation, can give examples).
- Address any questions.
- Completion of consent forms and background questionnaire (if face-to-face interview).
- Check time available.

Notes:

Opening of the interview:

- Explaining the purpose of the interview and interviewer/moderator/interviewees roles.
- Explaining that they can use examples of own personal experience.
- Switch on the audio-recorder and or video/camera.

Notes:

Core of the interview:

- Asking questions and discussing the issues included in the interview schedule.
- Field notes collection.

Notes:

Closure of the interview:

- Thank interviewee(s), explanation of how the data would be used.
- Address any questions.
- Arrange a follow up if necessary.

Notes (own feelings on disruptions, insights, rapport...)

Appendix 8: Consent form



Stakeholders' views of Foundation degrees for pharmacy technicians.

Thank you for co-operation in this project that aims to elicit the views of different stakeholders on Foundation degrees for pharmacy technicians.

With this form you give consent to participate in this study by being interviewed or take part in a focus group. It also assures you of confidentiality, meaning that nothing said by you will be repeated to other individual(s) and all information gathered will be kept anonymous and confidential. People's names and sensitive information will be removed from any data collected so as it will not be possible to identify you in any reports or outputs.

Please read the statements below carefully:

1. I confirm that I have read and understood the project information sheet and have had the opportunity to ask questions.
2. I understand that I can choose not to take part in this study or withdraw from it if I wish, without giving any reason.
3. I understand that the researcher will treat all my comments in confidence.
4. I agree for the interviews or focus-groups in which I participate to be recorded.

Please sign below if you are happy with the way it has been explained to you and agree to participate in this project. Thank you for participating in this project.

Name of participant:

Signature:

Date:

Participant No.

Appendix 9: Letter of ethics approval



DSES/SPBMS Joint Ethics Committee

ETHICS APPROVAL

FT/08/015

Dear Helena

Your project title: *Assessing the effectiveness of foundation degrees for pharmacy technicians.*

has received ethical consideration from the Department of Sport and Exercise Science/School of Pharmacy and Biomedical Science Ethics Committee.

We are happy to approve your application and the following ethics code **#08EA/17** can be used for all future correspondence regarding this project. It is the understanding of the DSES/SPBMS Ethics Committee that the methodology of your protocol falls entirely under the remit of the SRAPs (2007).

If you have any queries with regard to this procedure or this phase of the project alters in any way from that which you have included within your protocol, please do not hesitate to contact either Dr Clare Hencken or Dr Jeremy Mills (co-chairs of the DSES/SPBMS Ethics Committee)

Sincerely

Dr Clare Hencken/ Dr Jeremy Mills
(For on and behalf of the DSES/SPBMS Ethics Committee)

Appendix 10: Details of participants in the research

Details of the students (n=23) and graduates (n=3) taking part in the research:

Demographic details	<ul style="list-style-type: none"> • Sex: All females • Students' ages: 22 – 55 (average 38)
Geographical location	<ul style="list-style-type: none"> • East Sussex (4) • West Sussex (4) • Hampshire (10) • Isle of Wight (2) • Dorset (2) • Somerset (3) • Kent (1)
Settings of practice	<ul style="list-style-type: none"> • Hospital pharmacy (10) • Primary Care Trust (8) • Community Pharmacy (2) • GP dispensing surgery (4) • GP surgery (2)
Roles	<ul style="list-style-type: none"> • Medicines Risk Manager (1) • Medicines Management Development Manager (1) • Operations Manager (2) • Dispensary Manager (2) • Care Home Manager (1) • Medicines Management Technician (5) • Pharmacy Technician (3) • Practice Support Technician (3) • Sessional Pharmacy Technician (1) • Accredited Checking Technician (3) • Principal Technician (2) • Medicines Liaison Technician (1) • Chief Pharmacy Technician (1)
Time qualified	Range: 5-20 years (average 13)

Details of the employers (n=3) taking part in the research:

Demographic details	<ul style="list-style-type: none"> • Sex: one male and two female • Age: 32, 36 and 55
Geographical location	<ul style="list-style-type: none"> • East Sussex (1) • Hampshire (1) • Isle of Wight (1)
Settings of practice	<ul style="list-style-type: none"> • Hospital pharmacy (2) • Primary Care Trust (1)
Roles	<ul style="list-style-type: none"> • Operations Manager (1) • Medicines Management Lead (1) • Clinical Pharmacist (1)
Time qualified	Range: 9 -20 years (average 18)

Details of the people involved in course development and delivery (n=3):

Demographic details	<ul style="list-style-type: none"> • Sex: one male and two female • Age: 45, 47 and 51
Geographical location	<ul style="list-style-type: none"> • East Sussex (1) • Hampshire (2)
Settings of practice	<ul style="list-style-type: none"> • Academia (2) • Practice education and training (1)

Appendix 11: Details of data collection interviews

Details of the one-to-one interviews are summarised in table below:

Interview number	Date	Stakeholder	Duration
1	27.06.08	Course delivery	00:58:30
2	01.07.08	Employer	00:51:10
3	02.07.08	Student	00:58:01
4	21.07.08	Graduate	01:16:00
5	22.07.08	Graduate	00:49:03
6	25.07.08	Student	00:47:43
7	25.07.08	Employer	00:27:28
8	29.07.08	Course delivery	00:46:07
9	04.08.08	Course delivery	00:41:48
10	22.09.08	Employer	00:39:18
11	17.03.09	Graduate	01:01:40

Details of the group interviews can be found in the following table:

Interview number	Date	Stakeholders	No. of participants	Duration
12	04.09.08	Year three students	4	00:59:39
13	22.04.09	Year one students	5	00:53:25
14	22.04.09	Year one students	6	01:02:08
15	29.04.09	Year two students	8	00:50:03
16	25.08.09	Year two students	6	00:44:00