



This work is protected by copyright and other intellectual property rights and duplication or sale of all or part is not permitted, except that material may be duplicated by you for research, private study, criticism/review or educational purposes. Electronic or print copies are for your own personal, non-commercial use and shall not be passed to any other individual. No quotation may be published without proper acknowledgement. For any other use, or to quote extensively from the work, permission must be obtained from the copyright holder/s.

Teaching decision-making and professional ethics for pharmacy practice: a mixed methods study

Maria Donna Allinson



**Thesis submitted to Keele University for the partial fulfilment of
the degree of Doctor of Pharmacy**

June 2019

Abstract

Little has been published on whether or not ethics teaching during undergraduate study effectively prepares pharmacy students for dealing with dilemmas in future practice. The aim of this study was to explore the user's perspectives on the effectiveness of Values Exchange (Vx), an online decision-transparency tool, in facilitating pharmacy students' learning and development in professional ethics and decision-making, and its potential use by pharmacy graduates.

A mixed methods approach was employed. A profession-specific test (the PEP test) measuring moral reasoning was applied for the first time in the UK to provide a measure of principled thinking across 4 cohorts of Pharmacy students and alumni. Descriptive and inferential statistics were applied to the data. In addition, semi-structured interviews were undertaken with 9 pre-registration trainees (PRTs) and 9 early career pharmacists (ECPs) to ascertain their experiences of ethical dilemmas in practice and views on Vx.

It is clear from the findings of this study that Vx was perceived by the interviewees as a valuable tool for undergraduates in the development of ethical and professional decision-making skills. Consideration should also be given to the incorporation of Vx into postgraduate teaching and policy. Its use in professional practice was perceived as limited.

Although Vx appears to help MPharm students prepare for facing ethical dilemmas in practice, real world experience is also necessary. Interviewees continued to learn during their pre-registration year and early practice through interactions with their pre-registration tutors and other pharmacists and staff, and by supporting each other via social media networks. Positive role models were valued, but participants also learned how not to behave through working with negative role models. Findings also suggest a need for

further training of pre-registration tutors to improve support for PRTs, as well as more widespread adoption of peer supervision.

This study was unique since no previous research has explored the impact of long-term use of Vx during undergraduate education on practice, or considered the potential longer-term impact on practice of having used this tool. In addition, this study is the first to use the PEP test outside Australia.

The study is also unique in that it has provided a pedagogical underpinning for Vx which has been mapped to Vx activities and to the Royal Pharmaceutical Society's *Exercising professional judgement* model of decision-making. This output provides, therefore, both theoretical pedagogical reasons and also data-driven evidence to support the use of Vx as a teaching tool to help MPharm students develop the skills to make professional decisions in practice.

Acknowledgements

This has often felt like a long and tortuous journey and one that, at times, I did not think I would complete. The fact that I have completed it is due to the help and encouragement of many people.

First of all I must send huge thanks to Professor Patricia Black, my long suffering supervisor, for whom I have delayed a fully enjoyable 'non-retirement' as she kindly continued to support and encourage me right to the end – for this I am eternally grateful. Thank you Pat. My sincere thanks also goes to Dr Simon White who stepped in for the last year as my second supervisor, and offered me so much advice and guidance- my reflexivity guru. As my line manager, I'm also grateful to Simon for enabling me to 'free up' my time so I could focus on my writing. I'd also like to thank those I call my 'pseudo-supervisors', Dr Judy Rees and Dr Alison Gifford who freely gave up their time to share their expertise. I really do appreciate the time and effort you have gone to.

Importantly, I must thank my past students who completed questionnaires, and particular thanks must go to my interviewees who trusted me with their experiences, hopes and fears in practice- I have tried my utmost to tell your story as you presented it to me. Words of thanks must also go to my brilliant team- thank you so much for all the hugs and words of encouragement to keep me going, and especially for not letting me feel guilty about going to all those writing retreats- you have all been stars!

My final thanks must go to Abi, Aisha and Ciaran. Thank you for putting up with my books all over the dining room, and my endless weekends in the library to write my thesis. I know for a fact that I would not have completed this journey without your enduring love and support- I love you all so much, thank you.

Publications and conference proceedings

Allinson MD and Black P. (2018) Students views of an online decision-support tool, *Currents in Pharmacy Teaching and Learning*, 10(2), pp. 226-230.

Allinson M. (2017) Impact of undergraduate use of an online professional decision-making tool on pre-registration and early careers practice. Paper presented to International Pharmaceutical Federation (FIP) conference, Seoul, South Korea (oral presentation).

Allinson M and Black P. (2017) An exploratory study of ethical dilemmas faced by alumni from one school of pharmacy. *International Journal of Pharmacy Practice* Vol 25 (Suppl 1) pp 26-27

Allinson M and Black P. (2016) Developing moral reasoning skills for pharmacy practice. *International Journal of Pharmacy Practice* Vol 24 (Suppl 2) pp 4-5

Publication arising:

Allinson MD, Black P and White S. Transition from undergraduate education to early careers practice: preparedness for dealing with ethical and professional dilemmas in practice. *Conference abstract. HSRPP 2019.*

TABLE OF CONTENTS

ABSTRACT	II
ACKNOWLEDGEMENTS	IV
PUBLICATIONS AND CONFERENCE PROCEEDINGS.....	V
LIST OF TABLES.....	X
LIST OF FIGURES	X
ABBREVIATIONS	XII
PREFACE.....	XIV
OVERVIEW OF THESIS.....	XIV
MY PERSONAL JOURNEY	XVIII
My professional career to date	xviii
The challenge - a professional doctorate and the need for a reflexive approach	xix
Why professional ethics and Values Exchange™?	xxii
My personal ethical stance	xxv
 CHAPTER 1: INTRODUCTION.....	 1
1.1. AN OVERVIEW OF ETHICS	1
1.1.1. Definitions and terminology	2
1.1.2. Ethical theories	3
1.2. MORAL PSYCHOLOGY	6
1.2.1. Cognitive Moral Development theory	6
1.2.2. The Four Component Model of Morality	10
1.2.3. Measuring moral reasoning: The Defining Issues Test (DIT)	11
1.2.4. Using DIT to measure moral reasoning in the educational setting.....	13
1.3. PROFESSIONAL ETHICS	18
1.3.1. The professional decision-making process	19
1.3.2. Ethical challenges in healthcare	23
1.3.3. Research on ethics in Pharmacy practice: Search strategy.....	27
1.3.4. Research pre-2000- quantitative research	28
1.3.5. Research from 2000 onwards – the move to qualitative research	31
1.3.6. Codes of ethics	39
1.4. TEACHING ETHICS	42
1.4.1. Recent history of ethics teaching for medical and pharmacy students in the UK	43
1.4.2. Methods of teaching ethics	45
1.4.3. Scoping exercise	47
1.4.4. Teaching ethics at Keele University School of Pharmacy	48
1.4.5. Values and Values-based Decision Making (VDM): The importance of values	49
1.5. SUMMARY OF CHAPTER 1	51
 CHAPTER 2: VALUES EXCHANGE™.....	 53
2.1. USING VALUES EXCHANGE™ TO TEACH ETHICS AT KEELE UNIVERSITY SCHOOL OF PHARMACY	53

2.2. THE PEDAGOGY UNDERPINNING Vx	56
2.2.1. Kolb's learning cycle.....	57
2.2.2. Deep versus surface learning.....	58
2.2.3. Bloom's taxonomy	59
2.2.4. Deliberating on cases	60
2.2.5. Constructivism	61
2.2.6. Mapping pedagogical theory to Vx activity and RPS guidance.....	63
2.3. EVIDENCE SUPPORTING VALUES EXCHANGE™	66
 CHAPTER 3: RATIONALE, AIM AND OBJECTIVES OF STUDY	74
3.1. RATIONALE FOR STUDY	74
3.2. AIM AND OBJECTIVES	76
 CHAPTER 4: METHODOLOGY	77
4.1. UNDERPINNING ASSUMPTIONS IN THE STUDY	77
4.2. QUALITY OF MY RESEARCH	85
4.3. ETHICAL APPROVAL.....	88
 CHAPTER 5: MEASURING MORAL REASONING	90
5.1. METHOD	90
5.1.1. Choosing a data collection tool	91
5.1.2. The PEP test	92
5.1.3. Sampling and selection	94
5.1.4. Data collection.....	96
5.1.5. Data analysis	98
5.2. RESULTS.....	99
5.2.1. Response rate	99
5.2.2. Demographics	100
5.2.3. Assessing distribution of the data	104
5.2.4. Descriptive analysis.....	106
5.2.5. Comparing P scores across demographics	108
5.2.6. Comparison of responses to each scenario in the PEP test.....	111
5.3. DISCUSSION	112
5.3.1. Summary of results	112
5.3.2. P score results.....	113
5.4. SUMMARY	118
 CHAPTER 6: QUALITATIVE METHODS - VOICES OF PRE-REGISTRATION TRAINEES AND EARLY CAREER PHARMACISTS	120
6.1. DEVELOPMENT OF THE MAIN STUDY INTERVIEW SCHEDULE	120
6.2. SAMPLING AND RECRUITMENT	122
6.3. DATA COLLECTION	124
6.4. DATA ANALYSIS	125
6.5 OVERVIEW OF RESULTS.....	126

CHAPTER 7: THEME 1 - ETHICAL DILEMMAS IN PRACTICE 131

7.1. ETHICAL AWARENESS	133
7.1.1. Defining ethical dilemmas.....	133
7.1.2 'Ethical' versus 'professional' decision-making	135
7.1.3 Sector of professional practice	137
7.1.4. Ethical dilemmas in practice	138
7.2. PERSONAL FACTORS THAT IMPACT ON DEALING WITH DILEMMAS	146
7.2.1. Personal values and beliefs.....	147
7.2.2. Professional values.....	148
7.2.3. Experience	156
7.2.4. Confidence as a practitioner	158
7.3. WORKPLACE FACTORS THAT CREATE DILEMMAS	162
7.3.1. Time constraints	162
7.3.2. Culture of the organisation	163
7.3.3. Professional Isolation.....	165
7.3.4. Relationships with medical practitioners	166
7.4. SUMMARY	167

CHAPTER 8: THEME 2 – TRANSITION TO PROFESSIONAL PRACTICE..... 170

8.1. COURAGE AND CONCERNS IN PRACTICE.....	172
8.1.1. Willingness to challenge	172
8.1.2. Stress and moral distress	174
8.2. LEARNING THROUGH PRACTICE AND CONTINUING PROFESSIONAL DEVELOPMENT	176
8.2.1. Positive role-modelling.....	178
8.2.2. Negative role-modelling.....	178
8.2.3. Continued learning in practice	180
8.3. SUMMARY	186

CHAPTER 9: THEME 3 – FACILITATING LEARNING AND PROFESSIONAL DEVELOPMENT 188

9.1. THE Vx LEARNING ENVIRONMENT	190
9.1.1. General views of Vx.....	190
9.1.2. The technology	195
9.2. LEARNING AND REFLECTION	196
9.2.1. Deep approach to learning	196
9.2.2. Approaches to decision-making	199
9.2.3. Exposure to cases in preparation for practice	206
9.3. POTENTIAL ENHANCEMENTS FOR LEARNING AND PROFESSIONAL APPLICATION	208
9.3.1. Potential improvements to Vx.....	208
9.3.2. Professional application.....	212
9.4. SUMMARY	216

CHAPTER 10: FINAL DISCUSSION..... 219

10.1. OVERVIEW OF FINDINGS.....	219
10.1.1. Ethical decision-making in practice	223
10.1.2. Transition from undergraduate to pre-registration and early career as a pharmacist	231
10.1.3. Teaching and learning with Values Exchange™	240

10.2. STRENGTHS AND LIMITATIONS.....	250
10.2.1. Strengths and limitations of the PEP test.....	250
10.2.2. Strengths and limitations of the in-depth interviews.....	252
10.2.3. Reflexive thoughts on the research.....	253
10.3. IMPLICATIONS AND RECOMMENDATIONS FOR PRACTICE	257
10.4. FURTHER STUDIES	258
 CHAPTER 11: CONCLUSIONS	261
 REFERENCES.....	263
 APPENDICES.....	282
APPENDIX 1: PRECIS OF INITIAL STUDY.....	282
APPENDIX 2: OUTLINE OF ETHICS TEACHING ACROSS THE CURRICULUM	285
APPENDIX 3: OVERVIEW OF Vx CASES	287
APPENDIX 4: WORKING THROUGH A CASE ON Vx	292
APPENDIX 5: LETTER OF APPROVAL (ETHICS COMMITTEE)	295
APPENDIX 6: INFORMATION SHEET FOR PHARMACY STUDENTS.....	297
APPENDIX 7: INFORMATION SHEET FOR KEELE ALUMNI (PEP TEST)	300
APPENDIX 8: CONSENT FORM FOR PEP TEST	303
APPENDIX 9: CONSENT FORM FOR INTERVIEWS	304
APPENDIX 10: CONSENT FORM FOR USE OF QUOTES.....	305
APPENDIX 11: PEP TEST	306
APPENDIX 12: INFORMATION SHEET FOR ALUMNI (INTERVIEW)	312
APPENDIX 13: COVER LETTER	315
APPENDIX 14: REMINDER LETTER	317
APPENDIX 15: ASSESSING DISTRIBUTION OF DATA	318
APPENDIX 16: INFERENTIAL STATISTICAL TESTS.....	326
APPENDIX 17: INTERVIEW SCHEDULE	341
APPENDIX 18 – ETHICS COMMITTEE LETTER OF APPROVAL FOR EXTENDED DATA COLLECTION PERIOD.	346

LIST OF TABLES

Table 1 Six stages in the concept of cooperation.....	7
Table 2 Neo-Kohlbergian moral schemas.....	9
Table 3 Six steps in RPS Exercising Professional Judgement.....	23
Table 4 Mapping pedagogical theory to Vx activity	64
Table 5 Comparison of published studies evaluating Vx.....	67
Table 6 PEP test P score algorithm	93
Table 7 Response rates by cohort	100
Table 8 Demographic breakdown of participants across study cohort groups and compared to year of entry cohort groups.....	101
Table 9 Age-ranges of total participants	103
Table 10 Spread and average P scores across cohort groups.....	106
Table 11 Spread and average P scores pre- and post- 1 year of study.....	108
Table 12 Independent t-tests with bi-variate variables and P score	109
Table 13 Results of ANOVA tests with multiple variables and the P score.....	110
Table 14 Average scores for individual scenarios (max. score of 9 possible) by cohort group	111
Table 15 Demographic profile of interviewees	128
Table 16 Organisation of key themes	130
Table 17 Ethical dilemmas in practice.....	132
Table 18 Transition to professional practice.....	171
Table 19 Facilitating learning and professional development.....	189
Table 20 Mapping of skills perceived to have been developed through use of Vx to RPS Exercising professional judgement (2018).....	245
Table 21 Recommended improvements to ethics teaching using Vx	247

LIST OF FIGURES

Figure 1 Rest's Four Component Model of Morality.....	10
Figure 2 Kolb's Learning Cycle.....	57
Figure 3 Bloom's Taxonomy (new version).....	59
Figure 4 Mapping RPS Exercising Professional Judgement to Vx activity	65

Figure 5 Diagrammatical overview of research methods.....	79
Figure 6 Overview of quantitative research strand.....	96
Figure 7 Gender by cohort group.....	102
Figure 8 Ethnicity.....	103
Figure 9 Religious beliefs	104
Figure 10 A normal Q-Q plot of P scores	105
Figure 11 Mean P score with standard errors across the four cohort groups	107
Figure 12 GPhC Professional Standards Wheel	149
Figure 13 Average PEP test P scores across cohorts.....	224

ABBREVIATIONS

ACE	Academic Clinical Educator
ANOVA	Analysis of Variance
APPLET	Advancing the Provision of Pharmacy Law and Ethics Teaching
BME	Black and Minority Ethnic
CIT	Critical Incident Technique
CMD	Cognitive Moral Development
CPD	Continuing Professional Development
DERJT	Dental Ethical Reasoning and Judgement Test
DEST	Dental Ethical Sensitivity Test
DIT	Defining Issues Test
ECPH	Early Career Pharmacist
FCM	Four Component Model (of morality)
FIP	International Pharmaceutical Federation
GPhC	General Pharmaceutical Council
HEFCE	Higher Education Funding Council for England
ICM	Intermediate Concept Measure
ILC	Intermediate-Level Concept
IME	Institute of Medical Ethics
MDT	Multidisciplinary team
MUR	Medicines Use Review
OSCE	Objective Structured Clinical Examination
OTC	Over-the-counter (medicine)
PEP	Professional Ethics in Pharmacy
PG	Postgraduate
PROI	Professional Role Orientation Inventory
PRT	Pre-registration Trainee

RPS	Royal Pharmaceutical Society
RPSGB	Royal Pharmaceutical Society of Great Britain
SoP	School of Pharmacy
UG	Undergraduate
Vx	Values Exchange™

PREFACE

Overview of thesis

This thesis maps my journey of discovery into teaching professional ethics and decision-making at Keele University School of Pharmacy. An online decision-transparency tool, Values Exchange™ (Vx), is instrumental in the School delivery of its teaching on the subject of ethics. This tool has been in use since the inception of the School in 2006, but has not been evaluated. Research exists supporting short-term use of the tool, but its long term use and its potential impact on professional pharmacy practice has not been studied.

Before presenting my study I take a step back and consider my personal journey, reflecting on how I got to where I am now, why I wanted to research the teaching of professional ethics, and Vx in particular, with a focus on the *insider researcher* aspect of my study, and all that that entails. I finish the chapter by considering my personal ethical stance, where I confirm that I am not ethically perfect!

I then begin in Chapter 1 by providing an overview of ethics, touching briefly on philosophical ethical theories before moving on to moral psychology, with a focus on cognitive moral development. This section includes an introduction to the *Four Component Model of Morality*, which is grounded in psychological research, and outlines the key processes which are believed to be important in the production of moral functioning. Moral psychology is relevant because Vx does not align with any particular ethical theory, rather it supports users in moral reasoning, helping them to make a moral judgement or decision on a specific scenario. The focus is on the process of decision-making rather than the actual outcome of the decision itself. The hypothesis of the study is, therefore, that it could potentially support the development of skills necessary for good ethical decision-making in pharmacy practice.

I then move on to consider the development of professional codes of ethics. Although important in setting the standards that professionals are expected to attain, they do not, in themselves, support an individual in ethical or professional decision-making, particularly as standards can conflict. Ethical decision-making models aim to support ethical deliberation in a systematic way, and I highlight the challenges pharmacists might be faced with in practice, when ethical decisions have to be made.

After setting this context for my research, I review the literature in relation to ethics in pharmacy practice, and, having demonstrated that pharmacists are, and are likely to continue to be, faced with ethical and professional dilemmas in practice, I critically review the literature on the teaching of professional ethics and decision-making. At this point, I explain how ethics is taught at Keele School of Pharmacy (SoP), and introduce Vx, the online ethical decision-transparency tool that is used throughout the undergraduate course.

In Chapter 2 I theorise what I believe to be the underpinning pedagogy associated with the tool to support its use in teaching. I highlight the importance of considering values in decision-making and review the literature supporting the use of Vx. My research specifically addresses the gaps mentioned previously, of the impact of long-term use of Vx in undergraduate study, its application in Pharmacy, and the perceived impact of undergraduate use of Vx on later practice. From this I developed the aim and specific objectives of my study, which are included in Chapter 3.

In Chapter 4 I discuss the methodological aspects in relation to my study. I was keen to explore in-depth the views of Keele Pharmacy alumni on their experiences of dealing with dilemmas in practice, as well as their views on Vx. My research, therefore, needed to be primarily a qualitative study. Semi-structured interviews were chosen as they allowed for deep exploration of views whilst ensuring all key issues were addressed. Being aware that self-reported explanations of cognitive processes (such as decision-making) were

limited, as people can only share their conscious understanding of their thoughts, a questionnaire measuring moral reasoning was also applied. This provided a measure of implicit knowledge that drives decision-making. A mixed methods, pragmatic approach best suited my research needs and strengthened my methodology.

In Chapter 5 I present my quantitative strand of research. I had two pre-validated tests of moral reasoning to choose from: the Defining Issues Test (DIT) and the Professional Ethics in Pharmacy (PEP) test. I explain why I chose the profession-specific PEP test, and the rest of the chapter details my application of the test, with a presentation of my findings and associated discussion. There were four cohorts to test: Year 1 Pharmacy students (as a baseline comparator), Year 4 Pharmacy students, pre-registration trainees (PRTs) and early career pharmacists (ECPhs) up to two years qualified. Although not statistically significant, the test results revealed an interesting trend with moral reasoning scores increasing from Year 1 to Year 4, decreasing in PRTs to below Year 1 average score, then increasing again in ECPhs, but still averaging below Year 1 students; this warrants further investigation.

Chapters 6 to 9 are devoted to the qualitative strand of my research. I detail my methods and present an overview of my qualitative results in Chapter 6, followed by detailed analyses and brief discussions on each of my three themes in Chapters 7 to 9. The three main themes that emerged from my rich data were: ethical dilemmas in practice, transition to professional practice, and facilitating learning and professional development. Of note, interviewees reported that they were practising ethically on the whole, with an empathetic, person-centred approach generally demonstrated. They reported being faced with professional challenges at times that caused worry, but, ECPhs in particular, appeared to have the confidence to make difficult decisions in the best interests of their patients. PRTs reported lacking the confidence needed at times to make and action difficult decisions. Interviewees perceived Vx to be an effective tool in developing moral reasoning skills, and ethical sensitivity also, but felt it could not substitute the experience of facing real life

dilemmas. They suggested expanding the use of Vx beyond undergraduate education, and indicated that they would value further support on decision-making during pre-registration year and when first qualified. In Chapters 5, 7, 8 and, particularly, 9 of this thesis, I demonstrate that I have met all individual study objectives, thereby meeting the overall aim of my study.

I highlight my key overarching discussion points in Chapter 10, including triangulating my findings from both my qualitative and quantitative strands of research. This was the first application of the moral reasoning test, the Professional Ethics in Pharmacy (PEP) test, outside of Australia, its country of origin. Although it did not translate entirely in the UK setting, probably due to the different healthcare systems of the two countries, an interesting trend in scores as mentioned previously was observed. It could be hypothesised that the trend in average scores across cohorts could possibly be explained by a change in levels of confidence reported by interviewees when starting in practice. The trend in scores could reflect limited moral courage to action difficult decisions in practice, as opposed to actual changes in moral reasoning skills.

Students are taught that they should follow Royal Pharmaceutical Society (RPS) guidance on exercising professional judgement when in practice, using a step-wise approach to dealing with dilemmas. Having theorised the underpinning pedagogy of Vx in Chapter 2, I mapped this to the RPS guidance. In Chapter 10, I also mapped to the RPS guidance the skills perceived by interviewees to have been developed through use of Vx. In so doing I have provided both theoretical pedagogical reasons and data-driven evidence that support use of Vx as a tool to develop skills necessary for students to exercise professional judgement. Based on my data, I suggest ways to develop teaching with Vx and expand its use outside of undergraduate education. I end the chapter by considering the strengths and limitations of my study, implications for practice and identify further studies to emerge from my research. Finally, in Chapter 11 I present a brief conclusion summarising my findings.

My Personal Journey

My professional career to date

I began my career in Pharmacy as an undergraduate (UG) student at Manchester University over twenty years ago. I have no memory of ethics teaching beyond an awareness of the Professional Code of Ethics. I remember feeling excited and a little anxious about graduating but spent little time reflecting on what I might be faced with in practice. I had worked in a community pharmacy during summer and Christmas holidays and so knew generally what to expect, but I had not reflected on the kind of pharmacist I wanted to be. I did not have any real sense of identity of, for example, being patient-focused, of wanting to raise standards or of aspiring to be the best pharmacist that I could be. My head was simply full of scientific and clinical knowledge with a basic understanding of underpinning law. We had no professional student code of conduct so the idea of being a 'professional' pharmacist had always felt very remote to me as an UG student.

I worked in community pharmacy and primary care before moving to academia. I have worked in three different roles at Keele University School of Pharmacy (SoP) over fifteen years, moving from an initial role reviewing clinical evidence in 2003 to working in the UG SoP as an Academic Clinical Educator (ACE) teaching therapeutics, and then to my current position as Lecturer in Pharmacy Practice. I was lead trainer in a previous post in primary care so it felt like a natural progression to move to teaching in academia. On completing my Masters degree at Keele in 2001, I accepted the position of honorary lecturer on the postgraduate (PG) diploma in community pharmacy, so had training and experience in PG teaching prior to taking up the ACE role. From here I progressed to become a lecturer as I was keen to undertake research. Ethics is not a subject that I was particularly interested in up to this point, but rather teaching it was thrust upon me due to circumstances. I have become the School lead on ethics and researching on my teaching

of ethics seemed a logical step. I hoped that by undertaking a professional doctorate I would grow as a professional, as opposed to developing research skills alone studying a PhD. I believed the DPharm would help me improve as a lecturer, enabling me to better support my students and my organisation. I hope that, like my previous experience with further education, that it will open the door to new opportunities in my career also.

The challenge - a professional doctorate and the need for a reflexive approach

Lee (2009) proposes that professional doctorates are undertaken to acquire knowledge and research skills that can enhance professional practice. She identifies a commonality across all professional doctorates, namely the relationship between professional practice, the topic under investigation and the practitioner-researcher role. I have chosen to consider how I teach ethics. I have thought of the wider context of how ethics is taught and what the evidence is on how best to teach ethics, but ultimately this is an opportunity for me to reflect on how I teach ethics, and how best I can facilitate students' learning in this area.

To undertake doctoral level research I need to become critical in my approach to teaching and research. Carr and Kemmis (1986) claim educational research must *"reject positivist notions of rationality, objectivity and truth"*. Any educational theories developed from research must be based in the self-understandings of teachers, whom themselves must provide some view of how any distorted self-understandings can be overcome. They suggest that educational theory be transformational in relation to the way teachers see themselves and their situations.

Hunt and Sampson (2006) have defined reflexivity as:

“The cognitive ability to move fluidly back and forth between an inside and outside perspective on oneself, giving oneself up to the experience of ‘self as other’ whilst also retaining a grounding in one’s familiar sense of self.”

I am reflexive in my approach to conceptualising, analysing and making transparent my relationship with my research. As well as increasing the credibility of my research, Lee’s work (2009) advocates that this should contribute to my interpretation of it. Carr and Kemmis (1986) believe educational research will make practice more ‘theoretical’ by enriching it with a critically reflective approach, whilst remaining ‘practical’ as problems are identified and theories formulated grounded in the reality of educational practice. They see the active participation of teachers as researchers to be *“an indispensable necessity”* (p.126) as they will have experienced problems first hand. Drake and Heath (2011) highlighted one of the difficulties of insider or practitioner research to be integrating new professional and technical knowledge gained from within your profession with new academic or analytical knowledge of academia. Researchers must therefore transform their existing models of professional knowledge to become more critical and analytical reflectors on their professional knowledge. I had the advantage of already being an ‘academic’ and having undertaken a Masters degree, so hope that this will not be so difficult for me.

As an ‘insider practitioner’ I am in a vulnerable position, as I fluctuate between lecturer and doctoral student. Drake and Heath (2011) identified strengths of insider research such as the inherent knowledge of the organisation and established relationships, collegial connections and professional status which can provide opportunities to gain easier access to people and the possibility of enhanced rapport. It is not, however, without its challenges. It may be more difficult for an insider researcher to remain neutral, and maintain a broad perspective. There may be internal resistance to the research and it may impact on relationships with colleagues. For me, maintaining a neutral stance could be difficult as my experience of teaching with Vx means that I have pre-formed assumptions.

I know that I need to, therefore, at all times acknowledge any potential biases and be transparent as it will be impossible to remain totally objective. I have a vested interest in Vx being a successful tool. If, as a School, we decide not to continue using Vx based on my findings, there is a chance that no further time would be allocated to ethics teaching to replace Vx due to time pressure within the timetable.

The fact that my research subjects are current and former students brings both opportunities and challenges. An obvious benefit is easy access to current students as research subjects. Within my research I move from a position of power and authority, to being reliant on the support of my students. For the integrity and validity of my data I need students and alumni to be honest and truthful, yet the fact that an experienced lecturer will be conducting the interviews is likely to impact on responses. Some may feel inclined (or even obliged) to participate if they know me well, yet may be less willing to make negative comments for fear of upsetting me or the relationship we have. There are further relationships that need to be made transparent; for example, myself and the SoP. Drake (2010) argues that neutrality is impossible to achieve within the politics of the workplace. As lead for Vx within the School, my research is unlikely to affect my relationship with close work colleagues but this professional doctorate will, arguably, be a reflection of my effectiveness or ineffectiveness as a teacher up to now. It might expose my failings within the organisation, or identify institutional issues affecting teaching and learning that will need to be addressed. I have the added dimension that 'teachers' are also my work colleagues. Not holding a senior position, however, probably makes that relationship more acceptable and less awkward. I also need to consider my relationship with the developer of Vx, and the developer of the PEP test, the moral reasoning tool I use for some of my data collection. I had built up a relatively close professional relationship with them both, and the developer of Vx in particular has a vested interest in my findings. I need to ensure that these relationships do not impact on the way I view my data.

Why professional ethics and Values Exchange™?

When I started teaching in the UG School my teaching was therapeutics-based. At this time I felt that pharmacy practice, including law and ethics, was 'dry and boring'. I was, however, interested in getting involved with research again so when the opportunity arose for a lectureship in pharmacy practice, I applied. Within the team, aside from some minimal specialisms, all pharmacists could be asked to teach all aspects of practice, law and ethics. I did not have a strong desire to teach ethics but rather 'fell into it' as I initially was simply available to teach the timetabled sessions. As timetables rolled over I delivered the same teaching year-on-year and developed an interest in the subject. I think many students see ethics as a 'soft' subject based on opinion whereas, in reality, it requires application of analytical skills and the development of well-formed arguments to justify positions on any given topic.

When I was initially asked what I would like the focus of my professional doctorate to be, I found myself thinking through various options before deciding on ethics teaching. My choice of ethics teaching as a research topic was cemented by the reading of a paper by Wingfield, Bissell and Anderson (2004) entitled *The scope of pharmacy ethics-an evaluation of the international research literature, 1990-2002*. The authors identified a need for further research on the teaching and assessment of 'ethical competence' prior to practice, and this sparked my interest. Insider researchers often choose to research issues that they have been working with for a number of years (Drake and Heath 2011) and I am no exception. Using Vx within the curriculum is an area that I manage alone so I will have autonomy over any potential changes to its use. Basing my professional doctorate on ethics teaching encourages me to deepen my learning on basic ethical theories and concepts, as well as addressing my teaching methods. On reflection, this means that I will be introducing a further level of complexity to my learning as I would expect most people who undertake a professional doctorate to be experts within their particular specialism. My expertise is in teaching *per se*, so the fact that my underpinning

knowledge of ethics is self-taught is secondary. I have been informed that around half of all UK SoPs do not have a staff member with a formal qualification in ethics so I am not alone (personal communication, Joy Wingfield, Aug 2014). I have perhaps relied on Vx, however, due to my insecurities, fearing that my knowledge in ethics may be lacking. I have suffered with '*imposter syndrome*' (Clance and Imes 1978) throughout my academic life. This is the belief that I am less capable or inadequately fulfil my role compared with what others think of me (I hope!). I can be filled with self-doubt and a feeling of what Clance and Imes described as 'intellectual phoniness'. A study by Knights and Clark (2013) among academics working in business schools identified anxiety and insecurity associated with a sense of being unable to live up to the ideals of being a "proper" academic of 'incredible intellect and eloquence'. I continually aspire to do better, and after completing this thesis, may undertake further studies in ethics by way of credentialing my knowledge.

In Keele University SoP there is a core module on bioethics that is taught by an external ethicist in the first year of the course, but additional teaching on ethics and professionalism is included across years 1, 3 and 4, with teaching via Vx across all four years. Vx had initially been run by my senior lecturer and I assisted. After one year of joint working I facilitated all teaching and assessment on my own. I was keen to develop it and, in my first year, introduced discussion boards that enabled students to debate online. Before embarking on my research I also introduced a number of new Pharmacy-based scenarios. I had heard students complain about having to complete Vx, but did not know if this discontent was related specifically to the activity or the volume of work. Even work colleagues had grumbled about how 'boring' ethics was. I was quite apprehensive before my Initial Study as I was worried students' evaluation would be very poor. I was, therefore, very pleased and relieved with the positive findings that emerged (see Appendix 1). I acknowledge that possible selection bias means that I am probably more likely to hear views from people who enjoy ethics and enjoyed using Vx. Nevertheless, this

encouraging finding has strengthened my conviction that teaching with Vx is worth exploring in more depth.

I believe that there is scope to integrate ethics teaching much more into the MPharm curriculum and, in line with the revised Consensus Statement published by the Institute of Medical Ethics (2010), think that all staff have an obligation to share in its teaching. We are all role models working in different disciplines, and understanding the specific nuances of each discipline could mean the identification of specific issues to teach that others may not be aware of. For example, a scientist teaching about animal experimentation may have experience, or a greater understanding of, the conditions animals are kept in, and the level of experimentation animals are exposed to. Similarly, my background is working in community pharmacy and primary care so there may be ethical issues within hospital pharmacy that I am not privy to.

I would argue that the ultimate aim must be to achieve virtuous professionals through ethics teaching, one of the stated purposes of the revised core curriculum for medical education in the UK (IME 2010). This may not be achievable through classroom teaching alone, but I would argue that we can equip students with a greater awareness of ethical issues, the ability to reason through complex dilemmas and help them to develop a strong identity of being a professional with a sense of duty to put the patient first. By so doing, I hope that ultimately they will become caring, compassionate pharmacists that make the right choices when under pressure in practice. My view is that the more exposure to 'real' practice students receive throughout UG training, the more opportunity they will have to internalise the values that I am trying to instil.

My personal ethical stance

As an experienced pharmacist I believe that my ethical stance has evolved over time, as I would expect to happen to all reflective practitioners. I was probably quite naïve when I first graduated from university. At that time I would never have contemplated breaking any rules or laws under any circumstances. I have a strong sense of integrity and probably have what some people might consider to be quite a high moral grounding. This may be due to the influence of my parents who are both deeply religious and who instilled strong values in me from a young age. I would consider myself always to be a very fair person with a strong sense of justice and the need to look out for and support those either less fortunate or, in a work environment, less experienced than myself. That is not to say that I always 'do the right thing'. Throughout my time as a professional I have learned to see the grey areas in different situations and have, at various times, been willing to bend rules when I have felt justified in doing so. An American study has shown that ethicists are no more likely to undertake ethically justified acts such as returning library books, donating to charity or choosing to be blood or organ donors than non-ethicists of a similar social background (Schwitzgebel 2014). I probably, therefore, fit the norm whereby, despite deliberating on ethical issues and teaching ethics, I am not ethically perfect!

I have reflected on the impact of undertaking this research on my practice in my final discussion (Chapter 10).

CHAPTER 1: INTRODUCTION

1.1. An overview of ethics

Socrates said of morality:

"We are discussing no small matter, but how we ought to live." Socrates, in Plato's *Republic* (ca. 390 B.C.)

In this chapter I introduce the subject of ethics, addressing a broad overview of the most common ethical theories, and consider general approaches to moral reasoning. After looking briefly at the philosophical underpinnings, I consider in more detail, the psychology around moral decision-making, and consider moral reasoning within the context of four processes important in moral functioning.

I then move on to look at professional ethics with a particular focus on professional decision-making. I consider the broader ethical challenges facing healthcare professionals today, and then review the literature around ethical dilemmas faced in pharmacy practice specifically. This sets the context within which Pharmacy students will be expected to work, and demonstrates a need for students to be equipped with skills to deal with the many dilemmas that they will face in practice.

At this point I move to consider how ethics is taught, including what we are trying to achieve in the MPharm course by teaching ethics, how best to incorporate it into the curriculum, and report on some methods that have been employed to teach ethics thus far. From here I describe how we teach ethics at Keele University School of Pharmacy (SoP), and introduce Values Exchange™ (Vx), an online decision-transparency tool that is employed widely on the MPharm course at Keele.

1.1.1. Definitions and terminology

Ethics has been described as “*critical reflection on human conduct*” (Mitcham 2005) and is essentially the study of how we ought to live. It is the study of moral principles or values held or shown by an individual. Morality relates to human behaviours or characters considered good or bad. It relates to the distinction between right and wrong or good and evil actions, desires or character (OED 2018). The word ‘ethics’ is derived from the Ancient Greek word *ethikos*, relating to nature or disposition, whilst the Latin word *moralis* means ‘custom’ (Wingfield & Badcott 2007).

There does not seem to be one generally accepted distinction between ethics and morals (Rest & Narvaez 1994) although some distinctions have been debated within philosophical literature (Piercey 2001). I have, therefore, used the terms interchangeably in this thesis.

Normative and nonnormative ethics

Ethics can be described as either ‘normative’ or ‘nonnormative’ in character. *Normative, prescriptive ethics* is used to assess what ought to be done, or what is ethically valuable. It concerns considering what is the right thing to do in any given scenario (Cohen 2004). Prescriptive ethics, therefore, focuses on how one ought to behave and deals with *moral reasoning*. In contrast to this, the objective of *nonnormative* ethics is to establish ethical facts or concepts. There are two types of nonnormative ethics: *descriptive ethics* which describes behaviour, and *metaethics* which involves analysing language, concepts and methods of reasoning in normative ethics (Beauchamp and Childress 2009).

According to Cohen (2004), moral encounters (inquiries, discussions or arguments) can occur at three different levels: normative principles, normative issues and casuistry or

moralising. One can consider normative principles as general moral principles or the standard according to which people should behave, for example, tell the truth or the Golden Rule (do unto others as you would have them do unto you). Some principles can conflict. Normative issues are less general, and relate to specific ethical issues, for example abortion or whistle-blowing. The least general level is casuistry, and this is the study of moral choices within individual scenarios. At this level, any case should be discussed in context with individual circumstances considered. Any judgement or decision, however, should be informed by the general moral principle that one subscribes to.

Cohen (2004) also provides a 'minimalist' description of what a moral or ethical concern is by discussing six formal conditions that should apply, namely impartiality (must go beyond self-interest in coming to a decision), universalisability (judgement can apply to everyone), justifiability (ethical opinions must be able to be defended with reasons), overridingness (moral opinion overrides other opinions), non-negotiability (it should not be brushed aside), and action-guiding (moral reasoning is practical; it is reasoning for the sake of acting).

1.1.2. Ethical theories

There are many normative ethical theories that can be applied to an ethical issue or concern when coming to a judgement but it is not within the bounds of my thesis to detail them. I will, however, provide a brief overview of the most common which are consequentialism, deontology and virtue ethics. *Consequentialism* refers to the 'best' action as that which achieves the best overall consequences or result. This however raises questions of what the best consequences are, and best for whom? One is required to achieve these best consequences by whatever means necessary so the nature of the action is considered less relevant (Wingfield & Badcott 2007). *Utilitarianism*, a version of

consequentialism, was first proposed by David Hume (1711-1776) but argued most famously by Jeremy Bentham (1748-1832) and John Stuart Mill (1806-1873). They theorised that actions should be judged solely on outcome, that nothing else mattered, that outcome is measured by the amount of happiness or unhappiness created, and that each person's happiness is equally important (Rachels and Rachels 2006).

Deontological ethics is based on rule following and doing one's duty. Duty-based principles reflect what is right and must be followed, irrespective of the outcome. Particular emphasis is given to respect and dignity of the person, and cannot be overridden. All people are deemed to be equally important, irrespective of being mentally or physically compromised, very young or very old, or even deceased (Wingfield & Badcott 2007). Jean-Jacques Rosseau (1712-1778) and, in particular, Immanuel Kant (1724-1804), and later John Rawls (1921-2002) were major proponents of this viewpoint.

Virtue ethics considers that the moral uprightness of the individual and development of a virtuous attitude or character is most important. Virtuous choices would then take precedence over vicious ones. Examples of virtues are trustworthiness, loyalty and generosity, but these can be conflicting in some situations and should be expressed in moderation (Wingfield & Badcott 2007).

Four Principles approach

The '*Four Principles approach*' to biomedical ethics proposed by Beauchamp & Childress (2009) provides a theoretical framework from which to analyse ethical situations in medicine. It is worthy of specific mention as it is often referred to during the teaching of medical ethics. The four clusters of moral principles in question are: *respect for autonomy* (the right of the patient to hold views, make choices, and take actions based on personal values and beliefs), *nonmaleficence* (avoid causing harm), *beneficence* (provide benefits

and balance benefits against risks) and *justice* (ensure a fair distribution of benefits, risks and costs). These are underpinned by more detailed rules and provide a framework for moral deliberation. Often the principles or rules that pertain to a given situation conflict and a process of weighing and balancing needs to be undertaken. Critics have accused this approach as being imperialist, inapplicable, inconsistent and inadequate (Huxtable 2013) but it is the starting point of moral deliberation for many healthcare students.

Up to now I have described what ethics is, and discussed some of the ethical theories that can underpin decisions. The next section addresses the practical application of ethical or moral reasoning.

Moral reasoning

Moral reasoning has been characterised as “*an attempt to bring moral principles and specific judgements into harmony, consistency or alignment*” (Cohen 2004). There are a number of approaches to moral reasoning. *Top down reasoning* involves application of moral principles to a given situation. In this case, the principle is the immovable authority and if a judgement clashes with the principle to which the judger subscribes, then that judgement may need to be modified accordingly. *Bottom-up reasoning* is an alternative approach where the individual makes an initial judgement, their moral reaction to a situation, and this ground-level judgement is what drives the moral reasoning. Principles are then framed to align with the judgement so that they fit. In the early 1970s, John Rawls (1971) introduced the concept of *reflective equilibrium* where neither principles nor judgements take precedence and are non-negotiable, rather both are important, and it is the interplay between them that drives moral reasoning. With reflective equilibrium, reasoning can work in both directions so that there is a genuine interrelation between principles and judgements, with modifications of both principles and judgements possible so that they are consistent with each other. Within the context of Pharmacy, my

understanding would be that, in any given situation, a pharmacist is driven to decide on an outcome based on their personal beliefs and experience (inductive bottom-up reasoning), which may be revised to align with professional standards (deductive top-down reasoning). The choice of professional standard with which to align with may also change within the negotiating process until there is coherence with both our personal beliefs and the standard. At this point a morally acceptable reflective equilibrium will have been reached.

1.2. Moral psychology

Up to this point, I have discussed moral philosophy, which provides an important underpinning knowledge, but a key focus of my research centres on work originated in moral *psychology*, that is, the study of *how we make decisions*, as opposed to what moral decisions we should make. Specifically, my interest centres on the Four Component Model of Morality, developed by Rest (1983), which built on earlier work by Kohlberg (1969).

1.2.1. Cognitive Moral Development theory

A pharmacist faced with an ethical dilemma must choose the best decision from the options available. Cognitive Moral Development theory (CMD), developed by Kohlberg (1969), purports that a person operating at a higher level of moral development will be more likely to choose to 'do the right thing' when faced with an ethical dilemma than a person at a lower level. CMD theory is interested in how people think, and the process of arriving at decisions, as opposed to the final decision itself. Kohlberg describes 3 levels with 6 stages of cognitive moral development, consisting of a Preconventional level

(stages 1 and 2), a Conventional level (stages 3 and 4) and a Postconventional (or principled) level (stages 5 and 6). There have been many ways of describing Kohlberg's six stages, including the well-known description of the stages in terms of an individual's understanding of how to organise society-wide cooperation for establishing rights and duties (Rest and Narvaez 1994). It considers how individuals inter-connect with others (see Table 1).

Table 1 Six stages in the concept of cooperation

(Taken from Rest, J and Narvaez, D. (1994) Moral development in the professions. *Hilldale, New Jersey: Lawrence Erlbaum Associates Inc. pp.5*)

Stage 1	The morality of obedience: <i>Do what you're told.</i>
Stage 2	The morality of instrumental egoism and simple exchange: <i>Let's make a deal.</i>
Stage 3	The morality of interpersonal concordance: <i>Be considerate, nice and kind: you'll make friends.</i>
Stage 4	The morality of law and duty to the social order: <i>Everyone in society is obligated to and protected by law.</i>
Stage 5	The morality of consensus-building procedures: <i>You are obligated by the arrangements that are agreed to by due process procedures.</i>
Stage 6	The morality of non-arbitrary social cooperation: <i>Morality is defined by how rational and impartial people would ideally organise cooperation.</i>

In the Preconventional level individuals are mainly concerned with their own self-interests and make decisions based on direction from those in authority (e.g. a parent) or the promise of punishment or reward. In the Conventional level, relationships with others become more important; a person determines what is 'right' by conforming to the rules of society. A person who is performing at stages 5 or 6 bases their decisions on personally held beliefs relating to universal human rights, values or principles. At this Postconventional (or principled) level, an individual will act according to a personally held belief based on principles, even if this means violating a law in the process. Kohlberg's

CMD theory assumes that people develop both general and moral thinking skills along a stage-sequence continuum i.e. everyone starts at stage 1 with the most simplistic form of problem-solving and moves on to stage 2, then stage 3 and so on as they develop their moral problem-solving strategies (Rest and Narvaez 1994). Those functioning at the higher stages compared with lower stages are considered able to deal with more complex social problems. The morally right decisions at stages 5 and 6 are those based on principles that shape the laws and role systems within a society.

Developmental moral schemas

CMD theory was further developed by Rest *et al.* (1999a) who proposed the *Neo-Kohlbergian* model of moral judgement that evolved from Kohlberg's initial six stages. Kohlberg's stages focused on justice and social cooperation, but critics have called this a narrow view and identified competing orientations to morality, for example, Gilligan's (1982) ethic of care which focuses on having a voice and the need for responsiveness in relationships. In contrast to this, the Neo-Kohlbergian model was not grounded in any particular moral theory, but rather on the fact that as a person develops, their basic understanding also develops, enabling them to achieve judgements on more complex moral problems. The Neo-Kohlbergian approach by Rest *et al.* (1999a) replaces Kohlberg's six stages with three successive developmental moral schemas, where schemas are described as networks of knowledge that reside in long-term memory and which are evoked by new information resembling previous experiences. Unlike Kohlberg's view of moving from one stage to the next in a stepwise approach, Rest envisages moral development as shifting distributions, with an increasing frequency in the use of more complex problem-solving abilities as moral development grows. In other words, individuals can be functioning in more than one schema when faced with different decisions, but as moral development grows, higher schemas will be accessed more frequently. The three moral schemas are described in Table 2.

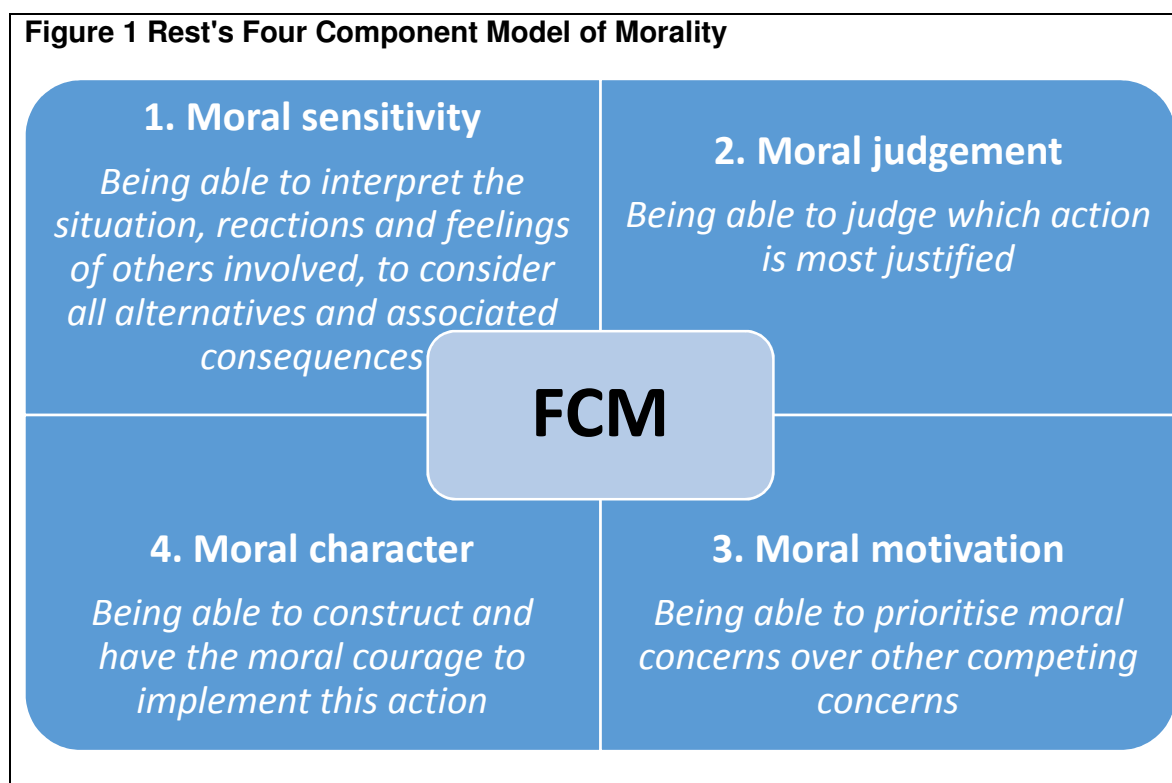
Table 2 Neo-Kohlbergian moral schemas

1. Personal Interest Schema derived from Kohlberg's stages 2 and 3
<i>People who function mainly in this schema do not address problems from a sociocentric perspective. They may analyse what each stakeholder has to gain or lose, and justify their decision by the personal stake one has in the consequences of an action. This is a more primitive form of thinking.</i>
2. Maintaining Norms (or Conventional) Schema derived from Kohlberg's stage 4
<i>People who function mainly in this schema are developmentally more advanced in attaining a sociocentric perspective. They will consider how people they do not know personally are going to co-operate. They are interested in maintaining the established social order and believe that authority must be obeyed out of respect for the social system – the 'rule of law'.</i>
3. Postconventional Schema derived from Kohlberg's stages 5 and 6
<i>People who function mainly in this schema are those who are developmentally most advanced in their moral thinking. Moral criteria are considered most important in any dilemma, with moral obligations based on shared ideals which are open to debate and tests of logical consistency.</i>

Most adults operate within the 'Maintaining Norms' and 'Postconventional' schemas. A major difference between them is that people functioning at the level of the Maintaining Norms schema establish a moral consensus by appealing to established practice and existing authority i.e. law and order, with the focus on maintaining good relationships. In contrast, individuals functioning at the level of the Postconventional schema will refer to moral principles and logical coherence in their arguments, while also understanding and usually accepting the laws of society.

1.2.2. The Four Component Model of Morality

Although a high level of moral cognitive development might be expected to lead to good moral behaviour, Blasi (1980) identified only a weak link between them. This suggested that additional moral processes alongside moral judgement were involved in overall moral behaviour or ‘functioning’. The Four Component Model (FCM) of Morality was designed by Rest (1983) to address a view of moral functioning in which people make decisions on real-life situations which are presumed to be highly contextual, affected by their moods and attitudes, and subject to competing pressures and needs. The FCM outlines the key components which are believed to be important in the production of moral functioning (see Figure 1).



This is not a linear model although all four components are thought to be important and necessary for adequate moral functioning. You and Bebeau (2013) tested all four components against five cohorts of dental students ($n = 385$) and found that the components were independent, i.e. competence in one did not predict competence in

another. Rest and Narvaez (1994) proposed that moral failure can occur due to a deficiency in any of the four components as they are the combined determinants of moral action. My study focuses on the process of moral reasoning. This falls under component 2, 'moral judgement,' and is discussed in more detail in the following section.

1.2.3. Measuring moral reasoning: The Defining Issues Test (DIT)

A range of tests have been developed to measure the four components of morality individually (Bebeau 2002). Examples include the Dental Ethical Sensitivity Test (DEST) (Bebeau and Thoma 1994) for component 1, moral or ethical sensitivity, and the Defining Issues Test (DIT) (Rest 1979) for component 2, which measures moral reasoning. The Professional Role Orientation Inventory (PROI) (Bebeau *et al.* 1993) is a measure of moral motivation (component 3), found to be closely linked with identity formation. Performance-based assessment such as Objective Structured Clinical Examinations (OSCEs) (Hochberg *et al.* 2010) can be used to assess ethical implementation, i.e. moral character (component 4) and also clinical competence.

The Defining Issues Test (DIT; Rest 1979) was a multiple-choice test devised to measure moral reasoning. Rest *et al.* (2000) asserted that schemas facilitate information processing and the DIT has been described as a device for activating moral schemas to the extent one has developed them. The DIT provides some information on an ethical case but relies on the individual to fill in the gaps (Narvaez & Bock 2002). Analysis of the patterns of ratings and rankings obtained through using the test provides estimates of the relative strength of the three moral schemas at which a person is functioning (see Table 2 p. 9). A P score, which is a measure of higher level principled thinking, is calculated from the test. This represents the percentage of an individual's overall moral functioning at the Postconventional level. The DIT can, therefore, differentiate between Conventional and Postconventional reasoning. The DIT has been reported in over 400 published articles.

Rest *et al.* (2000) presented seven criteria that they state have been demonstrated through the studies and therefore prove the reliability and validity of the test.

The DIT-2 test was introduced in 1999 as a shorter revised version of the DIT. It included new dilemmas set in modern contexts and language, and a new method of analysis, the N2 score (Rest *et al.* 1999b). The N2 score can be viewed as a modified P score that is adjusted by the degree to which the individual discriminates clearly between lower and higher stage items listed within the test. The DIT-2, therefore, measures a person's moral judgement (P score) and also the relative ease or difficulty a person has in making a decision (N2 score). Rest *et al.* (1999b) determined that the DIT-2 has better psychometric properties and reliability checks, and so has superseded the DIT test.

Why do we want to develop moral reasoning skills?

An important question to ask, is why do we want to develop moral reasoning skills in Pharmacy students? Blasi (1980) identified a weak link between higher principled thinking and the demonstration of honest and altruistic behaviour. It has also been reported that moral reasoning is a strong predictor of clinical performance across different healthcare professions including Medicine, Nursing and Pharmacy (Sheehan *et al.* 1980; Krichbaum *et al.* 1994; Latif *et al.* 1998). Sheehan *et al.* (1980) concluded that high moral reasoning virtually excluded the possibility of poor clinical performance, but findings from the other two studies suggested that high moral reasoning skills accounted for some (but not all) of the variance observed in standards of clinical performance. This would suggest that Postconventional moral reasoning is the level of moral reasoning at which healthcare professionals should be aiming to practice. These studies, however, used the Defining Issues Test (DIT) to measure moral reasoning, which is a test focused on justice. According to the DIT, those who focus on relationships are considered to be displaying a Conventional level of reasoning. Current health care practice shows a move towards a

more person-centred care approach (DH 2010), with a focus on building relationships, and it could be argued that a Conventional level of reasoning, as indicated by the DIT scores, may be more appropriate in some cases.

As discussed previously, the level of moral reasoning is a proxy measure of moral behaviour as the Four Component Model (FCM; Figure 1, p.10) recognises other components also at play. Trevino (1986) argued that behaviour is also affected by situational factors (e.g. job pressures), and individual variables such as ego strength (the resilience to cope with stress). Other factors specific to Pharmacy have also been identified, for example, isolation of community pharmacists and the culture of subordination to doctors have been found by Cooper *et al.* (2009) to result in ethical problems, whilst fears of legal prosecution or disciplinary procedures appeared to have resulted in 'ethical inaction' among some pharmacists (Cooper *et al.* 2008; Deans 2010). Measuring moral reasoning can perhaps be seen as a 'surrogate marker' for moral behaviour. Acknowledgment of all these factors highlights the difficulty associated with measuring and interpreting scores for moral reasoning skills alone.

1.2.4. Using DIT to measure moral reasoning in the educational setting

Historically the Defining Issues Test (DIT) has been used to measure moral reasoning based on cognitive developmental theories posited by Piaget (1932), Kohlberg (1969) and Rest (1986a). A review by Bebeau (2002) of over fifty studies that used the DIT within professional education found that a minimum of 20 to 29 contact hours of a teaching intervention was required to achieve a significant gain in DIT scores. Face-to-face discussion of ethical dilemmas was the most frequent method used, but alternative methods also showed significant gains in moral reasoning such as presenting and judging well-reasoned arguments in advance of small group discussion. Largest gains were obtained through student-centred moral discourse.

Contrary to the view that moral reasoning increased with increasing levels of education, for example, from high school through to higher education, previous studies have long found that moral reasoning scores regressed among medical students throughout their studies (Self and Balwin 1994). More recently Hren *et al.* (2011) found that medical students regressed from Postconventional to Maintaining Norms schema-based reasoning after entering the clinical part of their curriculum. This was a well-designed study that accounted for increasing age and a potential cohort effect. The authors concluded that the regression was due to the effect of the clinical learning situations, possibly due to the hierarchy within clinical practice, the specific nature of the dilemmas faced, and the hidden medical curriculum i.e. not openly intended learning whereby values and beliefs can be transmitted to students that may undermine messages from formal teaching.

Studies measuring moral reasoning skills in Pharmacy

Many of the earliest studies which measured moral reasoning skills among students within Schools of Pharmacy (SoPs) were conducted in the USA. Worryingly, Rest and Narvaez (1994) found that first year Pharmacy students ranked lowest in their moral reasoning skills when compared with students from Medicine, Physical Therapy, Dentistry, Veterinary Science and Nursing, with Pharmacy students being the only students not classified in the highest level of moral reasoning. In fact, a study by Dolinsky and Gottlieb (1986), which assessed moral reasoning in fourth-year Pharmacy students, found that two-thirds of the explanations given for decisions on ethical dilemmas were classified at Kohlberg's stage 3 or below, so at the personal interest schema level. This is, perhaps, unsurprising given that Pharmacy students have traditionally had limited clinical practice compared with other professions.

A larger study by Latif (2004) across 24 SoPs in the USA found a similar low score on moral reasoning, and also that the average score did not increase between first year and

third year students as would be hoped. This finding, however, may have been explained by cohort differences and the authors suggested a longitudinal study following the same students would provide more meaningful data. This was duly undertaken by Latif (2009) in one SoP and a significant increase in moral development was observed between the beginning and end of three academic years of study. Gallagher (2011a) found a significant increase in moral reasoning scores (N2 scores) across all four year groups in a cross-sectional study in one UK SoP, with the greatest increase observed between Years 3 and 4 students. The gap in N2 scores between Years 1 and 2, and also Years 2 and 3 appeared quite small and the statistical significance of the increases were not stated, but appeared not to be significant. Teaching staff were also included in the calculations which may have skewed the data in favour of a more positive finding.

In contrast, when the DIT-2 test was used by Prescott *et al.* (2014) in another UK SoP to measure moral development amongst first-year Pharmacy students, they found a significant decrease in the mean P score for all students at the end of Year 1 compared with at the beginning. They also observed a greater decrease in scores in male than female students. Prescott *et al.* suggested that the decrease in score may be a reflection of the measuring tool *per se*, which inherently emphasises justice, as mentioned previously; this does not align with a person-centred approach to care which Pharmacy students are currently encouraged to adopt. Hanna *et al.* (2017) also found that Year 4 Pharmacy students in a further UK SoP achieved a low average score on moral reasoning. This was despite students stating that they understood what 'professionalism' meant and what was expected of them. As a professional approach should reflect ethical practice, this is perhaps a surprising finding that needs to be further explored. This is discussed in more detail in Chapter 5, Section 5.3.2. (p.116).

Teaching moral reasoning: Levels of conceptualisation of moral judgement

According to Bebeau and Thoma (1999), there are three conceptual levels of moral understanding that can be used in teaching moral reasoning. The first level uses highly abstract “bedrock” markers, such as neo-Kohlbergian schemas based on cooperation and fairness; this is the level of moral reasoning that the DIT measures. Although one could argue it is important for the teacher to have an awareness of this when understanding moral decision-making, Strike (1982) has argued that this is too abstract a concept to be of much use when teaching students in an attempt to develop their moral thinking. The second level involves the use of ‘intermediate-level concepts’ (ILCs). These are most often used when teaching ethics on professional courses. Examples of ILCs include professional autonomy, competence, informed consent and whistle-blowing. ILCs provide a more concrete guide to students than general principles like justice or utility, which are abstract. The third level relates to codes of ethics, which tend to be action guides. These codes would rarely make reference to moral theories to explain or rationalise their content. In general, codes of ethics should align with ILCs, and ILCs should align with general ethical principles (Bebeau and Thoma 1999). It is possible that low average DIT-2 scores obtained in UK Pharmacy students (Prescott *et al.* 2014; Hanna *et al.* 2017) reflects the inability of the DIT-2 to measure profession-specific concepts that might be a truer reflection of the students’ learning and moral understanding.

Roche *et al.* (2014) developed an ‘intermediate concept measure’ (ICM) tool that is specific to Pharmacy. It focused on ethical dilemmas based on ILCs. This was used by Roche *et al.* as both an educational intervention and a measure of assessment. It resembles the DIT-2 in that it includes rating and ranking of a list of potential actions but, in addition, it includes the requirement for free text responses from the student as they work through a scenario, identifying the main ethical issues and providing justification for their decisions. This appears to be a valid educational intervention and a comprehensive measure aligned to the underpinning rationale of the DIT-2. It is not, however, designed

as a separate assessment tool, so would not be suitable to use in place of DIT-2 to assess students who have not undertaken the associated teaching intervention.

Other assessment measures of moral reasoning have been developed to measure intermediate-level ethical concepts specific to individual professions, for example the Dental Ethical Reasoning and Judgement Test (DERJT) (Bebeau and Thoma, 1999). This test addresses authentic professional problems which have been scored against judgements made by experts in the field of practice. In effect these are context-specific adaptations of the Defining Issues Test, designed specifically for use within the relevant profession. Chaar (2009) has developed the only Pharmacy-specific test to date, the Professional Ethics in Pharmacy (PEP) test, which also measures intermediate-level ethical concepts. This is the test that I have chosen to use in my research. I have included my rationale for this in section 5.1.1. (p. 91).

In this section I have discussed the psychological theory underpinning moral reasoning. I have explained how moral reasoning fits within the four components considered to be important in moral functioning, and provided justification for my focus on measuring moral reasoning skills. I also reviewed key literature underpinning the most common test used to measure moral reasoning skills, the Defining Issues Test, although a profession-specific test may be a more appropriate choice for my study. In the next section I turn my attention to the professional practice environment. I consider professional ethics, decision-making models that could be applied in practice, and the challenges facing practising pharmacists. In particular, I provide a detailed review of the literature around research on ethics in pharmacy practice.

1.3. Professional ethics

Medical ethics has a long and well-documented history (Kuhse & Singer 2012). Within healthcare, those described as 'professionals' hold a position of trust, are self-regulating and set their own individual standards (John and Reissner 2013). Members of professions are generally characterised as being knowledgeable and competent in their field and being capable of making professional judgements in areas of high uncertainty (Coles 2002). Pharmacy has been deemed to meet the desired elements of a profession in that it is considered an intellectual discipline with an associated standard of knowledge, there is a representative body for practitioners (the Royal Pharmaceutical Society), they provide service and advice to the public, and there are standards of conduct that must be met or fitness to practise procedures may be enforced (John and Reissner 2013).

The ethics of professionalism

The ethical basis of professionalism can be aligned to the three major ethical theories discussed previously in Section 1.1.2, p.3 (Wingfield and Badcott, 2007). A *deontological* approach would favour pharmacists owing a duty of care to their patients by virtue of their professional title, and this has been enshrined in the profession's codes of ethics. Because of the power imbalance between pharmacists and patients, they have a duty not to exploit the vulnerable. As a reflection of human rights, patients have a right to a good safe service, and for pharmacists to respect their autonomy, private life and beliefs. From a *utilitarian* viewpoint, pharmacists may have to balance individual patient needs with population needs with regards to resources in the management of drug budgets. Supporting patients to choose medicines for self-care can also relate to optimal use of limited funding. Involvement in public health campaigns is a utilitarian

endeavour to maximise happiness for the greatest number of people, whilst ethical duties to individual patients must be maintained, despite any utilitarian arguments for the greatest good. *Virtue ethics* espouses the possession of many virtues that people may expect from a professional such as integrity, compassion and empathy. Being a professional implies committing to these virtues and the ultimate aim is for all professionals to internalise them (Wingfield and Badcott, 2007).

1.3.1. The professional decision-making process

Students who are studying on ethics courses within humanities or liberal arts subjects may be required to understand ethical theories and demonstrate an ability to reason and justify their position, but arguably their actual views may be less important. In contrast, the ability to make good decisions is important for pharmacists and other healthcare professionals since poor decisions could result in adversely affecting patient care, potentially severely. Pharmacists are accountable for their decisions and any poor choices they make, contrary to established accepted ethical practice, could have serious consequences for them as well as their patients (Gillam 2012). They should, therefore, be able to justify their decisions based on reflection, reason and rationality (Wingfield & Badcott 2007, Buerki & Vottero 2013). Cohen (2004) argues that ethical decision-making aims to avoid two moral failures, namely moral negligence (failing to consider something that should be considered) and moral recklessness (failing to adequately consider something). All decision-making models appear to allow for moral pluralism; that is, they do not appear to give precedence to one single moral theory over another (Cohen 2004). I believe this to be an advantage to their applicability, as each individual theory has its own limitations.

It has been argued that ethical decision-making models could mistakenly imply that ethical deliberation is a mechanical process rather than a subtle, complex undertaking (Cohen 2004). There is an additional fear that the person using the model may feel the responsibility for the final judgement now lies with the tool rather than the individual. The use of models, however, reinforces the fact that ethical deliberation is not '*wishy washy, touchy-feely*' but a systematic process where specific issues can be articulated and dealt with (Cohen 2004). Wingfield & Badcott (2007) proposed that good decision-making processes should feature a systematic structure, supporting both rational and values-based reasoning, whereby any decisions made can be recorded. A systematic structure would support an analysis of action taken, resulting in better understanding if faced with a similar situation in the future. All professional decisions should be rational, with justifications made dependent on the specific circumstances of the dilemma. Seedhouse (2005) reminds us to avoid 'Spock reason' (a reference to the Vulcan character of the TV series Star Trek) and not rely on logic alone when coming to a decision. Personal values, as well as those of all interested parties, should be considered in the process. The decision-making process should support risk assessment and may be the basis of the defence for a chosen position. In practice, there may be occasion when it would be wise to record not just the outcome of decisions but justifications also, in case of challenge at a later date.

There are numerous ethical decision-making models or frameworks available. One of the earliest models was developed by Weinstein (1996) and consisted of four steps: (i) *gather facts*; (ii) *identify the values that play a role*; (iii) *generate options open to you, and*; (iv) *select an option and justify it*. This was a very generic model and easy to remember. In 2002, Appelbe, Wingfield and Taylor advocated their own 'four-stage approach', a pragmatic and utilitarian approach to decision-making within Pharmacy. They suggested that pharmacy professionals should: (i) *gather relevant facts*; (ii) *prioritise and ascribe values*; (iii) *generate options and* (iv) *choose an option*. Very similar to Weinstein's model, this is straight-forward and is likely to be easily remembered in practice situations.

Many models have been developed to suit a particular field of practice or organisation, for example accountancy (May 1990), business ethics (Trevino & Nelson 1999) and clinical ethics committees (UKCEN 2018). Manson (2012) presented an overview of the various ethical decision-making frameworks available for use by medical students and educators. She identified over twenty published frameworks used to aid ethical decision-making but noted a lack of evidence for effectiveness in either educational or clinical use. Her framework, the 'CoRE-Values Compass and Grid' was based on the key components for ethical clinical decision-making identified through her literature search. This was perceived to be useful by both students and teachers as it was thought to increase ethical sensitivity and help link theory to practice. Although interesting to know that it was well received, this paper did not provide evidence that moral reasoning skills were improved through its use.

Professional decision-making in Pharmacy

Professional ethics in decision-making has been described as the *"balancing of rights, duties, prima facie principles and legalities"* (Mitcham 2005). The ethical decision-making process relies on moral reasoning (Cohen 2004) defined as *'action guiding', and 'necessary for the exercising of good judgement'* (Chaar 2009). In a UK professional guide for pharmacists, ethical decision-making is discussed under the umbrella of exercising professional judgement (RPS 2018). 'Professional judgement' is described as:

"the use of accumulated knowledge and experience, as well as critical reasoning, to make an informed professional decision – often to solve or ameliorate a problem presented by, or in relation to, a patient; or policies and procedures affecting patients. It takes into account the law, ethical considerations, relevant standards and all other relevant factors related to the

surrounding circumstances. Furthermore, it will resonate with the core values, attitudes and behavioural indicators of professionalism.” (RPS 2018, p.14)

The General Pharmaceutical Council (GPhC) is the independent regulator for pharmacists and pharmacy technicians. It sets minimum standards that pharmacists must meet, in a bid to ensure that they are providing safe and effective care to patients and the public (GPhC 2017a). During the data collection period of my study, the second principle within the *GPhC Standards of conduct, ethics and performance* (2012) was that pharmacists must use their professional judgement in the interests of patients and the public.

The revised Pharmacy professional standards include standard 5: *pharmacy professionals must use their professional judgement* (GPhC 2017a). Furthermore, the first outcome set by the GPhC for the initial education and training of pharmacists is that a pharmacy professional must be able to recognise ethical dilemmas and respond in accordance with relevant codes of conduct (GPhC 2011). Providers of undergraduate pharmacy degree (MPharm) courses have an obligation, therefore, to teach the underlying principles and application of professional judgement, and for students to learn and apply these in subsequent professional situations. As Wingfield & Badcott (2007 p.7) state, all decisions should be ‘*rational, impartial, consistent and accountable*’ for a pharmacist to be deemed to have acted in a professional manner.

In practice, the standard approach to making professional judgements in the UK is likely to be the approach advocated by the Royal Pharmaceutical Society (RPS 2018); the professional body representing pharmacists, pharmacy students and pharmacy technicians. The six steps proposed by RPS for exercising professional judgement are shown in Table 3. There is underpinning information that relates to each section, but no reference is made explicitly to ‘morals’ or ‘values’, only to *conflicting obligations* possibly

related to patient or public interests or professional, legal or contractual obligations. The introduction to the step-wise approach does, however, refer to the need for ethical consideration. It also highlights the need for any final judgement to align with the core values, attitudes and behaviours expected of a professional.

Table 3 Six steps in RPS *Exercising Professional Judgement*

1.	Identify the ethical dilemma or professional issue
2.	Gather relevant information
3.	Identify the possible options
4.	Weigh up the benefits and risks of each option
5.	Choose an option
6.	Record

1.3.2. Ethical challenges in healthcare

Professional ethics has increasingly grown in importance across a wide range of disciplines, for example, in law, engineering, business and teaching. This has also been observed within healthcare, where ethical challenges pervade daily practice. Millstone (2014) discusses the need for medical practitioners to learn to be morally sensitive, to learn to make professionally grounded decisions, and to develop moral courage in the face of '*disincentives and bureaucratic challenges*'. Within the profession of Nursing, Austin (2007) recognises challenges with regards to power inequalities between the Nursing and the Medical profession, poor systems within employer organisations, and an inability to speak up or not be listened to. Staff reductions and a fear of litigation reportedly increase the pressure. Austin's paper, although based on practice in the USA, translates to Nursing practice in the UK prior to poor practices being exposed at Mid-Staffordshire NHS Foundation Trust (2013). Many changes were introduced in

hospital trusts across the UK following the findings from Mid-Staffordshire, including an impetus to increase staffing levels and a greater focus on quality and safety of patient care (Thorlby *et al.* 2014).

Ethical challenges in Pharmacy

According to the International Pharmaceutical Federation (FIP) Working Group on Professional Ethics and Professional Autonomy (2014), increasing ethical challenges in pharmacy practice is a world-wide issue, as Pharmacy goes through the transition from a largely supply function to a patient-centred function. Four categories of ethical challenges have been identified by the group. These are ethical challenges originating from (i) individual and personal considerations such as a lack of a sense of professional responsibility, (ii) economic considerations such as allocation of limited resources or workload pressures, (iii) human interactions between employer-employees or among colleagues, for example, inter-professional conflict or whistleblowing, and (iv) the system or framework of practice applied resulting from legislative or regulatory constraints.

Challenges facing Pharmacy in the UK

Similarly, in the UK, with the deskilling and routinisation of Pharmacy dispensing practice, the advent of dispensing automation and the expanding role of the pharmacy technician, pharmacists have been searching for new and innovative ways to use their expert clinical knowledge on medicines and carve a new niche within healthcare. The Department of Health White Paper *“Pharmacy in England - Building on strengths, delivering the future”* (2008) promoted extended roles for pharmacists, including the provision of a wide range of services such as medicines use reviews, minor ailment schemes and public health initiatives. Most recently, in 2014, NHS England published its vision for the NHS in the

document *Five year forward view* (NHS England, 2014). This report proposed new models of care, one of which included the greater use of clinical pharmacists in GP practices. This provides a reason for an increasing number of pharmacists to train to be independent prescribers. Alongside this, the Pharmaceutical Services Negotiating Committee (the body who negotiates the service contract with the NHS on behalf of the community pharmacy sector) and Pharmacy Voice (an association of trade bodies representing the community pharmacy sector) proposed their vision for the future of community pharmacy in *Community Pharmacy Forward View* (2016), which promotes the role of community pharmacists as facilitators of personalised care for people with long-term conditions. Cooper *et al.* (2007) argued, and I agree, that with extended roles comes greater responsibilities and an associated increased opportunity to be faced with ethical dilemmas in practice.

The expectations of patients have also evolved and Petrova *et al.* (2006) found that users of services are more knowledgeable than ever before, have greater access to information and are more autonomous, and argued that their personal values need to be taken into account when decisions involving them are being made. There has been a movement towards *person-centred care*, supported by UK policy on shared decision-making (DH 2010). The four principles of *person-centred care* is that care is personalised, co-ordinated and enabling, while treating people with respect, dignity and compassion (The Health Foundation, 2016). This is a move away from the traditional paternalistic approach towards care, to where patients have a voice and are supported in their decision-making. This could potentially, however, cause tension and conflict when a patient's preferred choice does not match that of the health care professional.

Patients are also increasingly aware of the fallibility of health care professionals in general through media reports. For example, the inadequate care provided in Mid Staffordshire NHS Foundation Trust (2010), and the death of a patient due to a pharmacist's dispensing error which made headline news (BBC 2017). As a regulatory body, the GPhC has the

authority to provide written warnings or remove pharmacists from the register if they are in breach of professional standards; at the time of data collection for my study pharmacists could face prosecution under criminal law for serious dispensing errors. Since then, community pharmacists are no longer at risk of criminal prosecution due to inadvertent dispensing errors (Anon 2018), but they are still working within a highly regulated environment, and, arguably, have to contend with an authoritarian approach by the regulatory body and thereby may fear the potential consequences of their actions (Southall-Edwards, 2006).

Community pharmacists face their own specific challenges by working within a commercial environment, with an increasing number of pharmacists being employed by large corporations. This means they are subject to the working conditions and requirements set by their employing organisation. Jacobs *et al.* (2013) identified various sources of stress for community pharmacists, including understaffing, inflexible work hours and lack of participation in decision-making. Funding cuts and increasing pressures to meet targets and achieve profits can, arguably, make it difficult at times to demonstrate professional autonomy. In addition to this, the isolation of the working environment, and the advancement of new services and ways of working (e.g. New Medicines Service, Healthy Living Pharmacies, the introduction of Electronic Transfer of Prescriptions and access to Summary Care Records) all highlight the need for pharmacists to be able to deal effectively with a potentially increasing number, and possibly increasing complexity, of ethical dilemmas that they may be faced with in practice. This potential increase in complexity could be due, for example, to an increasing number of patient encounters on a daily basis where consent and confidentiality must be obtained and maintained.

1.3.3. Research on ethics in Pharmacy practice: Search strategy

My research was a broad-based study which related to four separate areas: (i) ethical dilemmas and decision-making in professional pharmacy practice, (ii) teaching and learning professional ethics and decision-making, (iii) studies involving the application of Vx in teaching, and (iv) the measurement of moral reasoning.

The literature search was undertaken initially in September 2014 but repeated at regular intervals (most recently June 2018).

All searches for a literature review began with publications from January 1990, but on occasions when returned items exceeded 200 articles, this was revised to a starting date of January 2000, as a period of time when pharmacy practice was facing many changes, for example, extended roles and increasing clinical input. Only English language papers were included.

Databases were chosen based on subject areas, specifically, education, pharmacy and medical ethics. This ensured that literature relating to other healthcare disciplines would not be missed. Specific databases included: EBSCO, JSTOR, Wiley Online Library, ProQuest, ERIC, AMED (Allied and complementary medicine), CINAHLPlus, MEDLINE (EBSCO) and Web of Science. These were used in all searches.

The following MeSH headings were applied systematically in different combinations for the four broad topic areas:

Ethical dilemmas and decision-making in professional pharmacy practice:

pharmac*, medic*, nurs*, ethic*, moral*, dilemma*, decision-making, reasoning, judgement, “ethical sensitivity”, “moral distress”, “moral courage”

Teaching and learning professional ethics and decision-making:

pharmac*, medic*, nurs*, teach*, learn*, pedagog*, “professional ethics”, ethic*,
moral*, dilemma, decision-making

Studies involving the application of Vx in teaching:

“Values Exchange”, “values transparency”, values, ethics, teach*, education

The measurement of moral reasoning:

pharmac*, medic*, nurs*, “Defining Issues Test”, “moral reasoning”, measur*,
“Four Component Model”

Boolean operators ‘AND and ‘OR’ were used to structure the search strategy. An asterisk (*) was used as a truncation symbol to ensure inclusion of various word endings.

In addition, reference lists of key papers were screened for further relevant studies, Professor David Seedhouse, the developer of Vx, was contacted regarding articles relating to the use of Vx, and the Pharmacy Research UK (PRUK) website was specifically accessed for reports of related studies.

The searches revealed studies addressing ethical dilemmas in pharmacy practice, studies concerning moral distress, methods on teaching ethics and published literature on the use of Vx. These are discussed in detail in the rest of this chapter and in Chapter 2, Section 2.3, p.66.

1.3.4. Research pre-2000- quantitative research

The literature revealed a range of studies pertaining to the views or experiences of pharmacists facing dilemmas in practice. It is presented in chronological order, providing a timeline of pharmacy research in ethics. Much of the pre-2000 literature relates to

quantitative studies conducted in the USA (Lowenthal 1988, Hadad 1991 & Latif and Berger 1997).

In the late 1980s, Lowenthal (1988) made indicative findings that pharmacy students (n = 165) and pharmacists (n = 55) in the USA were generally concerned about the welfare and rights of their patients, often prioritising them over economic or legal concerns. By analysing responses to ethical dilemmas, he estimated that they were exhibiting higher principled reasoning around half of the time. Lowenthal raised concerns, however, that changes in healthcare delivery, technology and extended professional roles meant that pharmacists would be faced with more frequent and challenging dilemmas in the future. This paper reported only on pharmacists' moral reasoning ability, and not on their actual experiences, or how pharmacists dealt with problems in practice. It did, however, provide a good overview of how pharmacists (and future pharmacists) would like to act in difficult situations so showed good intention. It highlighted the need for closer collaboration and team-working in practice among healthcare professionals to resolve dilemmas in an increasingly challenging environment.

Hadad (1991) presented a strong case for the need to include ethics education formally within the Pharmacy curriculum. This was based on the responses (n = 869) from US pharmacists across eight states to a questionnaire. The questionnaire was developed from a tool originally used within Nursing, but adapted to include the most commonly cited Pharmacy dilemmas from the literature. The tool measured perceptions of the degree of difficulty and incidence of dilemmas in practice. Key findings included that 58% of respondents had been involved with at least one ethical dilemma in the last year, and that dilemmas were more likely to occur in community practice than in the hospital setting. Older pharmacists with the greatest number of years of clinical experience reportedly perceived less difficulty with resolving ethical problems. Reasons suggested for this included their being more experienced dealing with problems, their greater maturity

influencing how problems were perceived and increased apathy with increased exposure to dilemmas over time.

In contrast, younger pharmacists perceived a greater incidence of, and difficulty with, dilemmas, which led Hadad to conclude that ethics should be taught within UG curricula. This was not common practice at that time, and Hadad argued that students needed to develop ethical reasoning skills so that they could resolve dilemmas in practice. She advocated the need for students to discuss small commonly experienced problems as well as bigger (often described as 'more exciting') ethical dilemmas, and the importance of using clinical teachers from practice as good role models to share and discuss the ethical issues with which they were faced. The paper is limited to dilemmas cited in the literature and does not report on specific issues that were actually faced in practice.

Lowenthal (1988) presented pharmacists with examples of ethical dilemmas obtained from normative Pharmacy ethics literature and *'those reportedly experienced in practice by pharmacists'*, whilst Hadad (1991) referred to Nursing literature as well as the normative pharmacy ethics literature as a basis for dilemmas in her questionnaire due to the paucity of published pharmacy practice-based examples. They did not, therefore, have access to research-based real life examples upon which to devise their questionnaires. At that time, the availability of a limited number of real life example scenarios had also been raised as a problem in both the fields of business and medical ethics (Randall and Gibson 1990, Davis 1991).

Latif and Berger (1997) used the Defining Issues Test (DIT) to measure moral reasoning in cohorts of community pharmacists and pharmacy students. They found that the average moral reasoning scores achieved by practising pharmacists ($n = 113$) were lower than that of pharmacy students ($n = 92$), and that pharmacy students scored lower than all other student professions measured. They proposed three reasons for these observations: those with higher moral reasoning abilities did not choose Pharmacy as a

profession; higher reasoners chose to leave community practice; and the possibility that practitioners regress in ethical cognition in the community practice setting.

1.3.5. Research from 2000 onwards – the move to qualitative research

Hibbert *et al.* (2000) in the UK were the first to attempt to gain a deeper insight into the extent and type of ethical dilemmas faced by community pharmacists, whilst also attempting to understand how dilemmas were resolved in practice. They used as their reference normative ethical principles and business ethics. Community pharmacy was the chosen setting due to the increasing number of 'employee' pharmacists working within a commercial environment, and the potential constraints of working in the sector. Although they conducted a small study of only seven community pharmacists using a qualitative methodological approach, a wealth of empirical evidence detailing ethical concerns in practice was gathered. The authors' interpretation of the data was that the pharmacists had an appreciation of the Four Principles as described by Beauchamp and Childress (2009) whilst not overtly stating them. Examples of dilemmas included respecting confidentiality and the willingness to provide an unlawful emergency supply of an inhaler. Legal, occupational, organisational and personal value sets which related to business ethics were also apparent in the interviews, with one pharmacist unhappy with their employer's promotional activities and concern for profits. The authors claimed this study demonstrated that community pharmacists were aware of ethical issues and, although not referring explicitly to ethical principles, appeared to still have the practical skills and common sense required to deal with dilemmas. A willingness to break the law for the benefit of the patient was noted, which, I agree, is a highly principled approach to take because it represents Postconventional moral functioning, prioritising the moral issue (beneficence and/or non-maleficence) over legal constraints. A pharmacist working at a Conventional, 'Maintaining Norms' level would remain within the law irrespective of patient need.

Although an important study, a number of criticisms have been raised by Holloway (2000) who purported that the authors' interpretation of values and principles could not be relied upon as the reasons behind the behaviour stated were not analysed. He proposed that the reported behaviours could be driven by the levels of empowerment and impact of regulatory constraints within which pharmacists work as opposed to their own moral compass. Although Holloway makes a valid point, if this was solely the case, I would argue that pharmacists would be unlikely to risk breaking the law in order to benefit a patient, as was presented in Hibbert *et al.*'s study. A further criticism by Holloway was the limited underlying analysis relating only to one normative ethical theory, the four principles of autonomy, beneficence, non-maleficence and justice (Beauchamp and Childress 2009), whilst ignoring all other moral theories. Again, as this is the most popular theory underpinning medical ethics teaching, I would argue that it was a sensible, pragmatic approach for Hibbert *et al.* to take amid the array of ethical theories in existence.

Moral distress in Pharmacy

In the mid 2000's, the issue of moral distress appears in the Pharmacy literature for the first time, although it had been prevalent in Nursing literature since the 1980's (Jameton 1984). The concept of moral distress as a result of facing ethical dilemmas in Pharmacy was introduced by Kalvemark *et al.* in 2004. Traditionally moral distress had been defined as the stress due to ethical dilemmas, thought to result from institutional constraints. In this Swedish study, the views of hospital doctors, nurses and pharmacy staff (pharmacists, dispensers and pharmacy assistants) were sought via focus groups (n = 5-7 in each group). Although the results were heavily influenced by reports from doctors and nurses, it showed that all staff experienced moral distress, and that factors other than institutional constraints were involved e.g. legal regulations. Results from the pharmacy-based focus group were used to inform the development of a questionnaire that was completed within three hospital pharmacies (n=59) (Kalvemark Sporrang *et al.* 2005).

Although a small study and not widely representative, it reinforced the findings of the initial qualitative element that moral distress is a problem within Pharmacy, with the most stressful situations relating to a lack of resources e.g. time and staffing. Dilemmas, therefore, arose when the interests of the patients conflicted with the interests of the organisation. Interestingly, among the pharmacy cohort, the examples of rule-breaking given were reported as less stressful than situations experienced by doctors and nurses (although still stress-inducing), and younger pharmacists reportedly found it more distressing to act against their conscience than their older counterparts.

A third paper by Kalvemark Sporrang *et al.* (2006) described the development of a more general tool to measure moral distress across the professions. Use of this tool showed that those working in hospital pharmacy (n = 59) reported less moral distress and more tolerance and openness than the cohort of doctors (n = 34) or nurses (n = 148). This is perhaps unsurprising as the care provided by doctors and nurses in close contact with patients on a daily basis probably provides greater opportunity for dilemmas to occur. This study was conducted in Sweden over ten years ago, within a different healthcare system to the UK, so the findings may not be directly comparable to the experience of pharmacists currently practising in the UK. A tool to measure moral distress in community pharmacies has recently been developed in the UK (Astbury *et al.* 2015, [PRUK] 2014). The tool includes a wide range of pharmacy-related scenarios so this is, arguably, likely to produce more reliable information that represents current UK practice.

Importantly, Kalvemark Sporrang *et al.* (2006) disagreed with the view that the onus should solely be on individuals to be ethically competent to make correct decisions, and act on them. They argued that moral distress must be seen within the context of ethical dilemmas (and not separate from them, which had been the view thus far). They identified a need to educate staff to help increase their moral competence, and called upon organisations to provide structures of support, for example, institutionalised ethics discussions, either through supervision or mentorship. This has been reiterated by

Astbury *et al.* (2015) in the UK, who have called for guidance and supportive resources to be developed to help pharmacists deal with moral distress, as well as strategies to reduce the incidence of dilemmas occurring in the workplace to help prevent it.

Everyday problems in Pharmacy: Australia and the UK

Around the time of Kalvemark Sporrang's research, Chaar *et al.* (2005) was investigating ethical reasoning skills and experiences of ethical dilemmas in practice among Australian pharmacists, looking specifically at how they applied ethical theory. In this qualitative study, twenty-five pharmacists working in community, hospital and academia were interviewed. They found that the overriding concept that underpinned the pharmacists' practice was 'the best interests of the patient', whilst the dilemmas described involved a conflict between the best interests of the patient and a range of other issues such as legal concerns, doctor's opinion, hospital policies and commercial pressures. Often, the pharmacists relied on (or, arguably, hid behind) the law or referred patients back to doctors to avoid making difficult decisions. Worryingly, community pharmacists (often owners) with financial pressures responded that they would knowingly choose to address their financial concerns over the best interests of the patient; they did not appear to lack ethical awareness, but felt under immense pressure to make a profit. In addition, their adherence to the law at a cost to patient welfare was in response to a fear of potential consequences if they were prosecuted i.e. losing their business. This is in contrast to Lowenthal's findings two decades earlier, where experienced pharmacists in the USA reportedly exhibited high ethical standards on business practices (Lowenthal, 1988). The only example in Chaar's study of pharmacists willing to defy rules was in relation to hospital pharmacists disagreeing with policy when they deemed the patient required a particular treatment. This suggests a level of higher principled reasoning and perhaps supports Latif's theory that pharmacists with higher principled reasoning choose to work in a sector other than community practice (Latif 2000a). In line with Hadad (1991),

Australian pharmacists appeared to be exposed to the most difficult and greatest number of dilemmas in the community setting. Analysis of the findings showed that both hospital and community pharmacists demonstrated minimal understanding of bioethical principles or coherent ethical reasoning, they lamented a lack of ethical training, and stated that they never referred to their professional code of ethics whilst working in practice.

Cooper, Bissell and Wingfield produced a series of papers relating to dilemmas that occur in practice, ethical decision-making and the ethical significance of isolation and subordination of community pharmacists in the UK (2007, 2008 & 2009). These papers were based on semi-structured interviews undertaken with 23 community pharmacists. In their 2007 paper, Cooper *et al.* reasoned that by identifying what community pharmacists find ethically problematic in their work (i.e. not necessarily two moral wrongs constituting an 'ethical dilemma', but, for example, moral versus legal conflict constituting an 'ethical problem') this would further enable the authors to consider the wider psychology and emotions associated with ethical decision-making, and allow for influences beyond the moral realm such as self-interests and law to be factored in.

Routine, low-drama problems emerged from the study, although many pharmacists were described as 'ethically inattentive' since they struggled to identify and describe ethical problems. Legal and procedural aspects of practice were found to significantly influence decisions, with concerns most commonly raised around the supply of controlled drugs. Further concerns included illegal requests for emergency supplies of medication, the use of monitored dosage systems and questioning whether or not to challenge prescribers. Financial and ethical concerns relating to the sale of non-prescription medicines were raised, associated with demanding customers and pressure from the organisation to generate profit, and there was a particular focus on emergency hormonal contraceptive supplies and the conscience clause. Whilst all of these are specific to Pharmacy, a small number of pharmacists described concerns that are common across the whole of healthcare, namely, confidentiality, refusal of treatment and whistle-blowing.

Cooper *et al.* (2007) expressed concern that the legalistic approach demonstrated by the pharmacists in their study suggested a reliance on law which might obfuscate ethical concerns and the need to make difficult ethical decisions. One recommendation from this study was the need for further research into the teaching of law and ethics. This was an interesting paper that provided a rich description of the every-day problems faced by pharmacists and highlighted how the work environment and regulatory constraints influenced decisions made. It therefore provided a more pragmatic approach to the realities of dilemmas faced by pharmacists in practice. The study could be looked at from a psychological viewpoint; when cognitive moral development theory is applied (Rest 1983), the pharmacists appeared to lack ethical sensitivity and, with rare exception, seem to be practising at a Conventional level of principled thinking i.e. abiding by the laws governing their practice. This would be in line with the earlier findings of Latif (2000a) who suggested that practising community pharmacists tended to base their decisions on lower level Conventional cognitive reasoning, possibly due to the environment they found themselves working within.

Deans (2010) also aimed to identify the dilemmas encountered day-to-day in pharmacy practice, their frequency and how they were resolved. Three focus groups were conducted with pre-registration trainees, community pharmacists and pharmacists training to become supplementary prescribers (n = 3 – 4 in each group). The focus group members identified dilemmas which were incorporated into a questionnaire and subsequently sent out to pharmacists working in community, hospital and primary care practice across two counties in the UK. Analysis of the focus groups highlighted an understanding of ethics that seemed to be based on common sense, was subjective, and relative to cultural norms. The pharmacists prioritised the best interests of the patient, but also acknowledged competing interests such as the pharmacist's own interests (both commercial and fear of removal from the professional register), patients' conflicting interests and legal obligations. The questionnaires (n = 255, response rate 54%) recorded frequencies of dilemmas occurring and invited participants to choose an action to show

how they would resolve a dilemma, even if they had never been faced with it in practice. It is not, therefore, a completely accurate reflection of what has happened in practice, but includes intentions, albeit without the need for moral courage to action them. Community pharmacists tended to encounter a wider range of scenarios than hospital pharmacists, but there was a lot of agreement on the action taken/chosen both within sectors and between sectors for the majority of scenarios. Although a patient's health interests were seen as the most important factor in coming to a decision, there was also a concern for regulatory constraint. In some instances, therefore, pharmacists reported that they were willing to break the rules in the best interests of the patient; at other times they chose to abide by the law irrespective of the patient's needs. This appeared to be due to a measured respect for the law itself or, possibly, a fear of the possible consequences of breaking it.

Dean's paper aligns largely with research reported elsewhere, with a common sense approach to ethics being demonstrated, without an ability to articulate the ethical reasoning underpinning their approach. This study again reported, along with others, that dilemmas are a frequent occurrence within pharmacy practice (Hibbert *et al.* 2000, Chaar *et al.* 2005, Cooper *et al.* 2007, Benson *et al.* 2009) and highlighted the need for scrutiny with regards to how ethics is taught at undergraduate level. Deans proposed that further research should be undertaken to look at the impact that formal ethics education has on the ethical sensitivity, attitudes and behaviours of pharmacists in practice.

Socially embedded professional ethics

Benson *et al.* (2009) shifted the focus from identifying a deficit in the individual to producing a more socially embedded account of professional ethics. By this they meant to focus on the context within which pharmacists were faced with their dilemmas, so they were interested in *'the interactions between individuals, working cultures, institutional*

structures and broader social systems and processes'. They interviewed 38 pharmacists working in community, hospital and primary care/policy roles to identify what practitioners saw as making Pharmacy valuable, or in other words, what *ought* to be done in practice. Two core values emerged: respect for medicines, with a focus on managing medicines reliably and safely; and patient's best interest, although this tended to be interpreted rather paternalistically as the best clinical benefit rather than patient choice. Dilemmas were categorised into four main themes, i.e. rules and rule-breaking, resource dilemmas, patient communication and working in teams. Discussion around dilemmas revealed a willingness to exercise their professional judgement and break rules or law, although this was sometimes due to overriding personal values as opposed to professional norms.

A high level of professional commitment was demonstrated throughout but value judgements were often hidden, with reasoning described in terms of scientific rationality, with a particular emphasis on evidence-based medicine. Also of note, was the fact that practitioners showed very little evidence of reflection on values or deliberation on dilemmas. I would contend that this paper highlights the need for greater literacy about values and ethics on an individual basis so that pharmacists are better equipped to make and discuss ethical decisions. Benson *et al.* make the point, however, that focusing on the individual is not enough, and call for the profession to find mechanisms to build professional structures and cultures which may enable greater professional decision-making and ultimately reduce moral distress.

The analysis by Benson *et al.* showed a degree of understanding and empathy with the difficulties faced by pharmacists, and acknowledged the frequent inherent conflicts and pressures involved when required to act professionally and in the best interests of the patient in an increasingly difficult environment. In line with previous authors' findings (Hibbert *et al.* 2000, Chaar *et al.* 2005, Cooper *et al.* 2007), the level of ethical deliberation evident from a philosophical standpoint was very limited, but these pharmacists appeared to be thoughtful, highly committed individuals who were making patients their prime

concern wherever possible. This study provided further support to Kalvemark Sporrøng's point that the context of an ethical dilemma must be accounted for, and Benson identified pharmacists' diverse (and at times competing) role expectations as creating tensions leading to moral distress. Kalvemark Sporrøng *et al.* (2006) called on individual organisations to provide better support to decrease moral distress, but I would argue along with Benson *et al.* that the empirical research highlighting the difficulties faced, and resultant distress caused, also puts an onus on professional and regulatory bodies to alleviate this distress where possible.

Austin (2007) raised the issue of moral distress within the Nursing profession, whereby nurses knew what the best ethical action was to take, but due to constraints within the environment were unable to follow through. She called for further research into healthcare environments as *moral communities*, highlighting the need for a culture that enabled dialogue, connection and respect. Moral distress had reportedly (Monrouxe *et al.* 2015) been identified during student placements by pharmacy, medical, dentistry and physiotherapy students and research is ongoing in this area within community pharmacy practice (Astbury *et al.* 2015, [PRUK] 2014). In the meantime the Pharmacy profession, led by the RPS, has been working to affect a change in culture, with the introduction of the concept of a *just culture*, based on fairness, transparency, a willingness to learn from mistakes and be accountable for one's actions (RPS 2018). It is hoped this will provide a climate within which pharmacists will feel empowered to exert their professional judgement as appropriate.

1.3.6. Codes of ethics

Kalvemark Sporrøng *et al.* (2005) stated that "*Professional ethics could be defined as the codifying of different professions' traditions of solving ethical dilemmas that might occur within the practice of the profession.*" The GPhC has codified the principles that both

qualified pharmacists and pharmacy students are required to abide by (GPhC 2012; GPhC 2010). At the time of data collection for this study, there were seven overarching principles within the GPhC's *Standards of ethics, conduct and performance* (2012), which set the standards expected of the pharmacy profession. Pharmacists, as professionals, are held to various levels of accountability including personal accountability i.e. the moral basis of wanting to do the right thing. They are also bound by professional accountability through a code of ethics and the possibility of professional regulatory processes, by legal accountability and liability, mostly for professional negligence through the civil law of tort, by accountability arising from either the provision of healthcare (clinical governance) or from employment (employment law), and by accountability from within the commercial environment (Wingfield & Badcott, 2007).

Codes of ethics have been criticised as not being helpful in practice, and studies have shown that many pharmacists do not refer to them or are not aware of their contents (Hadad 1991, Hibbert *et al.* 2000, Chaar *et al.* 2005, Kalvemark Sporrang *et al.* 2005). The findings reported by Benson (2009) were instrumental in helping the Pharmacy profession in the UK revise its code of ethics. Deans and Dawson (2005) produced empirical research showing that there were perceived benefits to the old code of ethics. At times the code provided practical help and a framework for pharmacists to work within and fall back on, setting a standard of expected professional behaviour. Overwhelmingly, however, it was seen as too vague to be helpful in many situations yet also too prescriptive (a technical-rational approach), not allowing enough flexibility for pharmacists to exercise their own professional judgement. As a result of the research by Benson *et al.* and Deans and Dawson, guidance was changed from a technical-rational approach to a more principled approach. The RPSGB (the UK Pharmacy regulator prior to the GPhC) identified seven principles that should underpin and inform pharmacists' decision-making processes, whilst enabling pharmacists to make professional judgements within the context of their own practice (Wingfield, 2007). A recently revised version, the GPhC

Standards for pharmacy professionals, now contains nine standards (or 'principles'), with a strong focus on person-centred professionalism (GPhC 2017a).

I would argue that more should be done to increase the awareness, knowledge and understanding of the GPhC *Standards* among pharmacists. They underpin the attitudes, values and behaviours that are expected of pharmacists by the public and the professional body, and serve as a guide to what pharmacists are measured against. Bauman (1993) reported that critics suggested producing a universal set of laws and ethical codes only tends to increase reliance on formal laws and codes. It is argued that this would result in disengaged individuals who will not make difficult decisions, but rely on legal and procedural systems instead. This may be true of those codes with a technical-rational approach, but I would argue that a principle-based code that encourages the application of professional judgement could be empowering. Bowden & Smythe (2008) believed that a good code of ethics was one that reflected the moral dilemmas faced in practice and included assistance with resolving them. I do not think that the GPhC *Standards* helps particularly with resolution of dilemmas, but recent changes to continuing professional development requirements include the need for pharmacists to write a reflective account demonstrating application of the standards in practice as part of their revalidation process (GPhC 2018a). This should raise general awareness and knowledge of the *Standards*, whilst also, arguably, highlighting the importance for pharmacists to be values literate. They also need the skills to be able to weigh up professional decisions and have the moral courage to stand by them. It is paramount that educators help to develop this understanding and ability in pharmacy students so they are equipped to deal with difficult ethical decisions once in practice.

From this section it is clear that pharmacists face many challenges in practice, and this is likely to increase with the expanding clinical role of Pharmacy. A common recommendation from many studies was the need to consider how to prepare students in

undergraduate years to be equipped with the skills necessary to deal with dilemmas in practice.

In the next section I move on to provide a brief overview of the evidence to date on teaching ethics, and reflect on how ethics is taught at Keele SoP. This includes an explanation of how teaching at Keele aligns with the theory of values-based decision-transparency.

1.4. Teaching ethics

It is generally acknowledged that ethics is difficult to teach for a number of reasons, believed in part to be due to the fact that it is perceived as an intangible subject. Often there are no right or wrong answers, it may address processes rather than knowledge, and it aims to ultimately change behaviour (Bertolami 2004, Campbell *et al.* 2007). The theory-practice gap refers to the difficulty students experience trying to integrate academic knowledge into real-world practice. Bridging this gap has been found to be challenging in ethics, for example, van der Burg and van de Poel (2005) identified that engineering students found it difficult to apply their learning in real life situations.

There is debate around what we can hope to achieve through ethics education. Dean and Beggs (2006) found that business school professors did not believe they could change students' ethical behaviours, whereas Sims (2002) claimed that ethical behaviours could be developed in business students. Most of the evidence for effective ethics teaching in healthcare relates to the ability to increase moral (or 'ethical') sensitivity and moral reasoning skills (Latif 2009, Bebeau 2002, Gallagher 2011a, and Roche and Thoma 2017), but this does not necessarily equate to having the moral courage to stand by that reasoning and act ethically in practice.

1.4.1. Recent history of ethics teaching for medical and pharmacy students in the UK

According to Stirrat (2010), good progress has been made in relation to teaching medical ethics within the field of Medicine both in the UK and internationally. In 1998, a consensus statement was published by the Institute of Medical Ethics (IME), introducing a model curriculum for medical ethics and law within UK Schools of Medicine (Consensus Statement 1998). Although a step in the right direction, paucity of good evidence was highlighted by Campbell *et al.* (2007) regarding the effect on students, with some studies implying students could improve in attitudes and actions taken, whilst others believed students lost ethical sensitivity, in part due to poor role models, as they progressed through the medical course (Goldie *et al.* 2004). Campbell *et al.* (2007) believed there was a need for “*an enrichment of teaching methods*” within the medical ethics curriculum, with clearly defined outcomes and properly validated assessment methods. In 2010, the original consensus statement of a core curriculum was revised (Stirrat *et al.* 2010) with a practical guide for the assessment of medical ethics and law made available on the IME website from 2013.

Within Pharmacy, the APPLET project (Advancing the Provision of Pharmacy Law and Ethics Teaching) was funded from 2002 by the Higher Education Funding Council for England (HEFCE) to support teachers in pharmacy law and ethics, many of whom did not have formal qualifications in the subject area (Wingfield *et al.* 2005). A core curriculum was developed which covered law, ethics and regulatory issues with shared teaching materials and short courses delivered to upskill teachers. The pharmacy ethics content was not as comprehensive as the medical core ethics curriculum, but was an important advancement in pharmacy education.

Incorporating ethics teaching into the curriculum

There is general agreement across professional groups that ethics should not be taught as a standalone subject but should be integrated and taught across the curriculum (Stirrat *et al.* 2010; Campbell *et al.* 2007; Bowden & Smythe 2008). Findings from a study with medical students by Goldie *et al.* (2004) suggested the need for full integration of small group ethics teaching throughout every year of the course, and proposed that the assessment of ethics should be incorporated into all formal exams. IME recommends that all staff share responsibility for teaching ethics, which reflects the move away from ethicists and philosophers teaching professional ethics (Stirrat *et al.* 2010). Bowden and Smythe (2008) proposed that those teaching on ethics courses should be people from within the discipline itself as opposed to moral philosophers. They argued that teachers of ethics needed to be aware of entrenched, unethical practices that occur in the workplace so that students were aware of them, the rationale being that, by having considered this poor practice in advance, they may be able to resist later when faced with it in practice. They also argued that students need to be aware of discipline-specific issues where there is ethical dissonance within the profession, and have the opportunity to reflect and consider their own viewpoints prior to embarking on professional practice. Bowden and Smythe proposed that less attention be given to ethical theories and more to applying ethical decision-making methods such as the Four Principles approach advocated by Beauchamp and Childress (2009). The new model core curriculum revised Consensus Statement for medical ethics education (2010) introduced 12 learning outcomes, only one of which related overtly to ethical theory (foundations of medical ethics and law), so this perhaps reflects the 'de-theorisation' of ethics courses in Medicine. As a general guide, Conroy & Emerson (2004) argued that ethics courses should have discipline-specific codes of conduct embedded into teaching rather than a more general ethics course, suggesting that this might affect views and associated behaviours in practice.

1.4.2. Methods of teaching ethics

The best method for teaching ethics continues to be up for debate. Although not evaluated, a case-based learning approach has been described in the classroom setting using problem cases drawn from the real world (Georgiou *et al.* 2008; Holden *et al.* 2014). Georgiou *et al.* argued that this approach involved both inductive and deductive engagement by the student. Deductive learning is based on rationalism and promotes theoretical knowledge (e.g. a lecture to cover theoretical foundations of a concept) whilst inductive learning, based on empiricism, promotes learning from praxis (being faced with a concrete problem). These two forms of learning are seen as interrelated with one feeding into the other, so much so that eventually the deductive and inductive nature of learning cannot be distinguished and the student has 'internalised' their learning (Bell and Margolis 1978). Peer discussion of ethical case studies in Pharmacy and Medical courses has been shown to result in an improvement in moral reasoning scores, in part due to the opportunity to practise moral problem-solving skills and to learn from peers (Latif 2004, Self *et al.* 1998, Rest 1986b, Roche *et al.* 2017). Problem cases are tools to prepare students for the real world and, although not a substitute for real life experiences, they do appear to expose students to cognitive conflict, and allow them to develop knowledge in a safe environment (Georgiou *et al.* 2008).

Various other formats have been used to teach ethics, including medical drama (Arawi 2010, Shevell *et al.* 2015), problem-based learning and team-based learning (Harasym *et al.*, 2013; Chung *et al.* 2009; Hasan 2011), debate (Hanna *et al.* 2014) and reflective practice (Gallagher 2011b). Most published papers, however, are descriptive in nature with little evaluation of the effectiveness of the teaching method in question.

Online ethics teaching

Of particular interest for this thesis are reports covering the experience of web-based ethics teaching since Vx is an online tool. Schonfeld (2005) discussed early experiences of teaching an online course in healthcare ethics to a range of allied healthcare professionals. Benefits included enabling students to return to the 'classroom' on more than one occasion to facilitate full deliberation of learning materials and also the fact that a degree of anonymity was conferred as it was not face-to-face i.e. only peers known to the individual would recognise their name and therefore know who posted particular comments. Furthermore, students had the option for full anonymity if desired by not disclosing their name online. Challenges were found, particularly that web-based courses generally benefited visual learners, (although recordings could also be uploaded for aural learners), and the asynchronous nature was seen as possibly detrimental to the learning experience of some students due to delayed response times.

A small quantitative study by Gwozdek *et al.* (2008) claimed that three-quarters of first year dental hygiene students felt learning was effective when communicating and working together online (n = 28). This finding is a little misleading however as, although the study had both synchronous chat rooms and asynchronous blogs, students only accessed the blogs, whilst face-to-face meetings and telephone conversations were more frequent than any means of online communication. Wong and Abbruzzese (2011), however, found that student-driven online learning experiences among physical therapy students promoted cognitive processes through debate, discussion and integration of curriculum content. The authors felt that the skills developed in presenting and defending opinions (as opposed to passive learning) would help students to manage unforeseen challenges in practice. This was a descriptive study and the authors highlighted the need for further research to confirm or refute these findings.

Web-based ethics teaching has also been reported for qualified healthcare professionals (Moses *et al.* 2015, Chin 2017). Moses *et al.* (2015) presented a very detailed casebook relating to difficult decision-making in Medicine. It contained twelve modules which included commentaries from experts (senior clinicians) on cases, with associated reflective questions, links to background information and a teaching and learning section. This was followed by a second volume in 2017 which focused on older people (Chin 2017). These seem to be excellent free online resources that support healthcare professionals, but neither appear to have been fully evaluated and there is limited opportunity for online interactivity.

1.4.3. Scoping exercise

Having looked at the published literature on ethics teaching, I undertook a brief scoping exercise in 2012 to identify the methods employed to teach ethics in UK university Schools of Pharmacy (personal unpublished data). Responses from ten of the twenty-eight schools contacted revealed that they used a form of structured questioning, for example, Wingfield and Badcott's *Four Stage* model or the *Stop, Think, Act* problem and decision-making reflective model, but no School used an online tool. Case scenarios were, reportedly, used to stimulate discussion and, although some Schools integrated ethics teaching throughout their curriculum, most undertook the majority of ethics teaching in their third or final year. At the time of the scoping exercise there was one other SoP using Vx for inter-professional education with first year students only. To my knowledge, one other UK SoP has introduced Vx since then.

1.4.4. Teaching ethics at Keele University School of Pharmacy

Ethics at Keele SoP is taught as a thread of teaching rather than a block module (see Appendix 2 for an outline of ethics teaching from Year 1 to Year 4). In the first week of teaching in Year 1, students are acquainted with the GPhC *Standards for Pharmacy Professionals* (GPhC 2017a) and expectations of them in terms of attitude and behaviour. It is impressed upon them that they are trainee professionals, and both the School and their professional body expect them to reflect this in what they say and do. Alongside other ethics teaching, the Vx decision-transparency tool is introduced. Students receive a short introduction on the underpinning theory, and are then supported through a practice case. During a follow-up session the findings are discussed and debated. Three new Vx cases are then opened for each year group. Vx is discussed in detail in Chapter 2.

Assessment of learning is undertaken via theory-based multiple choice questions, an assignment on fitness-to-practise scenarios which includes ethical considerations, and competency-based assessments addressing ethical dilemma scenarios in the final year of the course. Students are also assessed each year on three scenarios they must complete on Vx. They are required to debate each case online, and complete individual reflections on their decision in relation to each case. This is expanded on in Chapter 2, Section 2.1, p. 53. Professional behaviour is also captured within the professional development strand of teaching which incorporates learning via Vx. Students complete a professional portfolio which includes a final reflective report on the Vx cases. They are also required to accrue 'professional activity credits' for demonstrating professional behaviour in different settings, for example during personal tutee meetings, and whilst on formal placements and undertaking voluntary roles.

1.4.5. Values and Values-based Decision Making (VDM): The importance of values

Teaching on the MPharm course at Keele SoP places importance on values as indicated through the use of Vx. There has been a growing focus on professionalism and pharmacy values over the last two decades. A discussion paper supported by the Royal Pharmaceutical Society of Great Britain was published in 2000 entitled *Developing pharmacy values: stimulating the debate* (Cribb and Barber 2000). The authors held that it is essential to recognise that Pharmacy is not only a knowledge-based, but also a values-based profession. They proposed that values should not be marginalised but at the 'core' of pharmacy practice, and recommended that pharmacists were literate about values and ethics. This meant that pharmacists needed to be involved in discussions using the 'language' of values, have a reflective awareness of value and ethical issues, and develop skills around ethical sensitivity, judgement and mediation, whilst being able to accept uncertainty. Cribb and Barber argued that this would support pharmacists in making practical judgements in the work place. One of their recommendations involved making changes to UG education to support these aims.

Teehan (2003) supported this view by suggesting that the path to morality should be based on an understanding of reasons, emotions and the interplay of them both. He argued that using both (rather than a purely logical approach) better enables identification of problems and possible solutions, whilst still acknowledging the important role of logical analysis and the development of moral rules. This viewpoint, however, is not without its critics; for example, Savulescu (2006) when proffering arguments against conscientious objection, recommended that values should not influence individual care to a patient, claiming it could lead to discriminatory medicine, whilst Rachels and Rachels (2006) suggested the possibility that emotions could be removed from ethical reasoning. Vx,

however, encourages reflection on emotional involvement in cases alongside logical, rational analysis of each scenario.

Values-based decision making

Vx aims to support decision-transparency so that differences in values can be made explicit in decision-making. Professor David Seedhouse, the developer of Vx, believed it impossible to act in value-free ways and to rely on logic alone (Seedhouse 2005). He stressed the need for healthcare professionals to balance reason and emotion and believes that emotions play an equally important role in decision-making. Seedhouse argued that it would be naïve to see values as right or wrong, as one person's positive value may be another's negative value. Although values-based decision-making has some overlap with decision support, its aim is to achieve decision-transparency i.e. it is used to clarify values, their relationship to evidence, and the influence of both on decision-making. In other words, the aim is not to determine 'what is right' but to explore differences of values. It does not aim to be dictatorial and works on the premise that there are no truly ethical answers. This is based on Fulford's (2004) principles, as discussed in Chapter 2, Section 2.1. p. 53.

Petrova *et al.* (2006) suggested that, to prepare practitioners for values-based practice in the workplace, teaching should focus on raising the awareness of one's own values, and developing skills to elicit values held by others e.g. patients. They also argued that being able to then negotiate values to reach a balanced decision was also important, so the development of analytical, communication and negotiation skills was key. Use of Vx should, in theory, help to develop these skills. Analytical skills could potentially be developed through analysing cases using Vx. Students then have the opportunity to further develop communication and negotiation skills by debating and challenging the values of their peers on online discussion boards. Seedhouse (2005) acknowledged

some limitations to Vx, such as the potential for value words to be interpreted in different ways, for example the 'common good' might be conceived as health-related or profit-related. The system also relies on people being honest, and it may be perceived as restrictive as there are limited options for students to choose from (even though these options also serve as prompts). Despite these limitations, Vx may be an important tool in supporting students to develop values awareness and warrants further investigation.

1.5. Summary of Chapter 1

In this chapter I have presented a general overview of ethics and ethical theories. I described the underpinning theory from the perspective of moral psychology, explaining why it is important that students are supported in developing skills in moral reasoning. I have gone on to provide evidence of the types and frequency of ethical dilemmas that pharmacists have been faced with in practice over the last twenty to thirty years, and have also highlighted the increasing challenges that pharmacists of today are and will continue to encounter. Added to this are the expectations of the Pharmacy professional body (and the public) regarding the standards that should be adhered to by pharmacists. I have therefore identified a need for pharmacists to be able to deal effectively with ethical dilemmas in practice.

Before explaining what is taught at Keele SoP, I identified some recommendations regarding the teaching of medical ethics in particular, for example, the need to integrate ethics teaching throughout the curriculum. I also looked briefly at the different methods of teaching that have been evidenced, with most being based on case discussion; also an important element of ethics teaching at Keele SoP. I have paid attention to the use of online methods to teach ethics, since a major component of our teaching at Keele SoP is the use of an online tool (Vx), thus supporting the validity of web-based teaching of ethics. From here I have presented a brief outline of teaching at Keele SoP, showing that ethics

is taught across all four years with the Vx online tool as part of the professional development strand of teaching.

In Chapter 2 I will focus on Vx, with an aim to present my personal view of the educational underpinning of Vx, and a review of the evidence to date supporting its use.

CHAPTER 2: VALUES EXCHANGE™

This chapter explains the principle underpinning Values Exchange™ (Vx) as a values transparency tool to support ethical and professional decision-making, and provides detail on its use at Keele SoP. I begin by describing how I use it to teach ethics, and I propose pedagogical theories to explain why it should be effective as an educational tool. This is followed by a review of published literature to date pertaining to its use, supporting its use as a teaching tool, but also highlighting the need for further research.

2.1. Using Values Exchange™ to teach ethics at Keele University School of Pharmacy

Vx is an interactive platform developed by Seedhouse (2005, 2009) that provides a framework using traditional theoretical approaches presented in everyday language to support students to develop justified reasons for their ethical stance on case studies with an ethical dimension. There is a general Values Exchange™ website that requires a login to access fully (see <http://www.vxcommunity.com/>). At Keele, the site works in a similar fashion, but is a bespoke secure site for Keele University alone. Seedhouse's development of the Vx was underpinned by Fulford's principles (2004) of values-based practice. This involved ten principles, for example, that all decisions are both values- and evidence-based and only conflicting values are noticed. Conflicts are believed to be resolved by balancing legitimately different perspectives. Ethical reasoning is used to explore differences of values, and Fulford argued that the "first call" for information should be from the patient concerned (i.e. advocating patient-centred care leading on to shared decision-making, over a reliance on scientific evidence-based practice). According to Manson (2012), using an analytical framework can help learners and clinicians to both identify important ethical aspects to a given situation, and provide a method for explaining

and justifying decisions. As Vx provides a framework for analysing cases with an ethical dimension, I argue that it could potentially help develop moral (or 'ethical') sensitivity and moral judgement (see Figure 1, p.10). Vx provides prompts to encourage wider and deeper thinking around issues, and allows users to share their individual perspectives on these. It could, therefore, theoretically support development of moral sensitivity. Likewise, the structured reasoning process through which students are led when using it, and the opportunity to challenge each other's views, could potentially support development of the moral reasoning skills, necessary for making moral judgements.

In 2006 staff at Keele University SoP were introduced to Vx and saw this as an opportunity to develop an innovative, relatively non-standard approach to teaching of ethics i.e. to challenge students with case studies first and then layer onto their discussions the theoretical underpinnings. Up to the academic year 2015/16, all students had to complete two Vx cases, with the option to complete a third case for extra credit. This was subsequently changed so that all students must now complete three cases. Cases are chosen to reflect a wide range of issues; these have increasingly become more pharmacy-focused over time. Appendix 3 details the cases undertaken by students in each year group during the academic year 2017/18. A detailed introduction to Vx and the cases is given in Year 1, as outlined in Chapter 1, Section 1.4.4. p. 48. A brief introduction to the specific cases and timing of them are presented to students at the beginning of Years 2 to 4. All cases are opened in November for two weeks when students must complete each one online on their own. Following this period of personal deliberation, students can interrogate the combined responses from each other to each case. They have a further three weeks to view the responses of their peers, and debate and challenge each other using online discussion boards (also accessible via the Vx platform). Of note, in Year 3 one of the Vx cases is included as an inter-professional education activity and also completed and discussed by medical, nursing and physiotherapy students.

The following is a description of the process that students follow when completing a case on Vx. Appendix 4 provides a worked example. When accessing a case on Vx, students are required to consider whether they initially agree or disagree with an outcome statement. An example is shown in Box 1.

Box 1: Example Vx case (Reactions)

A patient, Shabana, presents an unsigned methadone prescription to Jacob, the pharmacist. The outcome statement is: “It is proposed that Jacob dispenses today’s dose of methadone to Shabana”. Students must state whether or not they agree with the proposal. They are then supported in deepening their analysis of the case by working through a ‘Reactions section’ where they are provided with prompts to consider any ideals, emotions, hopes, duties, fears and rights in relation to the case in hand. For example, in the methadone case, a Keele student who strongly agreed with the case identified courage as an important ideal, explaining that it would be necessary to be courageous to risk their job to ensure a patient receives the care they deserve. In contrast to this, another Keele student who disagreed with the case chose fear for their organisation. Within their explanation they feared for the reputation of the profession if pharmacists did not follow the rules and respect the legislation.

During this process, students are also encouraged to alter the weightings of the individual issues, essentially ranking them in order of importance. By prioritising the issues, students realise that some are more important (better alternatives) than others and a normative component is brought into their reasoning.

This is followed by a ‘Reasons section’ where students are asked to explain the underpinning reasons in defence of their decision. See Box 2.

Box 2: Example Vx case continued (Reasons)

For example, a Keele student who agreed with the proposal explained in this section that, whilst acknowledging the risk of supplying a controlled drug illegally, the health of the patient was most important. At this point the student explained what further action she would take, i.e. speaking directly to the GP, agreeing on a date to get the prescription signed and making a record of the event. They are also provided with an opportunity to create a preferred alternative proposal before submitting their responses.

Following completion of the cases, students can access their own and others' responses in the form of combined reports. This includes a list of all quotes as well as graphs and pie charts presenting the combined views of all those who completed the case (see Appendix 4). They then discuss and debate the scenarios in online discussion boards embedded within Vx. At this point students will often post sources of evidence to support their arguments. The activity is then assessed via reflections entered in their web-based professional portfolio using PebblePad™. Students are asked to reflect on quotes that they posted themselves purporting their own views of the case as well as quotes written by their peers that they disagreed with. They must consider if their views have changed at all from reading other people's perspectives before, in the final section, identifying one of the GPhC standards that is relevant to each case, and explaining how their final decision aligns with that standard. Students are also required to provide a source of evidence that supports their point of view.

2.2. The pedagogy underpinning Vx

Vx was designed and is run by a philosopher, Professor David Seedhouse. The Vx aims to support the development of moral reasoning skills through values transparency.

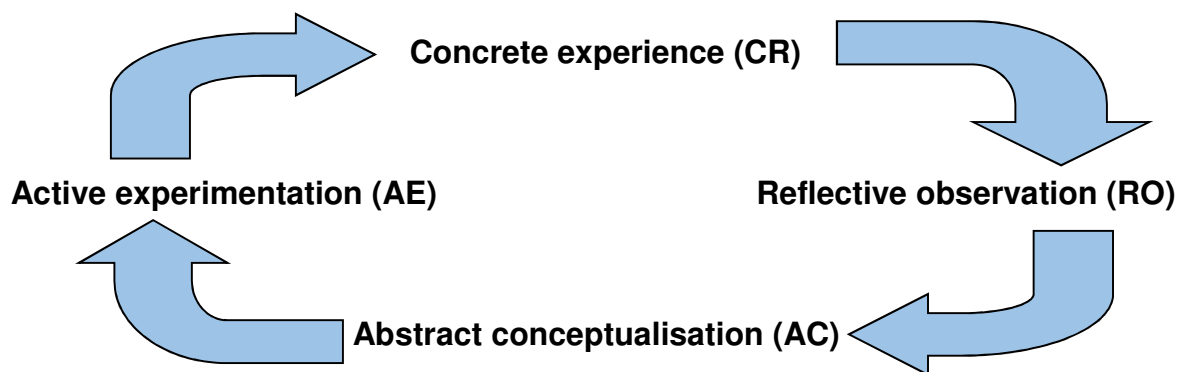
Seedhouse (2005, 2009) argues that by revealing our reasoning processes, we can better

understand and learn deeply from each other. To the best of my knowledge, no underpinning pedagogical approach has been proposed to explain the theoretical foundation of Vx as a teaching tool. However, as an educator, and based on my observations having experienced teaching with Vx, I would argue that there are a number of pedagogical theories that underpin Vx, supporting its use as an effective teaching tool. These are discussed in the following sections.

2.2.1. Kolb's learning cycle

The theory described diagrammatically in Figure 2 underpins experiential learning and relates to Kolb's learning cycle (Kolb 1984). There are four stages to the learning cycle, namely: concrete experiences, reflective observation, abstract conceptualisation and active experimentation.

Figure 2 Kolb's Learning Cycle



In experiential learning, students make sense of a concrete experience (i.e. an experience that is real) by reflecting on it from different perspectives. These reflections form the basis for rethinking initial ideas and understanding. Students are, therefore, helped to assimilate and distil concepts from the experience and integrate the new information with previous knowledge and beliefs. Using this enriched knowledge source, students are encouraged to undertake active experimentation (i.e. using their knowledge to solve more problems /

make decisions) which can culminate in a new concrete experience and so the cycle continues. It could be argued that this learning cycle can be applied directly to Vx where concrete experience refers to the case scenario presented to students. Students are prompted to reflect on the scenario by working through the 'Reactions' and 'Reasons' sections of the system, whilst also being exposed to a wider perspective through responses from other students to the case. Abstract conceptualisation can be verbalised through debate on the discussion boards, whilst 'active experimentation' can relate to either a change in approach to similar cases, or an appreciation of how to approach a similar scenario in practice. Although the term 'experiential learning' is often used in relation to learning that takes place outside the classroom, for example in a placement setting, it has been proposed that experience could equally apply to situations such as a workshop, particularly when incorporating a case-based approach (Boud *et al.* 1985, Williams & Dickson 2000, Georgiou *et al.* 2008). As Vx provides an online platform for a case-based approach to learning, I contend that this equally applies here.

2.2.2. Deep versus surface learning

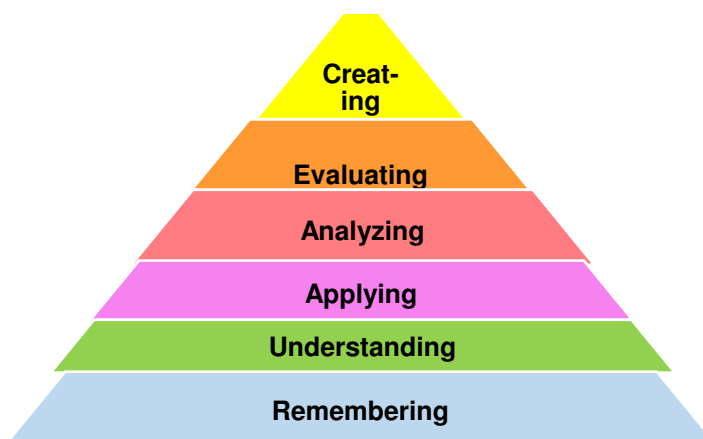
One of my aims of teaching is to encourage a deep approach to learning, a term first proposed by Marton and Säljö (1976a, 1976b). Bright academic students may naturally have a *deep* approach to learning and, when faced with material to learn, aim to understand key concepts and relate it to their previous knowledge. In contrast to this, students who are perhaps less 'academically bright', less committed or motivated, or mainly exposed to an educational system based on a techno-rational model, may take a *surface* approach to learning and simply try to memorise disjointed facts rather than understand the underlying principles. Biggs and Tang (2011) believe that learning activities that can promote a high level of engagement can support students (even those less academic or motivated) to undertake a deep approach to learning. It is hoped that by

posting interesting, relevant cases and providing opportunities for students to debate with peers on Vx will promote a high level of engagement, encouraging deep learning.

2.2.3. Bloom's taxonomy

Bloom's taxonomy of educational objectives was revised in 2001 by Anderson *et al.* and can be used to plan learning activities to promote higher order thinking by students (see Figure 3).

Figure 3 Bloom's Taxonomy (new version)



I would argue that use of Vx promotes higher ordered thinking as students are analysing and evaluating the ethical scenarios. The system supports students to analyse the case by considering it in relation to different issues such as associated risks and the legality surrounding the situation. In so doing they are helped to differentiate between the various options and prioritise within the scenario. For example, they may decide that the prevention of suffering is more important than remaining strictly within the law. The system also helps them to develop skills to evaluate a situation as they ultimately must make a choice on the best way forward, and defend that choice whilst challenging others. During

discussions facilitated through Vx, I have found that many students also hypothesize a preferred option regarding the situation that has not been open to them within the confines of the scenario, so they are in effect designing (or creating) a better proposal.

2.2.4. Deliberating on cases

Gracia (2003) argues that ethical case deliberation is the cornerstone of decision-making in clinical ethics. Moral decisions take account of emotions, values and beliefs alongside ideas and principles, and everyone concerned is considered a valid moral agent. This means that everyone has an obligation to give reasons for their own points of view and to listen to the reasons of others. I believe that this is facilitated through the Vx. As Gracia points out, the goal is not to come to a consensus, but a greater understanding of the wide range of views that people might hold, thereby potentially modifying an individual's perception of the problem. It obliges an individual to take other's views into account and respect their differing beliefs and values. In so doing it is hoped that each can come to a reasonable decision.

Habermas's (1990) discourse ethics theory, although proposed initially with a political agenda, can be applied to the learning environment. Habermas felt strongly that anyone who might be affected by the adoption of a moral action should have their views listened to, and everyone should be fully aware of each other's perspectives. He proposed communicative action, the process of giving or criticizing reasons for particular claims, as a means of arriving at universal norms. Although it is not the end goal in Vx to achieve a consensus on the scenario, it does align with the theory of discourse ethics. During the discourse, all participants should be allowed to speak freely to express their own attitudes, desires and needs and also have the opportunity to question others. Fundamentally there should be no coercion, but a feeling of solidarity among participants and this is the supportive environment that I aim to achieve through use of Vx. This also has similarities

with the dialogical pedagogy of Paulo Freire (1996) who proposed a need for mutual trust among equals in which 'dialoguers' (teacher/student or student/student) could engage in critical thinking. He stressed the need for a two-way communication process and proposed that content for discussion should be concrete situations reflecting the aspirations of people involved, presented as a challenging problem that required the formulation of a practical response. This aligns closely with the peer discussion element of relevant Pharmacy-specific cases on Vx.

2.2.5. Constructivism

The Vx could be construed as a teaching tool that enables students to learn experientially within the virtual environment, and in theory, has the capacity to promote deep higher thinking level learning if students actively engage with it. Experiential learning demonstrates a constructivist approach to learning (Piaget 1950, Vygotsky 1978, Bruner *et al.* 1966). Constructivism is grounded in cognitive psychology. It is a framework whereby students construct new knowledge by engaging in active learning to build on what is already known. As teachers we need to structure and encourage students to undertake the learning activities to achieve the desired knowledge, making sense of it by connecting the new information with their existing knowledge, learning cumulatively so their interpretations are changing all the while. In effect, a conceptual change should take place whereby the student sees the world in a different way.

Social constructionism and situated learning

Learning from constructivism means accommodating new perspectives, so it is a process of active adaptation by an individual (Quay 2003). The first stage of Vx is an individual effort by students to internally deliberate on cases. After this, students work together in

small groups to discuss and debate the scenarios. Social constructionism is a learning theory that proposes that students can learn more through their social interaction as a collective than they would if learning in isolation (Davis *et al.* 2000). Historically, Vygotsky (1978) described this as the *zone of proximal development*, that is, the gap between what a student could learn on their own and what could be learnt through collaboration. On the Vx discussion boards students are supporting each other's learning by, for example, sharing new evidence and challenging views, encouraging the further development of lines of argument.

Situated learning theory is closely related to social constructionism and stipulates that learning is embedded within activity, context and culture. Lave and Wenger (1991) argued that learning is usually unintentional and that knowledge should be presented in authentic settings and situations. In the context, therefore, of Vx, scenarios should be realistic. Social interaction and collaboration in situated learning is seen as essential, and learners are involved in a *community of practice*. The focus in situated learning is on participation rather than the actual experiences and Lave and Wenger (1991) discussed the concept of *legitimate peripheral participation*. This is the process of a learner moving from being a novice within the group to becoming an 'expert' and fully participating in the "sociocultural practices of a community" (Lave & Wenger p.29). They discussed the importance of removing the focus from teaching onto how a community's learning resources are structured. Vx discussion board groups could be considered communities of practice since students remain in the same groups over the four years of learning and are encouraged to actively participate. Groups are, however, quite large in number, averaging up to 30 students in larger cohorts. Bowden and Smythe (2008) suggest a maximum class size of 30 when teaching ethics to allow for interactivity. It is arguable, therefore, whether there are true 'communities of practice' within Vx or if they are too large and unwieldy to elicit active participation from everyone. A minimal level of participation by each student on the discussion board is, however, required to pass the assessment.

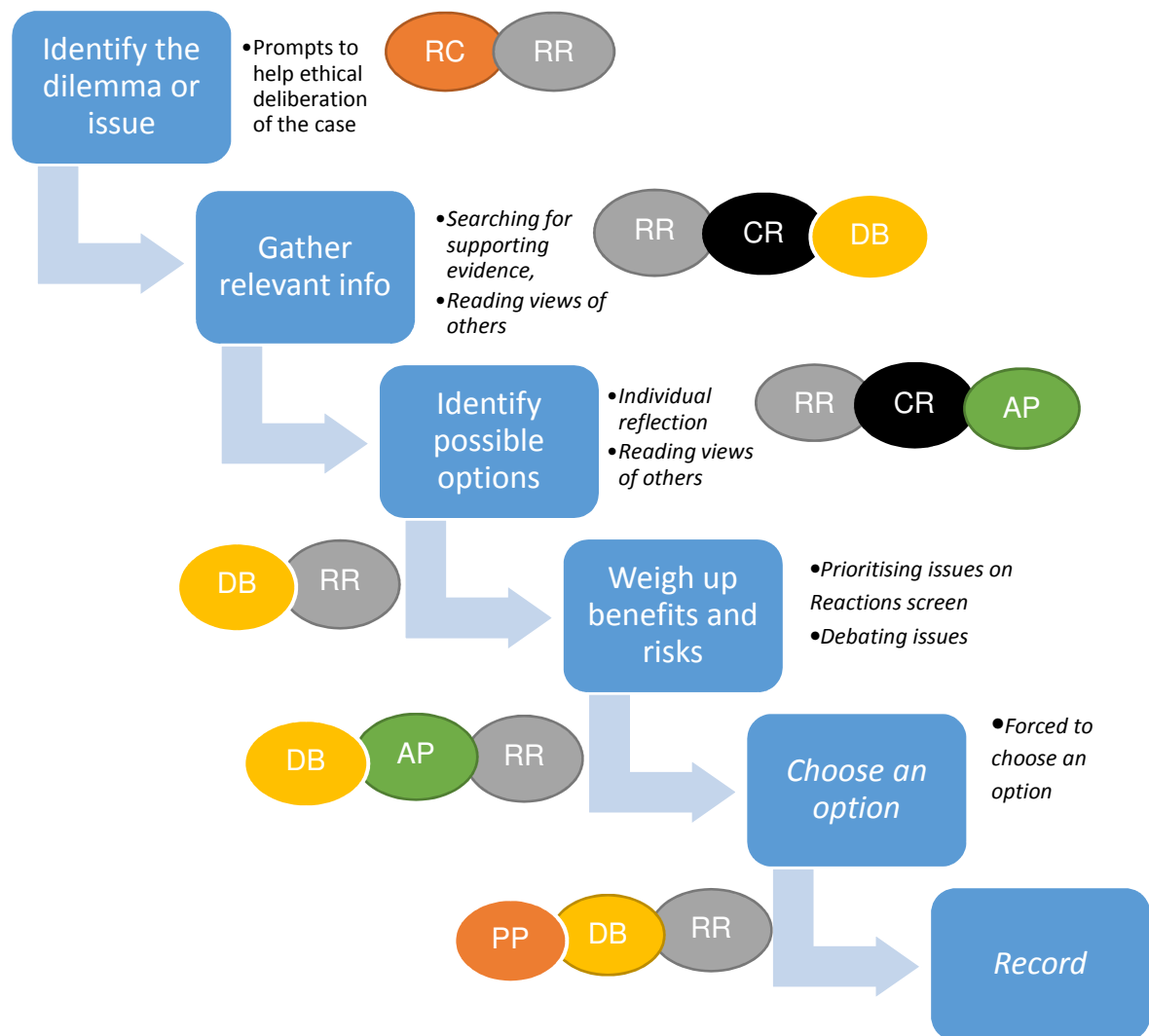
2.2.6. Mapping pedagogical theory to Vx activity and RPS guidance

In Table 4 each proposed pedagogical theory has been mapped to different sections and activities within Vx. This is then evolved in Figure 4 to show how the different Vx activities map to the RPS *Exercising Professional Judgement* guide (RPS 2018). As explained in Chapter 1, Section 1.3.1, p.23, this is the approach to professional decision-making that is advocated in the UK by Pharmacy's professional body, and is the approach that we at Keele recommend students follow. This demonstrates, therefore, in theory, how Vx has the underpinning pedagogy to support students' learning in preparation for exercising professional judgement when faced with ethical dilemmas in professional practice.

Table 4 Mapping pedagogical theory to Vx activity

Pedagogical theory	Vx activity
Kolb's learning cycle: Concrete experience Reflective observation Abstract conceptualisation	Realistic case scenario Personal reflection: Reactions and Reasons screens Reflection on others' views: combined reports of all responses and discussion board activities Verbalised on discussion board
Deep learning	Required to provide evidence to support choices/arguments on the Reactions / Reasons screens and/or discussion board High level of engagement promoted on discussion boards
Bloom's taxonomy – higher ordered thinking promoted	Analysing and evaluating the scenario: use of prompts and prioritising weightings in Reactions screen Evaluating: forced to make a decision Creating: can create an alternative proposal as part of individual case deliberation and/or suggest alternatives on discussion boards
Ethical case deliberation	Gives reasons for own view on Reactions/Reasons screens and reads views of others via combined reports. Can debate case further on discussion board
Habermas' discourse ethics theory & Freire's dialogical pedagogy	Safe, supportive environment provided on all of Vx to speak freely and question others Mutual trust among equals for critical thinking on discussion board Concrete situation and practical solutions: realistic case scenario presented, option for providing an alternative proposal, and alternative solutions considered on discussion board.
Social constructionism	Learn more and develop critical thinking and co-operation with others through social interaction enabled via the discussion board
Situated learning theory	Realistic scenario presented Learners form a 'community of practice': same discussion board groups during all four years of study

Figure 4 Mapping RPS Exercising Professional Judgement to Vx activity



Key of Vx activities:

RC	Realistic case (use of)
RR	Reactions and Reasons screens
CR	Combined Reports
DB	Discussion Boards
AP	Alternative Proposal (option to submit)
PP	PebblePad™

As I have demonstrated up to this point, a number of possible pedagogical theories underpin the use of Vx, and support Vx as, potentially, an effective tool for teaching and learning professional decision-making. This addresses the first objective of my research:

to identify the educational underpinning of Vx. In the following section I review the literature to date on the use of Vx in teaching and learning.

2.3. Evidence supporting Values Exchange™

Eight papers have evaluated the use of Vx from various disciplines (for search terms see Chapter 1, Section 1.3.3, p. 28). A full systematic review was not considered necessary due to the limited number of papers published relating to the use of Vx, but key points from these studies have been distilled and presented in Table 5. The majority of published studies emanated from New Zealand, with one in Australia, USA and the UK. This is unsurprising as the developer of Vx was based in New Zealand. A wide range of professions have been studied, with the exception of Pharmacy, except for my Initial Study (see Appendix 1). Most of the studies have been small scale and exploratory in nature, and most have been conducted within a university setting, either with UG or PG students. Wright-St Clair and Newcombe (2014) are the only authors whose research has been outside of education up to this point. The majority of interventions have involved completion of a case and viewing of the combined reports. Only two involved online discussion boards (including my Initial Study), and one incorporated in-class discussions. My Initial Study was the only research that considered long-term use of Vx (over three years). In comparison, the longest time period of intervention for any other study was one semester. Focus groups was the most common method of data collection, which fits with the exploratory nature of the studies. Questionnaires and analysis of students' work was also undertaken. Some efforts were made to minimise bias. For example, in one study recruitment was undertaken independently of the educator, and an independent researcher conducted the focus groups in two. All studies, except for Robb, Wells and Goodyear-Smith (2012), were small in size and so had associated inherent limitations, for example, not representative or likely to be generalizable.

Table 5 Comparison of published studies evaluating Vx

Title and author(s)	Professions (n=x)	Location UG/PG/work	Intervention	Method of data collection	Efforts to minimise bias?	Key themes identified / key results	Negative findings
Values add value: An online tool enhances postgraduate evidence-based practice learning. (Robb, Wells and Goodyear-Smith 2012)	Doctors, nurses, allied health professionals (n=38)	New Zealand PG (Clinical epidemiology course)	4 Cases, view combined reports, online discussion boards	5 focus groups	Yes - independent researcher	1. Exposure to new concepts and ideas 2. The diversity of values and broadening of perspectives 3. The experience brought reality to what it means to apply evidence in practice	Technical issues were reported (170 / 824 ideas) but excluded.
To tell or not to tell? Physiotherapy students' responses to breaking patient confidentiality. (Lees and Godbold 2012)	Physiotherapy (n=9)	New Zealand UG	1 case and view combined reports	analysis of response to case	Yes -students recruited independently, random passwords allocated and anonymous	1. Students recognised ethical complexity of case 2. Majority agreed to break confidentiality 3. Demonstrated depth of analytical thinking	None reported
Ethics education for health professionals: A values based approach. (Godbold and Lees 2013)	Medicine, public health, nursing, dietetics, occupational therapy, mental health, (n=5)	New Zealand PG	1 case and view combined reports	Questionnaires, f-2-f interviews and Vx case reports	No	1. Recognising the inherent tensions in decision-making 2. New ways of seeing 3. Foundations for thinking	None reported
Values and ethics in practice-based decision making. (Wright-St Clair and Newcombe 2014)	Occupational therapists (n=15)	New Zealand work	1 case and view combined reports	pre-and post-questionnaire	Yes-independent recruitment as participants unknown to researcher	1. Degree of divergence among participants 2. Concern for dignity and risk 3. Illuminates personal and practice values made visible in described tensions in the case	One third thought the process too complex for everyday use.

Title and author(s)	Professions (n=x)	Location UG/PG/work	Intervention	Method of data collection	Efforts to minimise bias?	Key themes identified / key results	Negative findings
Facilitating values awareness through the education of health professionals: can web based decision making technology help? (Godbold and Lees 2016)	nurses, oral health therapists, applied mental health workers, medical laboratory scientists (n=14)	New Zealand UG	case and view combined reports (number not specified- " <i>worked through a variety of cases</i> ")	Analysis of responses to reflection on learning via five questions (assessment).	Yes- neutral 3rd party gained consent.	1. Uncovering of superficial responses to reveal multi-layered thinking 2. New understandings of self/others 3. Freedom to think and learn 4. Learning for future professional practice	One negative response to Vx- <i>means to an end</i> -but still acknowledged learning about their own values
The educational efficacy of a values-based online tool in a public health ethics course. (Tripken 2016)	Professions not reported - students enrolled in PG public health ethics course (n=10)	USA PG	3 cases and view combined reports, then class-based discussions	Survey and focus group	Yes- research assistant undertook data collection	1. Thoughtful decision-making 2. Considering other viewpoints 3. Iterative thought process 4. Enhanced curiosity 5. Climate of respect 6. Reluctance and concerns 7. Organisation of thoughts	Some reluctance to use an online programme, interface appeared overwhelming to some
Values Exchange: using online technology to raise awareness of values and ethics in radiography education. (McInerney and Lees 2018)	Radiography (n=5)	Australia UG	5 cases and view combined reports	Focus group	No	1. Understanding and appreciating others 2. Addressing the theory-practice gap 3. Delivering safe and effective learning	None reported
Students' views of an online ethical decision-support tool. (Allinson and Black 2018)	Pharmacy (n=9)	UK UG	9 cases and view combined reports, online discussion boards	2 focus groups	No	1. Widening perspective of ethical issues 2. Reflection 3. Preparedness for future practice 4. Satisfaction with the delivery platform	Technical issues reported but not discussed. Some did not like asynchronous nature of platform.

Similar findings emerged across the studies, with all reporting broadly positive views towards Vx, and only a small number reporting any negative findings. Vx appeared to expose students to new ideas, and allowed them to see and appreciate a diversity of views held by others. The importance of making explicit the personal and professional values held by oneself and by others was highlighted, as was the notion that Vx may have engendered new ways of thinking. A few studies noted that Vx was perceived to help address the theory-practice gap, supporting learning in preparation for future practice. In addition, Vx was perceived to be a safe and effective platform on which to learn. What follows is a critique of each study to provide a more detailed picture of the published literature relating to Vx.

Robb, Wells and Goodyear-Smith (2012) introduced four case scenarios on Vx within a PG course on clinical epidemiology in New Zealand, with a focus on applying evidence in practice. Five focus groups were conducted with a total of 38 students, of whom 29 were healthcare professionals. The aim was to explore whether or not incorporation of Vx into the course enhanced learning. Three quarters of the 'ideas' generated (622/804) related to technical issues or course delivery, but the authors found that students enjoyed the experience and found it valuable to their learning. Respondents felt Vx exposed them to new concepts and ideas, which promoted greater engagement and deeper thinking. There was recognition of a diversity of values and an associated broadening of perspectives for many.

Respondents also felt that it helped them to understand the realities of applying evidence in practice, with students developing a more balanced view about the role of evidence amongst other factors in decision-making. The authors suggested that this experience gave the students *"a grounding with which to cultivate good clinical judgement"*. Although the findings suggest that learning was enhanced whilst using Vx, and participants were exposed to new insights, it is not reported if this single exposure to 3 cases was sufficient to have a lasting transformative effect or not.

A paper by Lees and Godbold (2012), also from New Zealand, presented a small study of nine UG physiotherapy students who completed a single case on Vx. The case related to confidentiality and the authors analysed student responses to the case. These responses demonstrated in-depth analytical thinking by students who grappled with tensions between beneficence and autonomy, in a bid to preserve confidentiality whilst protecting the patient. Although a small study, it suggests the potential of Vx as a tool for facilitating deep learning through ethical decision-making within undergraduate education.

Godbold and Lees (2013) then undertook a pilot study to explore the potential of Vx as a teaching tool in ethics education for health professionals. This was a small case-study design with five health professionals (no pharmacists) who completed a single case on Vx. There was no further discussion after the case was completed, although respondents did have access to each other's views via the combined reports. Data was collected via questionnaires, interviews and case reports following completion of the case. The participants reported that Vx raised their awareness of the complexity of decision-making and the inherent tensions within. They felt it allowed them insight into how others thought, and hence enabled them to gain a broader perspective of the case. They also felt that Vx provided a framework for thinking through the scenario, and offered prompts on aspects not previously considered by the participants, and most indicated they benefited from this structured approach. Some did, however, find it restricting as they felt limited by the prompts, and some would have preferred a live debate.

This pilot study was followed up by analysis of the responses of fourteen pre-registration health professionals including nurses and oral health therapists (but no pharmacists) to questions relating to their experiences of having used Vx as part of an ethics module during their pre-registration year (Godbold and Lees 2016). The students were exposed to a variety of cases throughout the ethics module. They

reported that use of Vx helped them to understand the complexity of values that drive decisions, both their own and others. They felt it provided them with the freedom to think and learn, as there was no right or wrong answer to a case. Some stated that they thought it had given them the confidence to trust their own decisions once qualified, and the inter-professional element helped them to understand the importance of collaborative learning in practice. This study supported previous findings that Vx was effective in helping people to understand and recognise the role that values play in decision-making, even with relatively short-term use.

Tripken (2016) introduced Vx within a PG public health ethics course in the USA, whereby ten students completed three cases in total, each to be discussed in class following completion online. The efficacy of Vx was evaluated through a short survey and focus group conducted at the end of the course. The Vx scored highly on the survey which measured engagement, knowledge, satisfaction and usability with mean scores ranging from 4.65 to 4.93 out of a maximum of 5. Themes that emerged from the focus group included thoughtful decision-making (thinking more 'deeply'), considering other viewpoints, iterative thought process (a shift in views), enhancing curiosity (prompting further research), and a climate of respect. Students found the website overwhelming initially but intuitive to navigate. This was a small scale study, and the quantitative data in particular should be viewed with caution due to the number of participants, but the findings reinforced those from previous studies, providing further evidence of Vx as an effective pedagogical tool within ethics teaching to enhance decision-making.

An Australian paper by McNerney and Lees (2018) provides further support for Vx as an effective tool in teaching about values and ethics. They presented five scenarios to radiography students, across the first semester of their first year of study, to help them prepare for clinical placements. A focus group was conducted with five students three months later, and after their clinical placement, to explore their experiences of having

used Vx. The participants believed that using Vx provided them with a greater understanding and appreciation of others, that it was an effective way to address the theory-practice gap, contributing to students' readiness to practice (for clinical placements), and it was perceived to be a safe and effective environment in which to learn. It was not, however, without its limitations as there was a lack of understanding regarding the 'tiles' section, i.e. the 'Reasons' section, and a fear that their responses may be misinterpreted. This led to a recommendation for instructional changes on the system, and an acknowledgement of the need for skilled implementation of the tool to achieve effective learning. Although a small scale study, it provides support for the perceived benefit and effectiveness over the short-term by students who had no clinical experience.

Through my own research into Vx, the Initial Study which preceded my main doctoral project was published in 2018. My paper (Allinson and Black, 2018) reports on an evaluation of the continued use of Vx across three years of teaching. Two focus groups (n=4 and n=5) were conducted with pharmacy UG students near the end of their third year of study. Four key themes emerged from the focus groups, namely: widening perspectives of ethical issues, reflection, preparedness for future practice, and satisfaction with the delivery platform. A more detailed synopsis is provided in Appendix 1.

Only one study has evaluated Vx among practising practitioners who were not undertaking an educational programme. Wright-St Clair and Newcombe (2014) conducted a mixed methods study among New Zealand community occupational therapists (n=15) which involved a pre- and post-intervention questionnaire with a Vx case based on everyday practice nested in between. The focus of the research was to identify how values might inform decision-making in practice. The pre-case questionnaire showed that participants were most concerned about fact-based considerations. Following deliberation on a case on Vx, participants were less

concerned about having enough facts, but more concerned about 'knowing the right thing to do'. Analysis of the case deliberation found a degree of divergence amongst participants, in both their decision and their underpinning reasons. The authors proposed that this divergence was a result of differences in participants' personal values. Although this was a small study, and results could not be generalised, it suggests that use of Vx potentially has an impact on practitioners by illuminating the importance of their own values, as well as those of their patients, inherent in practice-based decision-making.

Although these studies evaluating Vx identified key advantages to its use, none have addressed the views of practitioners who had previously used Vx long-term throughout a full degree programme, or specifically within Pharmacy. More importantly, none have identified whether or not using Vx as a training tool during UG study has any real or perceived impact on later practice. My doctoral study aimed to address all of the above.

In this chapter I have presented a theoretical foundation for Vx as a teaching tool based on my unique analysis. I have reviewed published literature relating to Vx, identifying evidence of an exploratory nature for using the tool in education, but have not found any published evidence of the potential long term impact on practice following its use during UG education.

Based on my findings, in Chapter 3 I present a rationale for my doctoral study and state my research aim and objectives.

CHAPTER 3: RATIONALE, AIM AND OBJECTIVES OF STUDY

3.1. Rationale for study

In Chapter 1, I identified that pharmacists are faced with many ethical and professional dilemmas in practice, and propose that this is likely to increase with greater challenges related to an ever-expanding patient-facing role. Pharmacists, therefore, need to be equipped with the knowledge and skills to deal with these dilemmas. Research so far into ethics in pharmacy practice has resulted in the recommendation that teaching ethics *per se*, and developing an individual's ability to deal with ethical dilemmas, is addressed at MPharm UG level. At Keele SoP, a major aspect of teaching ethics aims to develop skills so that students can deal effectively with ethical dilemmas in practice; this is a focused use of the Vx system that threads throughout the 4-year curriculum.

In Chapter 2 I have proposed an educational foundation to explain why Vx is likely to be effective as a teaching tool. I have shown Vx to have a strong element of experiential learning, with the potential to promote higher level thinking and resultant deep learning. I have demonstrated how it is a platform to support a constructivist approach to learning, underpinned by discourse ethics theory. I have argued that the impact of situated learning, with the possible development of communities of practice, should add to the experience. I contend, therefore, that using Vx should provide students with a high quality learning experience and support students who engage in it fully to develop skills in moral reasoning and increased ethical awareness.

The premise behind Vx is transparency of values to support decision-making, underpinned by Fulford's ten principles of values-based practice (Fulford 2004). I have identified the call for values to be accounted for within Pharmacy decision-making alongside evidence, and presented how Vx could potentially support development of

analytic, communication and negotiation skills, all necessary for ethical decision-making.

Vx also has associated limitations, however, such as the acknowledged restrictive nature of the prompts, the fact that Vx has not been evaluated specifically in Pharmacy and that there has been no evaluation of long-term use of the system; the majority of studies to date on its use have been small and exploratory. Consequently there has been no assessment of the impact of consistent use of Vx during UG years on the future ethical decision-making of pharmacy graduates in practice. This makes my study unique.

Using Vx is a novel way of teaching ethics among UK SoPs. My Initial Study at Keele University SoP (Allinson and Black 2018) has corroborated previous studies in the view that students believed Vx helped them to develop ethical reasoning skills in preparation for practice. An extended study would, therefore, be valuable to Keele SoP as it would be useful to know if alumni view our chosen methods of teaching ethics to have, in fact, been effective in preparing them to deal with ethical dilemmas once in practice. Setting up Vx, managing the process and assessment are all time-consuming and have associated staff workload implications. Access to and use of Vx is also an additional cost to the School. It is essential, therefore, to assess if incorporation of Vx into the curriculum is worth the cost, time and effort involved so that strategic plans can be developed for the future. As a consequence, I have developed the aim and objectives that follow for my study.

3.2. Aim and objectives

Aim: to explore users' perspectives on the effectiveness of Values Exchange™ in facilitating pharmacy students' learning and development in professional ethics and decision-making, and its potential use by pharmacy graduates.

Specific *objectives* for meeting the aim:

1. To identify the educational underpinning of Values Exchange™.
2. To determine the moral reasoning skills of students and alumni who have used Values Exchange™.
3. To explore the views and experiences of pharmacy alumni regarding dealing with ethical dilemmas in practice.
4. To ascertain the views of alumni on their preparedness for professional practice.
5. To identify perceived advantages and disadvantages of using Values Exchange™ to facilitate learning and professional development.
6. To determine views on the potential future uses of Values Exchange™.

In Chapter 4, I address the underpinning methodology of my research. Since I conducted a mixed methods study, I address the specific method associated with each strand of my research separately in Chapters 5 and 6.

CHAPTER 4: METHODOLOGY

Although the philosophical viewpoint is not usually overt in research (Slife & Williams 1995), it still influences the research methods and so needs to be identified. The following is a brief discussion of the underpinning epistemological and ontological assumptions relating to my research.

4.1. Underpinning assumptions in the study

Ontology is the study of “being”, in other words, of what constitutes reality (Gray 2018). My relativist viewpoint is that there are multiple versions of reality that are shaped by context. Braun and Clarke (2013) explain that reality is dependent on human interpretation and knowledge. There are therefore multiple constructed realities, which can differ across time and context. Epistemology questions the relationship between the inquirer and the known (Denzin and Lincoln 2018). I align with a social constructivist worldview, the ideas of which stem from Lincoln and Guba’s (1985) *Naturalistic Inquiry*. Social constructivists seek to understand the world in which they work and live (Creswell and Creswell, 2018). Individuals construct knowledge through lived experiences and social interactions with others. Knowledge is also thought to be influenced by historical and cultural norms. Social constructivists will seek a complexity of viewpoints, and interpret this within the context of which people live and work. Guba and Lincoln (1994) point out that we cannot separate ourselves from what we know. Researchers’ own backgrounds can influence how they interpret data, so this must also be taken into consideration. Importantly, the generation of this knowledge is always social, derived from interaction with a human community i.e. the data is constructed.

Historically positivist empirical research (i.e. experimental) was seen as the 'gold standard', whilst constructivist qualitative research, for example, was viewed by some as a 'soft science' which could only ever be exploratory or subjective in nature (Denzin 1997). Of note, qualitative and quantitative methods and perspectives were also viewed historically as two distinct fields that could not be combined (Bryman 2016).

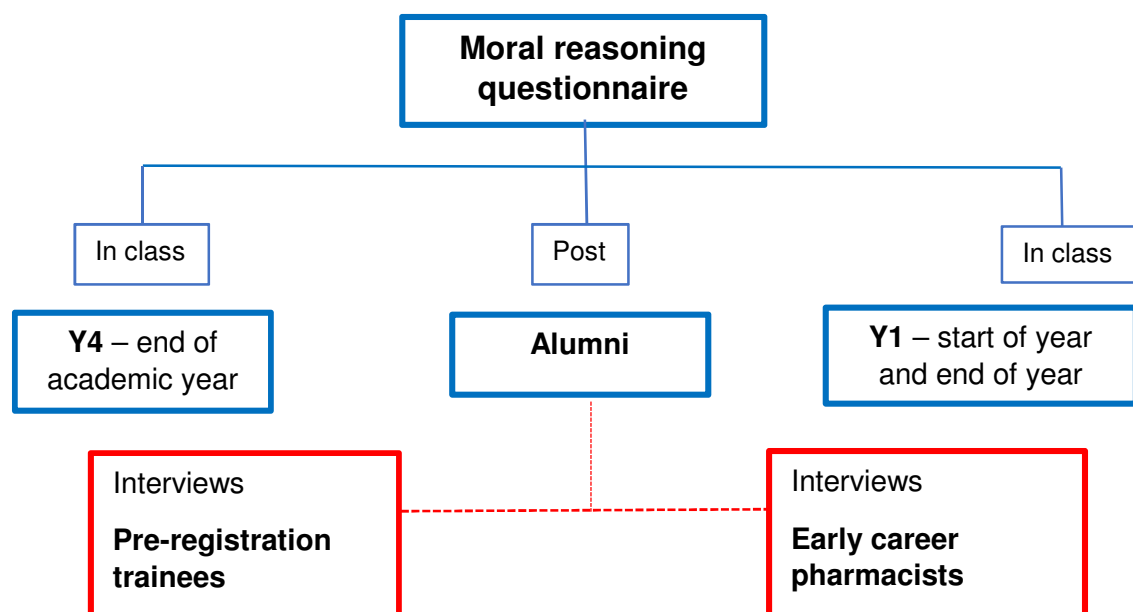
In my research project, a mixed methods approach was employed whereby both qualitative and quantitative methods were undertaken in an attempt to meet all objectives. Mixed methods represents a pragmatic approach to the task in hand. Tashakkori & Teddlie (1998) explain that the underlying philosophy of pragmatism is defining truth as being what works. Mixed methods is viewed as a distinctive approach from both qualitative and quantitative research, and debates have been ongoing from the 1970s regarding its emergence. Bryman (2016) highlights how, since the beginning of the early 21st century, the approach has expanded greatly. Historically, both qualitative and quantitative methods have been needed to solve applied problems in areas such as healthcare (McGartland and Polgar 1994). Nevertheless, Bryman (2016) identified two arguments that have been raised against mixing methodologies, namely the *embedded methods* argument and the *paradigm* argument.

The *embedded methods* argument relates to a position whereby research methods are inextricably committed to associated epistemological and ontological views. Qualitative and quantitative methods, therefore, should not be mixed since they are based on irreconcilable views of how social reality exists. The second argument, the *paradigm* argument, is similar. Lincoln and Guba (1985) defined paradigms as basic belief systems based on ontological, epistemological and methodological assumptions. The paradigm argument proposes that qualitative and quantitative research are separate paradigms and that different paradigms are incompatible. Bryman (2016), however, argues against both these assumptions, contending that individual research methods can be applied to a wide variety of tasks and do not have fixed epistemologies and

ontologies. He proposes that the 'artificial' versus 'natural' contrast between quantitative and qualitative research is often exaggerated, and that research methods are less closely linked with epistemological viewpoints than is often purported.

According to Bryman (2016), researchers who undertake mixed methodologies tend to apply a technical view to quantitative and qualitative research. Although both are linked to distinct epistemological and ontological assumptions, these links are not viewed as fixed. Rather, a research method from one strategy can be used within the other. Focus is on the strengths of the data collection and data analysis techniques, and these can be fused. From this viewpoint, the two research strategies can be seen as compatible, making mixed methods research both feasible and desirable. I would argue that the triangulation of both qualitative and quantitative methods strengthened my methodological approach by providing two ways to ascertain perspectives; interviews measuring explicit knowledge that could be verbalised and a moral reasoning questionnaire to measure implicit knowledge. Undertaking both enabled me to meet the aim and objectives of this study. Figure 5 provides a diagrammatical overview of my research methods.

Figure 5 Diagrammatical overview of research methods



Applying mixed methods to my study

My study aimed to explore the views of participants on their use of Vx and their experience of professional practice. This would rely, in part, on the ability of participants to recall and explain their decision-making from personal scenarios. Uleman and Bargh (1989) argued that relying on self-reported explanations of cognitive processes was severely limited, as people can only share their conscious understanding of their thoughts. All the 'hidden' implicit understanding, i.e. tacit knowledge or recognition data, remained hidden. In more simplistic terms, by using interviews to gather exploratory data, I would be assuming people can only understand what they are capable of explaining. A relatively objective measure of moral reasoning was, therefore, also required which could measure implicit understanding. Consequently a questionnaire was needed as a further way of evaluating the capacity of Vx as a tool to facilitate development of ethical decision-making skills. This underpinned my reasoning for choosing a mixed methods approach to my research.

It could be argued that the quantitative strand of my research which measured moral reasoning scores would be derived from a realist version of ontology, whereby one reality was believed to exist, albeit with a recognition that we may not be able to fully understand it (Guba & Lincoln 2005). In this case, the researcher would be distant from the research in this postpositivist approach, with findings based on empirical inquiry. Social constructivism is, however, very similar to the postpositivist contention that the absolute truth can never be found and that evidence obtained is, therefore, always imperfect and fallible (Guba and Lincoln 2005). The alumni in my study who would be completing questionnaires may be influenced by, for example, their mood, time constraints or competing distractions when completing the questionnaire, so I would argue that this is a further aspect of an overall social constructivist approach.

Qualitative approaches are used to investigate complex behaviours, attitudes and interactions and were, therefore, appropriate to use to gather and interpret the views of alumni in my study (Mays and Pope 1995). My research, therefore, was primarily a qualitative study based on a social constructivist approach as I aimed to explore the range, depth and complexity of the lived experiences of the participants from their own perspectives.

Methods under consideration

Various methods were considered when designing this study. Focus groups were employed to gather views of students in my Initial Study, but in the main study participants may have felt inhibited talking about sensitive issues relating to their actual practice in front of their peers (Krueger 1994). Also, from a purely practical viewpoint, it would have been logistically very difficult to find convenient times and locations to suit all participants given the potential geographically widespread locations of alumni. For these reasons focus groups were ruled out. An observational study could possibly have been undertaken, although was most likely impractical. This would have removed the potential for recall bias but may have required lengthy observations to gain examples of ethical dilemmas, and the risk of changes in behaviour simply due to being observed, known as the 'Hawthorne effect' could not be ruled out (Bowling 2002, Roethlisberger and Dickson 1939). In addition, direct observation would provide information on the reality of practice, but might not elicit underlying reasons for actions. It would also not enable views of Vx as a teaching tool to be elicited so would not serve to meet some of the objectives.

Another method might have been to ask participants to log any ethical or professional issues in a diary that could then be analysed (Bowling 2002). This would, again, avoid relying on information gained retrospectively, but would have required a high level of

commitment from participants who would already be working in a busy, pressurised environment, and might not have yielded complete data sets.

Despite associated costs and time for travel when compared with telephone interviews, face-to-face interviews using a semi-structured approach were deemed most appropriate as they are most conducive to building rapport when discussing sensitive issues (Polgar and Thomas 2008); this is relevant to my study as I wanted participants to discuss their experiences of being faced with ethical dilemmas.

Brinkman and Kvale (2015) defined semi-structured interviews as “...an interview with the purpose of obtaining descriptions of the life world of the interviewee in order to interpret the meaning of the described phenomena”. Following a topic guide helps to ensure that all participants address all topics of conversation. This also enables deeper exploration of topics as necessary and provides opportunities for the clarification of any ambiguities (Bowling 2002, Polgar and Thomas 2008). Semi-structured interviews also allow the interviewer to follow-up any issues that are deemed to be important by the interviewee, as well as guiding the focus of the interview to issues important to the research project (Denzin and Lincoln 2018). They allow socially contingent concrete descriptions rather than abstract reflections to be gathered, so the interviewer can understand how interviewees experience their world, providing an inductive approach to the research.

The quantitative method of applying a questionnaire was a deductive approach that enabled moral reasoning scores to be measured. The moral reasoning score was an objective measure for each individual participant at a specific point in time. It identified a level of principled thinking without the need for the subject to be able to articulate their thinking. An increase in scores over time would signify an improvement in moral reasoning ability, a theorised expected outcome following consistent use of Vx.

It could be argued that it may have been appropriate to test other aspects of moral functioning alongside moral reasoning skills in my study, for example, moral/ethical sensitivity (see Chapter 1, Section 1.2.2, p. 10). My decision was principally made on the basis that moral reasoning is a major aspect of learning with, and assessment of, Vx. This also provided me with an opportunity to trial a profession-specific test of moral reasoning skills that had yet to be applied outside Australia (Chaar 2009, see Chapter 5, Section 5.1.1, p. 91).

When undertaking mixed methods, I chose to prioritise my qualitative research, and to conduct both strands of research concurrently. Priority was given to the semi-structured interviews as the overall aim of the study was to explore the views of alumni on the effectiveness of professional ethics teaching; this could be determined largely through data gathered by interviewing alumni in practice. The sequencing alignment of the interviews with the survey was not deemed to be relevant because the PEP test was based on hypothetical scenarios. As interviewees had been exposed to many hypothetical scenarios during UG teaching, I considered that completing questionnaires either before or after the interviews was unlikely to impact on participants' views. No attempt was made to link individual questionnaire scores to experiences related in interviews due to fundamental differences in what was being measured: interviews aimed to expose participants' explicit understanding of professional ethics and decision-making whilst the questionnaire aimed to measure implicit or 'tacit' understanding.

Triangulation

Triangulation of methods has been defined as:

"The use of more than one method or source of data in the study of a social phenomenon so that findings may be cross-checked." (Bryman 2016)

Flick (2014) explains that, since an objective reality can never be captured in qualitative research, the use of multiple methods, or triangulation, is an attempt to obtain an in-depth view of the phenomenon under scrutiny. Triangulation can be seen as an alternative to validation, which adds rigour, breadth and depth to an inquiry (Flick 2014). Many previous examples exist of the use of triangulation within pharmacy research, most of which were guided by pragmatism (Smith 1999). This set a precedence for applying a pragmatic approach in my study, so interview findings and moral reasoning scores were triangulated when interpreting the data. Triangulation can occur at a number of levels, i.e. at the level of investigator, data, theory or methods (Morse 2015); in my study it is the combining of different methods to increase the depth and validity of the study, since each method will provide different information. My research was, therefore, a *convergent mixed methods* design (Creswell and Creswell 2018). Both qualitative and quantitative data were converged or merged to provide greater insight and enable a comprehensive analysis of the research data. Information was integrated when I interpreted my results; I interpreted the trend observed in average moral reasoning scores in light of the themes that emerged from my interviews. Causality could not be proven, but hypothetical explanations for trends observed in average moral reasoning scores across cohorts were explored.

My approach to sampling is addressed separately for each strand of research, in Chapter 5, Section 5.1.3, p.94 and Chapter 6, Section 6.2, p.122, whilst a discussion on the quality of my research follows.

4.2. Quality of my research

Historically, qualitative research methods have not been considered to be as robust as quantitative methods, often criticised for lacking scientific rigour. According to Mays and Pope (1995) the most common criticisms cited by those from a traditional positivist background were that qualitative research was subject to research bias, lacked reproducibility and lacked generalisability. In the 1980s Lincoln and Guba (1985) developed new criteria (and new terminology) to ensure the *rigour* of qualitative research methods or, in their words, the *trustworthiness* of the research. This was in an effort to address the criticisms. They proposed that quantitative terms of *reliability*, *validity* and *generalisability* be replaced with *dependability*, *credibility* and *transferability*. Numerous strategies were suggested by Guba and Lincoln (1989) to ensure trustworthiness, including prolonged engagement and persistent observation, member checking and peer debriefing. They did not specify however if all had to be met. Creswell and Creswell (2018) suggested that researchers should engage in at least two strategies to ensure trustworthiness (rigour) in each study, but again omitted to explain when each would be most appropriate to use.

Morse (2015) recommended a return to the old terminology of mainstream social science, and proposed a more targeted approach whereby certain strategies were more appropriate for assessing the rigour of specific types of inquiry.

Meeting criteria of reliability and validity makes qualitative research more rigorous.

Validity is a measure of how well the research represents the actual phenomenon under inquiry, whilst reliability is the ability to obtain the same results if the study were to be repeated (Morse 2015). Morse (2018) explains how reliability and validity should be built into the process of inquiry itself, and advocates the alignment of methods to establish rigour with the type of data under scrutiny. *HARD* data refers to concrete and permanent phenomena such as demographic data or dates and places, for example, used in a narrative, and is used for *descriptive* purposes. *SOFT* data, in contrast, refers

to experiential phenomena that are considered *interpretive* as data are whatever participants say it is.

Attending to my own study, my interviews exploring the views of alumni would be considered interpretive SOFT data, and ensuring data saturation would be key to establishing validity, and hence, rigour. I would argue that I have employed a number of strategies to ensure rigour. Morse (2015) listed thick, rich description as necessary for valid findings, otherwise, superficial analysis and cherry picking of data could occur. Geertz (1973) described thick description as providing cultural context and meaning, so that a person outside the culture can better understand the behaviour. This is opposed to thin data that involves simply stating facts without associated meanings. Thick, rich description may be obtained if there is trust between the interviewer and participant. As I had known all my interviewees over a four year period, I was already in a position of trust. This meant that they may have been more likely to reveal more, enhancing the validity of my data. I was mindful, however, that some may have felt inhibited, not wanting to expose what they might perceive to be personal failings to me. Obtaining rich thick description also relates to the sample size and the selection of an appropriate sample: I reached data saturation on my interviewees' views of Values Exchange. Data saturation is typically when additional data does not reveal any new insights or information (Charmaz 2006). The ultimate aim is to have enough, but not too much, data to be able to tell a rich, in-depth story, ensuring that the researcher has time to engage with all the data in a deep, meaningful way. This is problematic as it is difficult to know when this has been achieved; each case might in theory provide a new theme or modify an existing one (Seale 1999). My approach to sampling and data saturation is discussed further in Chapter 6, Section 6.2, p.122.

Qualitative research does not provide numerical generalisability as a quantitative study might, so the number of individual cases studied is less important. Generalisability in qualitative research is related to the development of new insights or theories (Flick

2014). As such, importance is placed on the quality of sampling, and what the cases chosen for study represent. Although I was restricted to convenience sampling due to a low response to my invitation to participate, all my interviewees had experienced four years of undergraduate study using Vx, and I managed to recruit a range of demographic characteristics. This is discussed in more detail in Chapter 6, Section 6.5, p.126.

I have also adopted a rigorous approach to my research by employing a reflexive approach at all stages. Braun and Clarke (2013) state succinctly that reflexivity refers to:

“...the process of critically reflecting on the knowledge we produce, and our role in producing that knowledge.”

It is fundamental to conducting, interpreting and reporting on good quality qualitative research. Bryman (2016) explains that, to be reflexive, a researcher must be sensitive to their own cultural, political and social context, and the ‘knowledge’ gained within the research should reflect a researcher’s location in time and social space. Wilkinson (1988) distinguished between two types of reflexivity, i.e. functional reflexivity and personal reflexivity. Functional reflexivity is concerned with how our research tools and process might influence the research whilst personal reflexivity is an acknowledgement that the researcher’s own experiences and interests can influence their research. In fact, researchers and participants can influence each other reciprocally. Interviewees, therefore, might say what they think the interviewer wants to hear, and may also not expose their thoughts to save face. What people say in interviews can depend, to a greater or lesser extent, on who they perceive the interviewer to be.

The final approach I employed to enhance validity in my study was triangulation. Morse (2015) considered that employing two different methods whereby the second method is

conducted to gain information that the first method does not provide, enhances the validity of a study. As different understandings can be gained through the different lens of each method, the overall scope and depth of the study is enhanced. Theoretically, triangulation could also be considered a measure of reliability if the same results are obtained from both methods, but Morse (2015) argued that two methods use different perspectives and so will not necessarily give the same results. I have previously discussed triangulation of my study in more detail in Section 4.1 of this chapter (p.83).

I have demonstrated in this section that I have undertaken measures to enhance both the validity and reliability of the qualitative strand of my study. The quality of my quantitative research method is addressed separately in Chapter 5.

4.3. Ethical approval

Ethical approval for this study was obtained from Keele University Research Ethics Committee (see Appendix 5). Gray (2018) identifies four key ethical principles to follow when planning research: avoid harm, ensure informed consent, respect privacy, and do not deceive participants. It was important that participants were fully informed at every stage, did not feel obliged or coerced to participate, and knew that they were free to withdraw at any time. All students and alumni were, therefore, provided with a participant information sheet either by email or by post (see Appendices 6 and 7 in relation to the PEP test). This detailed the study and offered an opportunity for potential participants to contact me for further information.

Consent was requested through use of a signed consent form with UG students (Appendix 8) and assumed by return of completed questionnaires from graduates. At interviews, all participants were asked to sign a consent form prior to the interview being undertaken, and again at the end to confirm they were happy for their quotes to

be used (Appendices 9 and 10). In all cases confidentiality was assured, whilst students were also assured that their participation (or non-participation) would not affect their relationship with the university in any way. It was not possible to assure anonymity with the postal questionnaires as non-responders had to be identified for follow-up, but participants were allocated a code number, and identifying data were later destroyed. All data were stored securely, either electronically with password protection, accessible only to my supervisors (PB and SW) and myself, or paper-based data in a locked cabinet. All data will be retained for five years following completion of the study and then destroyed.

Details of the methods undertaken in both strands of this research are reported fully in Chapters 5 and 6. In the following chapter (Chapter 5), I present my complete quantitative strand of research, from underpinning theory and literature through to a discussion of my findings. These findings are further interpreted in light of my qualitative strand of research, in my discussion chapter (Chapter 10).

CHAPTER 5: MEASURING MORAL REASONING

In this chapter, I describe the specific chosen method for my quantitative strand of research to measure moral reasoning skills, and I present and analyse my results. These are then discussed in relation to the literature.

This chapter relates to Objective 2 of my study:

- To determine the moral reasoning skills of students and alumni who have used Values Exchange™.

5.1. Method

The moral reasoning scores of four different cohort groups were compared. These four groups were specifically: (i) students beginning their first year of study with no previous knowledge of Vx, (ii) final year students who had received four years of teaching via Vx, (iii) Keele University SoP pre-registration trainees, and (iv) early careers pharmacists (up to two years qualified). This cross-sectional study provided me with a snapshot of outcomes at different stages of education and experience, enabling me to observe any possible trends in scores over time. This was also an inherent limitation of my study, as it could not prove cause and effect (Bowling 2002, Oppenheim 1992). It would be unclear if any observed results were due to a teaching intervention (ethics teaching including use of Vx) or cohort differences. As Latif (2004, 2009) found previously, cohort differences can impact on outcomes. A longitudinal study of a single cohort of students was, however, not feasible within the timescale of a Keele DPharm project.

5.1.1. Choosing a data collection tool

As has been discussed in Chapter 1, Section 1.2.4, p.13, the DIT-2 test has been widely used as a measure of moral reasoning skills and was the measure of choice in recent studies in the UK (Gallagher 2011a, Prescott *et al.* 2014). Bebeau (2002), however, had advocated profession-specific measures to assess moral reasoning, and Chaar (2009) rose to the challenge by developing the PEP test. There were reasons for and against choosing either test to use in my study, as outlined below.

The DIT-2 had both advantages and disadvantages to its use. The DIT-2 test had been validated and widely used, and was proven to be a robust tool. As the DIT-2 was not profession-specific it could be used to compare against other professional groups. It was, however, quite costly to use as it had to be analysed by the Centre for the Study of Ethical Development, University of Alabama. It was also time-consuming, taking an estimated 40 minutes for individuals to complete. A fundamental problem with the DIT-2, as highlighted in Chapter 1, Section 1.2.4, p.16, was that it measures decision-making at the basic abstract level based on general principles. In contrast to this, most teaching on professional ethics courses (including with Vx) is at the intermediate concepts level. A context-specific test for an individual profession would in principle, I felt, provide a more appropriate measure.

The Professional Ethics in Pharmacy (PEP) test, was developed by Chaar (2009) as a profession-specific measure of moral reasoning (see Appendix 11). It was validated against the DIT-2, using P scores (a measure of principled moral reasoning) as the main outcome measure. It was found to have an acceptable level of concurrent validity and reliability when compared with the DIT-2. The mean P score was significantly higher with the PEP test when compared with DIT-2 (46.6 vs 32.88) but this was thought to be due to the fact that a profession-specific case may have more contextual cues for respondents to pick up on, and so score more highly. The PEP test was also

shorter and simpler to complete when compared with the DIT and did not incur an additional cost for analysis.

Arguments against use of the PEP test, which I had to consider, were that it had only been validated by the developer and there had been no independently published papers reporting on its use. This begged the question, why had it not been taken up by other researchers? This may have simply been due to the fact that DIT-2 was so widely known. The fact that the PEP test had not been widely used meant that there was less evidence behind it, but one could argue that the proven validity and reliability when compared with DIT-2 suggested that it was a valid alternative. The test was developed in Australia and it was unknown how it would translate in other countries but, as the intermediate concepts would apply equally, it was reasonable to suppose that this potential issue would have minimal effect on its use in the UK.

On balance, for both practical (quicker for participants to complete and easier, affordable analysis) and theoretical reasons (profession-specific using intermediate-level concepts), I chose to use the PEP test to measure moral reasoning in my study.

5.1.2. The PEP test

Any tool used to gather data should first be assessed to ensure that it is valid, i.e. it measures what it is supposed to measure, and it is reliable i.e. it is consistent, so that re-administering the same measure a second time on the same sample would obtain the same results (Bryman 2016). The PEP test was a pre-validated tool and, therefore, its reliability and validity were already established. Consequently, it was not necessary for me to conduct a pilot study, but the questionnaire was assessed for face validity by two UK practising pharmacists. This was undertaken in a bid to assess if the questionnaire made sense in a UK setting. Face validity assessments are subjective,

based on the extent to which the content of the questionnaire appears to be valid in the eyes of the subject (Sim and Wright 2000). In this instance, a minor alteration was made to one of the dilemmas in the questionnaire which contained a solution of morphine at a concentration not available in the UK; this was duly changed from 10 mg/ml to 100 mg/5 ml.

The development and validation of the PEP test is explained in detail in Chaar's PhD thesis (2008). The questionnaire (or test) contains three scenarios, after which students are presented with a potential action and asked if they agree, disagree or cannot decide to follow this course of action (see Appendix 11). They are then presented with twelve statements relating to the scenario which they have to rate, then rank in order of importance. Three of these statements represent Postconventional thinking i.e. highly developed moral thinking. If a student chooses any of these three statements when ranking their top four statements in order of importance, they are assigned a score: 4 if ranked first, 3 if ranked second, 2 if ranked third and 1 if ranked fourth. This means that the maximum score any student can obtain in each scenario by choosing all Postconventional statements as first, second and third choices is 9 (i.e. 4+3+2). Table 6 provides a summary.

Table 6 PEP test P score algorithm

<i>Staged</i>	<i>1st priority</i>	<i>2nd priority</i>	<i>3rd priority</i>	<i>4th priority</i>	<i>Sum</i>
<i>Statements</i>	<i>score</i>	<i>score</i>	<i>score</i>	<i>score</i>	
Stage 5/6					Used to
i.e.	4	3	2	1	calculate
Postconventional					P score

From Chaar, B. Professional Ethics in Pharmacy (2008)

A request for demographic information was added at the end of the questionnaire, specifically role, gender, age-range, ethnicity, religion, whether or not English was a

first language, and location of workplace. For the questionnaires that were posted to pre-registration trainees and early career pharmacists (i.e. Keele alumni), a further question asking if they would be willing to be interviewed was included.

5.1.3. Sampling and selection

In quantitative studies where large populations are available, sampling is often applied since it would not be feasible to survey all potential participants. In this event, Creswell and Creswell (2018) define aspects that would need to be considered, which include: the sampling design (whether single or multi-stage), type of sampling (random or convenience), stratification (to ensure specific characteristics are represented, and the sample proportionate to the whole cohort), sample size (large enough to make inferences), power analysis (to estimate a target sample size that will ensure there are enough participants to detect a statistically significant effect). In my study, however, sampling was not applied since the population available for sampling from was limited in size. With the exception of non-UK based alumni, all pre-registration trainees (PRTs) and early career pharmacists (ECPs) whose contact details were available were invited to participate in a bid to maximise the number of completed questionnaires. International graduates were excluded from the study as the variation in pre-registration experiences and the different laws and regulations surrounding the practice of Pharmacy in other countries could potentially affect the responses to the cases included in the PEP test. On reviewing literature comparing response rates in teaching evaluation surveys, Nulty (2008) focused on eight studies and found that online surveys received lower response rates than paper-based ones (33% versus 56%); I, therefore, felt justified to use a paper-based PEP test with students in my research. Similarly, Cho *et al.* (2013) conducted a meta-analysis of 48 studies in which surveys were posted to healthcare professionals. They too found a lower response rate with online surveys compared with paper-based (38% versus 57%). They estimated an

average response rate across all surveys of 53%, but identified a clear downward trend in response rate between 1958 and 2012 (average response rate declined from over 80% to below 50%) and recommended postal surveys with at least two reminder follow-ups to improve response rate. The fact that the PEP test contained a lot of information on each single page could potentially render it difficult to read from a screen; this gave further reason for me to choose a paper-based approach.

Year 1 students had no prior knowledge of Pharmacy rules and regulations, and so may have struggled with some of the cases. Testing profession-specific moral reasoning scores on first year students as a baseline for comparison has been undertaken previously though by Bebeau and Thoma (1999) in dental students, so this method follows a precedent. Scores from Year 1 students provided a clear baseline for both comparison with scores from Year 4 students, PRTs and ECPs, and also for a repeat test in the same cohort at the end of the year. Although this study was focusing on the long-term use of Vx, I took the opportunity to measure moral reasoning scores in students at the end of their first year of study as well as the beginning, to assess any potential short-term effects of teaching on scores. As the same cohort was used, this provided a truer representation of any impact of teaching, and enabled me to compare Keele University SoP against other UK SoPs in my discussion (Gallagher 2011a, Prescott *et al.* 2014, Hanna *et al.* 2017).

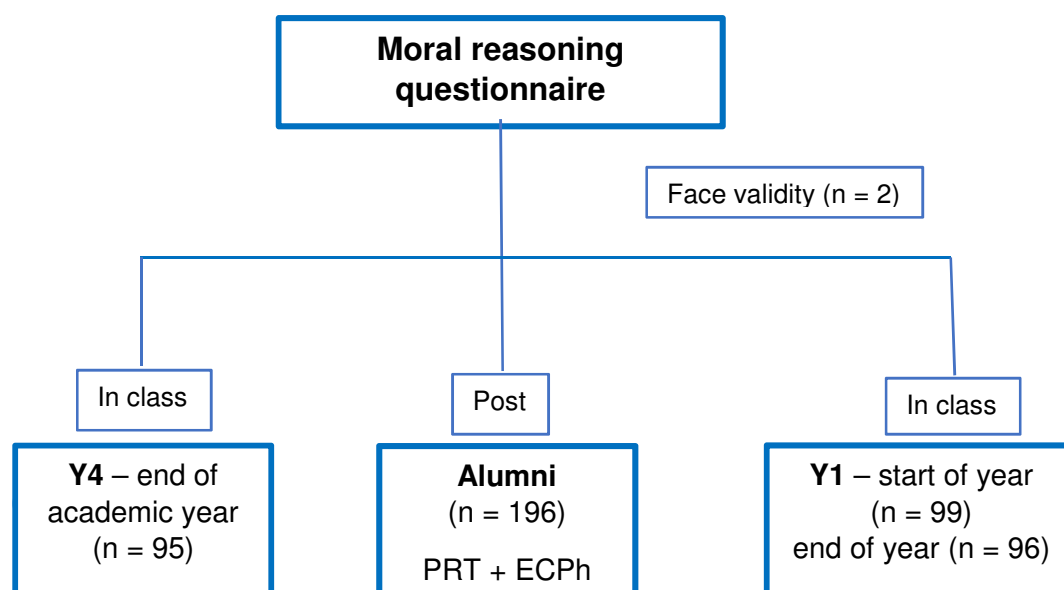
As the focus of my study was on preparing students for practice, and not the impact of teaching throughout each individual year of UG education *per se*, second and third year students were excluded from the study. Year 4 students nearing completion of their MPharm degree and graduates were, therefore, identified as potential participants. PRTs were included since they are in a unique situation of facing real life issues whilst not being accountable for all decisions. For the ECPs, a cut-off of two years post-qualification was chosen as it was felt that by this stage these pharmacists

would be experienced and the direct impact of UG education would have diminished somewhat.

As Vx was embedded within the curriculum and part of the formal assessment process for progression in every year of study, a control group of students within the School could not be used for comparison. Schanzenbach (2012) acknowledged the difficulty facing educators in determining the effectiveness of an intervention such as the use of Vx as it is often not practical (nor perhaps ethical) to have a control group against which to compare findings.

Figure 6 provides a diagrammatical summary of my quantitative methods.

Figure 6 Overview of quantitative research strand



Pre-Registration Trainees and Early Careers Pharmacists

Contact information for all alumni who graduated from Keele University SoP since 2012 (i.e. those who had graduated in the last three years) was requested from the

Keele University Alumni and Development Manager. PG and international students were manually removed from the list, leaving 196 alumni with postal addresses, 185 of which also had email addresses. A participant information sheet (see Appendix 12), cover letter (Appendix 13), PEP test (Appendix 11) and reply paid envelope was posted to the 196 alumni; consent was to be presumed by receipt of a completed questionnaire. Non-responders were followed up twice by email (Appendix 14), contacted at three weekly intervals in a bid to improve the response rate; this is common practice with postal surveys (Bryman 2016). In a bid to increase response rate, a message relating to the study was also posted on Keele University SoP social media pages (Facebook and LinkedIn) and an electronic announcement posted on the online *Pharmaceutical Journal*. In addition, pre-existing contacts with pre-registration tutors across the West Midlands were utilised and three large community pharmacy companies were asked to circulate notification of the study within their organisations.

5.1.4. Data collection

Year 4 and Year 1 students

The research study was introduced to Year 4 students initially during a lecture in semester 2 of academic year 2015-2016. A few weeks later, students were invited to complete the PEP test during a teaching session timetabled for this purpose. Participation in the study was voluntary, but the timetabled session was obligatory (as all teaching sessions were within the course). Two weeks prior to the timetabled session an email was sent to all Year 4 students providing top line details of my study with the participant information sheet attached so that they could read about the study in advance. On the day of the session, which was led by me, the aim of the study was reiterated and research-related ethical concerns of consent, anonymity and safe and secure storage of the data were addressed. Students were offered the opportunity to

ask questions and then invited to sign a consent form if they agreed to participate in the research study. All students were then asked to complete the PEP test individually. At the end of the session, consent forms and completed questionnaires were collected separately to ensure anonymity, with a further collection point for questionnaires from those who did not wish to participate in the study. A similar process was undertaken with Year 1 students, with initial contact made regarding the study at the beginning of the academic year 2016-17, and the questionnaire disseminated in a dedicated timetabled session in semester 1, prior to their first use of Vx. This was repeated near the end of the academic year 2016-17.

5.1.5. Data analysis

Developing a coding frame

A coding frame was devised to support analysis of the numerical data. Mutually exclusive numerical codes were applied to each question, and the code '99' was applied to missing data. All questions in the main body of the questionnaire were closed questions and therefore fell within specific categories. When capturing demographic information alumni were asked for their location of workplace and had the opportunity to provide written responses if they did not fall within specified categories for both a non-pharmacist role and ethnicity. Responses to these sections were recorded verbatim.

Analysis

Analysis was undertaken using *SPSS Statistics Software* version 24 developed by IBM. Analysis involved comparing average P scores amongst the four cohort groups

and against demographics. As P scores represented continuous data, they were initially tested for normal distribution and maximum and minimum data checked for errors (Jordan 1998). Descriptive statistical tests were applied to the data to calculate means, standard deviations and confidence intervals of P scores for each group i.e. individual year groups, age, sex, ethnic groups, religious beliefs and English (or not) as a first language. Inferential statistical tests were then applied to test for any associations. Univariable tests were undertaken to compare mean P scores across groups by using Analysis of Variance (ANOVA). This test was used to compare the mean P score of all cohort groups combined against the demographic variables age-range, ethnicity and religion. An independent t-test was applied when only two options were compared i.e. combined mean P score against cohort groups (Year 1 and Year 4), gender and English language. If significant differences were identified, the next step would be to undertake multivariable tests in the form of linear regression. This would identify if each demographic variable was independently significant and would rule out the possibility of a significant difference found with one variable demographic being due to that of another.

5.2. Results

This section describes the demographic make-up of participants, followed by descriptive and inferential statistical analysis of the data.

5.2.1. Response rate

A total of 213 participants returned a PEP test questionnaire. Seven were incomplete and unsuitable for analysis, therefore 206 were analysed. This represented an overall response rate of 47%, broken down as shown in Table 7.

Table 7 Response rates by cohort

Cohort	Response Rate % (numbers)
Year 1 students	76% (n = 99 / 131)
Year 4 students	70% (n = 77 / 110)
Alumni	15% (n = 30 / 196) 11 PRTs & 19 ECPs

Of the 30 alumni who responded, 18 worked in community pharmacy, 9 were based in hospital pharmacy and 3 did not answer the question.

5.2.2. Demographics

Table 8 overleaf compares demographic data across study cohort groups and comparative year of entry cohort groups.

Table 8 Demographic breakdown of participants across study cohort groups compared to year of entry cohort groups

	Year 1 (n=99)	Student intake 2015/16	Year 4 (n=77)	Student intake 2011/12	Alumni (n=30)
Gender					
Male % (n=68)	33.3% (33)	38.0%	35.0% (27)	34.9%	26.7% (8)
Female % (n=138)	66.7% (66)	62.0%	65.0% (50)	65.1%	73.3% (22)
Age					
<25 yrs % (n=175)	95.0% (94)	96.6%	78.0% (60)	94.0%	70.0% (21)
≥26 yrs % (n=31)	5.0% (5)	3.4%	22.0% (17)	6.0%	30.0% (9)
Ethnicity					
White % (n=98)	40.4% (40)	34.0%	51.9% (40)	41.1%	60.0% (18)
BME* % (n=101)	53.5% (53)	63.2%	46.9% (36)	54.8%	40.0% (12)
Unknown % (n=7)	6.1% (6)	2.8%	1.2% (1)	4.1%	-

*Black and Minority Ethnic

Alumni who participated in the study were fairly representative of their student year groups in relation to gender. The age of participants in the Year 1 study cohort group was representative of their full year group. The Year 4 study cohort group, however, was compared to the full year student intake when they first arrived at university. It is

unsurprising, therefore, that there was a higher percentage of older participants in the study cohort four years later. Proportionately more students from a white ethnic group responded to the questionnaire in both UG cohort groups.

When comparing Year 1 with Year 4 student groups, gender and ethnicity were both comparable but there was a statistically significant difference in age range between the two groups (Chi-squared 11.48, $p < 0.01$). This was expected since a comparison was being made between a new in-take of students and fourth year students.

The demographic information that follows relates to the four cohort groups combined.

Sixty-eight (33%) males and 138 (67%) females completed the PEP test.

Figure 7 shows the breakdown by gender for each cohort group.

Figure 7 Gender by cohort group

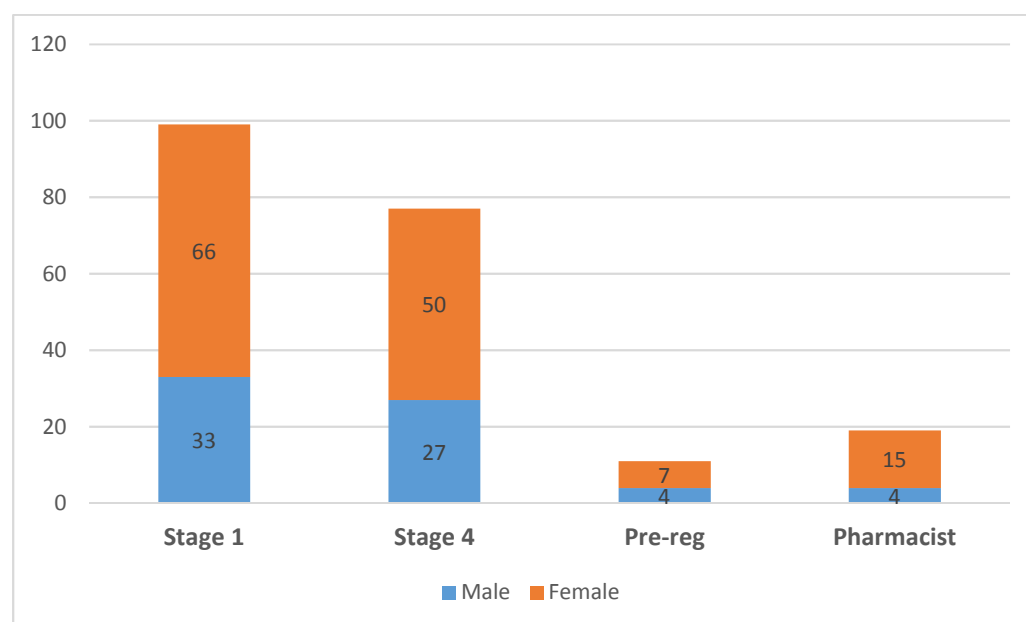


Table 9 shows the age-ranges across all participants. Only 28 participants (14%) were over 25 years old.

Table 9 Age-ranges of total participants

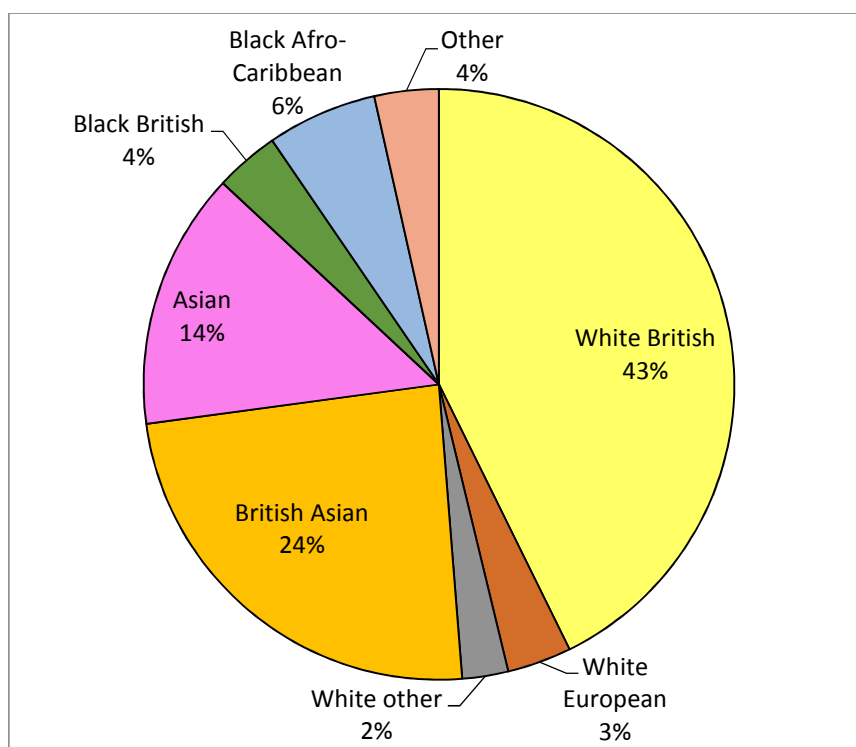
Age-range	No. of participants
<20	87
21-25	88
26-30	14
31-35	7
36-40	2
≥40	5

* (1 'Prefer not to state', 2 data missing)

Nearly half of the respondents were Caucasian (48%), as can be seen in Figure 8.

Thirty-eight per cent were of Asian origin whilst 10% were Black.

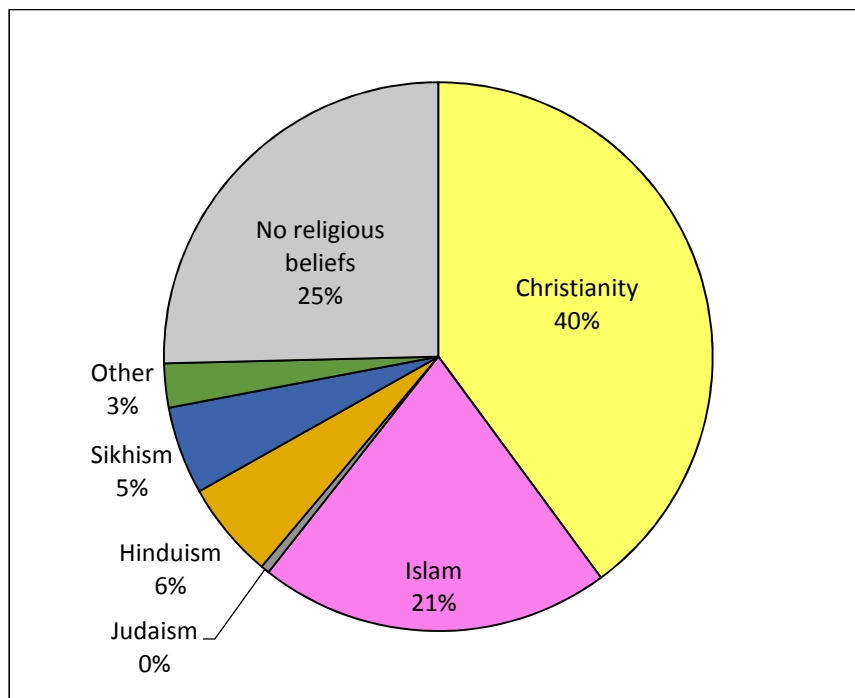
Figure 8 Ethnicity



* (5 'Prefer not to state', 2 data missing)

One quarter of respondents claimed to have no religious beliefs. For those that did, Christianity was most prevalent at 40%. This was perhaps the most contentious question with 11 respondents preferring not to answer the question (see Figure 9).

Figure 9 Religious beliefs



* (11 'Prefer not to state', 2 data missing)

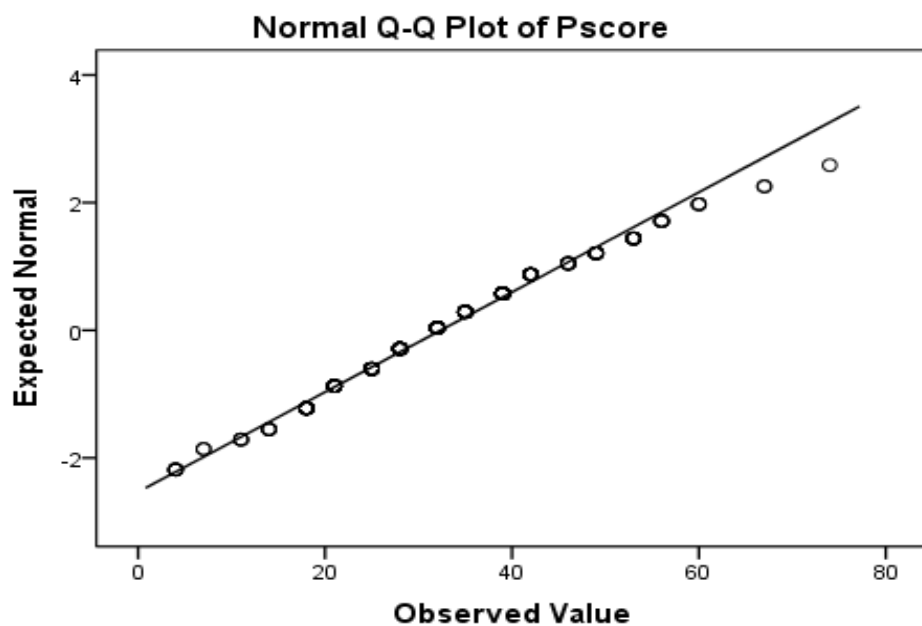
Nearly one-fifth of all participants (n=38; 19%) did not speak English as a first language.

5.2.3. Assessing distribution of the data

All P scores were plotted to assess distribution, and tests for skewness and kurtosis were applied (see Appendix 15). The P scores demonstrated an approximate bell curve with a mean of 32.37 (SD 12.78; n = 207). A skew value of 1.97 was found; a test result less than 2 is considered reasonably normal in distribution (Norman & Streiner 2008). A kurtosis score of 0.93 also supported a normal distribution. A

Shapiro-Wilk test of $p = 0.007$ suggested that the data was statistically more likely to *not* be normally distributed but Field (2013) considered that this test should be interpreted with caution as in large samples the test can be significant with only a slight deviation from a normal distribution. A Normal Q-Q Plot of the data showed many observed values were on or very close to the line, suggesting a fairly normal distribution (see Figure 10).

Figure 10 A normal Q-Q plot of P scores



As the data looked fairly normally distributed, was not skewed or kurtosed to any great degree and the Normal Q-Q plot showed fairly close alignment of observations to the central line, on the advice of a statistician, parametric tests were applied to the data. In addition, prior to analysis, one participant was identified as an outlier and removed from the data (see Appendix 15).

5.2.4. Descriptive analysis

Table 10 shows the spread of P scores achieved. Specifically, it compares the minimum, maximum, mean and standard deviation of P scores across all four cohort groups.

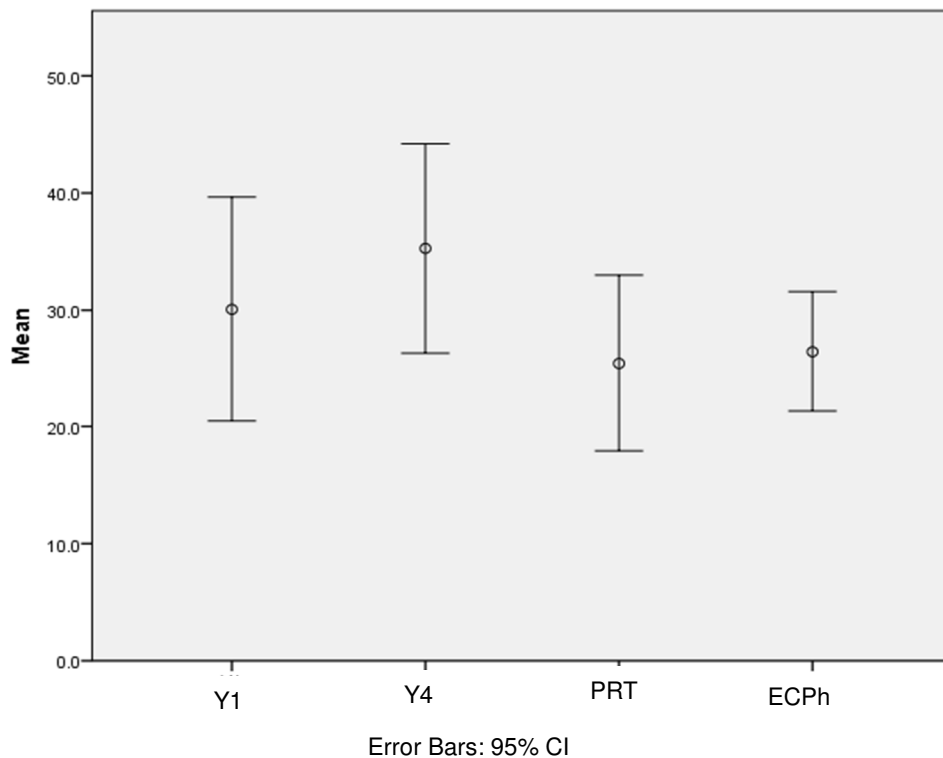
Table 10 Spread and average P scores across cohort groups

Cohort	N	Minimum	Maximum	Mean	Std Deviation	Confidence interval (95%)
Year 1 students	98*	4	67	31.42	12.89	20.4 - 39.6
Year 4 students	77	7	60	35.09	12.00	26.3 – 44.2
Pre-reg trainees (PRTs)	11	4	39	25.45	11.22	17.9 – 33.0
Pharmacists (ECPhs)	19	4	49	28.05	10.20	21.3 – 31.6
Total Participants	205	4	67	32.37	12.78	30.3 - 33.8

(*outlier removed)

The mean P scores are presented graphically with standard error bars in Figure 11.

Figure 11 Mean P score with standard errors across the four cohort groups



There was no statistical difference observed in average P scores across the cohort groups. As the number of alumni was small, statistical comparisons across cohort groups were only applied to Year 1 and Year 4. Data from alumni were, however, included when demographic data was analysed.

The *p*-value for the independent t-test when comparing Year 1 students with Year 4 was 0.055 indicating a positive trend, but a statistically significant difference in means between the two groups was not demonstrated.

Similarly, when Year 1 average student P scores were compared at the beginning and end of the year, confidence intervals were found to overlap so no statistically significant difference was found (see Table 11).

Table 11 Spread and average P scores pre- and post- 1 year of study

Cohort	N	Minimum P score	Maximum P score	Mean P score	Std Deviation	Confidence intervals (95%)
Year 1 students Start of year	98	4	67	31.4	12.9	20.4 - 39.6
Year 1 students End of year	96	0	74	33.6	14.2	30.7 - 36.5

5.2.5. Comparing P scores across demographics

Since the data was normally distributed, independent t-tests were used to compare single categorical predictor variables (i.e. Year 1 against Year 4 cohort groups, gender and English as a first language) using the single continuous outcome of P scores (Field 2013). Levene's test was applied in each case to demonstrate that groups were homogenous and thus valid comparisons could be made (see Appendix 16).

The results of the independent t-tests with bi-variate variables and the P score are summarised in Table 12.

Table 12 Independent t-tests with bi-variate variables and P score

Variable	Mean P score (SD)	Significance
Cohort group		
Year 1	31.42 (12.90)	$t(175) = 1.93; p = 0.055$
Year 4	35.09 (12.00)	
Gender		
Male	34.22 (13.21)	$t(200) = 1.571; p = 0.118$
Female	31.24 (12.19)	
English Language		
Yes	32.50 (11.79)	$t(196) = 0.717; p = 0.474$
No	30.77 (14.87)	

As shown above, no statistically significant differences in means were observed across all three demographics.

As more than two groups were compared within the independent variables of age-range, ethnicity and religion, one-way independent ANOVA-tests (Analysis of Variance) were applied (Field 2013). In each case Levene's test was applied to demonstrate that the groups were homogenous and thus valid comparisons could be made (see Appendix 16). The results of the ANOVA tests between groups of variables and the mean P scores are summarised in Table 13.

Table 13 Results of ANOVA tests with multiple variables and the P score

Variable	Mean P score (SD)	Significance
Age-range (yrs)		
≤20	31.47 (12.42)	F = 0.65; df = 5; $p = 0.662$
21-15	33.34 (13.10)	
26-30	32.14 (11.62)	
31-35	31.14 (13.17)	
36-40	23.00 (12.73)	
41+	26.20 (6.14)	
Ethnicity		
White British	33.52 (10.82)	F = 1.84; df = 7; $p = 0.081$
White European	26.43 (10.60)	
White other	43.60 (17.39)	
British Asian	30.00 (13.47)	
Asian	31.21 (14.47)	
Black British	36.71 (13.91)	
Black Afro-Caribbean	35.83 (10.04)	
Other	25.14 (9.06)	
Religion		
Christianity	33.51 (11.36)	F = 1.72; df = 6; $p = 0.119$
Islam	28.83 (11.95)	
Judaism	25.00*	
Hinduism	29.82 (9.84)	
Sikhism	25.80 (16.56)	
Other	33.20 (11.65)	
No religious beliefs	34.63 (11.07)	

*n = 1

When data relating to all religious groups were combined and compared with data from participants who claimed not to be religious, a statistically significant difference was observed. Non-religious participants achieved a small but statistically significantly higher mean than those professing a religious allegiance (mean P score 31.3 vs 35.4; $t(193) = -2.065$; $df = 191$; $p = 0.04$). This suggests that those who claimed to be non-religious were more likely to make decisions based on a Postconventional level of moral reasoning.

No difference was observed when all White participants were compared with Black and Minority Ethnic groups, nor with those 25 years old and under compared with those over 25 years old. This shows that those demographic factors were not found to impact on moral reasoning scores among participants in my study.

5.2.6. Comparison of responses to each scenario in the PEP test

Average scores for each of the three scenarios within the PEP test were calculated and are shown in Table 14 below.

Table 14 Average scores for individual scenarios (max. score of 9 possible) by cohort group

Cohort	Scenario 1	Scenario 2	Scenario 3
Year 1	5.0	3.0	2.0
Year 4	5.4	3.6	1.8
Alumni	4.5	2.5	0.7
Average	5.0	3.0	1.5

There was a statistically significant difference observed in the mean scores across all three scenarios (ANOVA: $F = 244.5$, $df = 2$, $p < 0.001$; see Appendix 16). This raises

concerns regarding the validity of the PEP test since, arguably, more even distribution of scores would be expected. This is discussed further later in this chapter.

5.3. Discussion

5.3.1. Summary of results

By disseminating and consequently analysing the results of PEP tests in Year 1 and Year 4 students as well as pre-registration trainees and early career pharmacists, I have presented data addressing Objective 2 of my study: To determine the moral reasoning skills of students and alumni who have used Values Exchange™.

The PEP test was applied to UG student cohorts which were generally representative of the respective year cohort and, apart from average age-ranges, did not differ significantly from each other. The response rate from alumni was low and rendered comparisons across the four cohort groups meaningless, although data from alumni were included when comparing demographics. There was no significant difference found across the two student cohorts. The only demographic factor that was found to differ, and be statistically significant, was in relation to professed religion, where those who claimed no religious beliefs were more likely to reason at the Postconventional level than those who claimed to hold a religious belief. When Year 1 students were tested at the beginning and end of the academic year, no difference in P score was observed. A difference was observed in the average score among the three scenarios that comprise the PEP test, which raised concerns regarding the validity of the test.

5.3.2. P score results

P scores across the four cohort groups or against any demographic information were not statistically significant except for religious beliefs. It is important to note, however, that a comparison is being made between four different cohorts; a longitudinal study following the one same cohort over seven years (i.e. from Year 1 of UG education to two years post qualification) would have provided more meaningful results, but was impractical for my study as discussed earlier (p. 90). A further consideration is the fact that, although the quest for statistically significant results is the cornerstone of a quantitative, positivist approach, Schlaefli *et al.* (1985) proposed that, due to the developmental focus of the DIT, even small gains may still be important findings. In theory, this could apply equally to the PEP test.

P score across demographics

There was no significant difference in mean P scores between male and female participants, those of different age-ranges, ethnicity or those participants whose first language was or was not English. Most of the early studies using the DIT test did not identify a link between gender and moral reasoning either. In fact Rest (1979) found that only 2 of 22 studies measuring moral reasoning found a significant difference in gender P scores. More recently, however, some studies have found that females have scored significantly higher than males (Latif 2004, Prescott *et al.* 2014, Maeda *et al.* 2009); this is in contrast to my findings.

Rest *et al.* (1999a) found that formal education was much more predictive than age for DIT test P scores; older adults with lower levels of education scored lower on DIT tests, than younger adults in a formal education setting. This aligns with my study findings, where all participants were in higher education and no statistical difference was observed across age-ranges. Gielen and Markoulis (1994) related differences in

DIT P scores found in cross-cultural studies (15 studies in 14 countries) to differences in the educational systems in those countries, further supporting the proposal that level of education, as opposed to ethnicity or language skills, is the strongest predictor of moral reasoning. Maeda *et al.* (2009), however, found a link between language and moral reasoning skills when analysing DIT-2 data from within educational settings. Their study identified that those whose first language was English achieved higher moral reasoning scores than their peers with a different native tongue.

The only variation in P score observed in my study across demographics was with regards to religion. Those participants claiming not to hold religious beliefs achieved a small but statistically significantly higher P score than those professing a faith. Religious fundamentalists have, reportedly, generally scored highly at stage 4 Conventional thinking i.e. they tended to follow rules and regulations (Rest *et al.* 1999a). Conversely, it could be surmised that those not confined by deeply held religious beliefs might be more inclined to think about higher principles rather than strictly following rules. Although my study reported on participants' nominated faiths/religious beliefs, it did not delve into the extent to which those religious beliefs were held, or how ardently (or not) they were followed, so it is difficult to draw any conclusions from this finding.

PEP test P scores in undergraduate students

Chaar applied the PEP test to fourth year Australian pharmacy students before and after a teaching intervention, with an initial average P score of 42.0, increasing to 50.6 ($t(156) = 11.48, p < 0.001$), a statistically significant improvement of 8.6. The scores obtained by Chaar are greater than the average P scores in my study (i.e. Year 1 P score = 31.4; Year 4 P score = 35.1). P scores achieved by students in the UK and Ireland have been found to be consistently lower than their counterparts in the USA

and Australia, both in Pharmacy and in other fields (Latif 2004, Prescott *et al.* 2014, O'Flaherty & Gleeson 2014, Chaar 2009). Prescott *et al.* (2014) suggested that it may reflect the difference in admission criteria to study Pharmacy. For example, in the USA students usually have completed at least 2 years of UG study in another subject before entering the Doctor of Pharmacy degree programme. Most students are, therefore, older when they begin, and have more experience in higher education; as stated previously, level of education in particular has been linked to a higher level of moral reasoning skills (Rest *et al.* 1999a).

Latif (2009) also found that pharmacy students had lower P scores than students from other health professions. A number of reasons have been posited for this, including the possibility that some UG courses reduce or inhibit moral reasoning instead of encouraging its development (Self 1993). This could be a reflection on the curriculum and style of teaching, with the promotion of convergent thinking to abide by rules and regulations rather than questioning and exploring. Gilligan (1982) argued that the DIT-2 test was based on justice, characterising relationships in terms of equality and inequality, with less importance placed on a caring orientation; a caring attitude and focus on relationships is very important within the health professions and so may account for the lower level of moral thinking as measured by this test. The PEP test, however, focused on intermediate-level concepts (ILCs) relevant to professional Pharmacy such as professional autonomy. This may, therefore, explain the higher PEP P scores achieved in Chaar's study when compared with the DIT-2 P scores achieved in the same cohort. Similarly, the mean P score achieved at the beginning of Year 1 at Keele SoP was higher than the mean DIT-2 score reported by Prescott *et al.* (2014) from the beginning of Year 1 in another UK SoP (31.4 vs 27.2).

Prescott *et al.* (2014) found that a cohort of UK pharmacy students showed a statistically significant decrease in DIT-2 P scores by the end of their first year of study (mean P score at beginning = 27.2 [SD 11.6] vs mean P score at end = 20.9 [SD 11.6];

$p < 0.05$). In contrast to this, Year 1 student PEP test P scores in my study increased slightly, although not statistically significantly. Although Keele MPharm students are introduced to Vx in Year 1, there is minimal professional ethics teaching delivered. It is, therefore, unsurprising that the PEP test scores did not increase. Teaching content may differ within my study and the study by Prescott *et al.* (2014), but the lack of moral regression in my study perhaps suggests a mode of teaching at Keele SoP that encourages a questioning approach rather than convergent Conventional thinking.

Gallagher (2011a) demonstrated a statistically significant increase in moral reasoning scores (N2 scores) from Year 1 through to academic staff scores. The increase, however, between Year 1 and Year 2 appeared minimal, although statistical analysis was not applied to individual year changes. In addition, as calculations included the mean score from academic staff members ($n = 14$) it is unclear whether or not a statistically significant difference would be found in UG students alone. There was also a large variation in cohort size (Year 1, $n = 114$; Year 4, $n = 32$), so it would be interesting to see if this trend continued across cohorts of similar sizes or the same cohort followed through all years of study.

Hanna *et al.* (2017) obtained final year pharmacy student views on professionalism/ codes of conduct and determinations in fitness to practice cases alongside moral reasoning scores using the DIT-2 test. The authors proposed that student responses to a questionnaire on their views of professionalism, and variation in responses to Fitness to Practice determinations, indicated an understanding of professionalism and the ability to discriminate between cases. The DIT-2 P score average was, however, low at 25.21 (SD 14.1). This was unexpected for final year students soon to graduate and has prompted the authors to review their methods of teaching ethics. Similar to my study, they found no significant differences in P scores between male and female students. They also, however, showed no strong correlations between moral reasoning scores as measured by the DIT-2 and levels of professionalism.

PEP test P scores in Alumni (Pre-Registration Trainees and Early Career Pharmacists)

The PEP test had only previously been used in Australia where the tool originated (Chaar, 2009). Australian pharmacists scored a much higher average P score of 46.6 compared with an average P score of 27.1 for Keele alumni (early career pharmacists [ECPhs] and pre-registration trainees [PRTs] combined). This was not a fair comparison to make, however, since Chaar's sample included pharmacists who often had many more years of experience working in pharmacy practice than my participants. Any comparisons should also be viewed cautiously as the sample size of alumni in my study was relatively small. The lower average P score for alumni was, however, quite stark, particularly as it was also lower than that achieved by both Year 1 and Year 4 MPharm students. This may be a negative finding, suggesting that the moral reasoning skills of alumni decreased when they left the university environment, and that UG teaching did not impact on professional practice, but it could also reflect the complexities of decision-making beyond the safety of the academic 'classroom'.

Does the PEP test translate to the UK setting?

As described previously, P scores from DIT-2 tests have generally been found to be lower in the UK and Ireland when compared to the USA and Australia. A further reason for the low average score in my study, however, may be due to the test itself. The PEP test was designed and validated in Australia within the context of the Australian healthcare system. Although there are many similarities between the two countries, any differences in service provision might have affected the result in relation to dealing with a particular problem. Although there was a significantly different mean score across the three scenarios, of particular note is the fact that all four cohort groups scored consistently low in the third dilemma relating to a repeat prescription. Pharmacists in Australia can legally supply all repeat prescriptions for one patient at

the same time; this is not the case in the UK. The third scenario, therefore, did not translate well to UK practice, and this was reflected in the choices made by Keele students and alumni. In Australia, the pharmacist can legally supply the prescription as requested by the patient, but the scenario was questioning whether or not a paternalistic approach concerning the risk of suicide should override this. In the UK it would be illegal to supply the medication, therefore the majority of respondents kept within the law whilst averting the risk of suicide. Their choices in doing so reflected a Conventional level of moral reasoning in the test, and resulted in a much lower average P score for the scenario when compared with the other two. The test itself, therefore, did not appear to be measuring what it should have been within the third scenario, and probably should not be used to compare against P scores in Chaar's (2009) Australian study. Arguably, if the same test was used to follow one cohort longitudinally, it could still be a useful predictor of trends in moral reasoning skills since two scenarios were still measuring this.

5.4. Summary

In this strand of my study, students and alumni were tested on their moral reasoning, addressing Objective 2. The scores recorded were a measure of moral judgement, the second part of the Four Component Model (see Chapter 1, Section 1.2.2, p.10), and chosen as the component that Vx, in theory, should most affect. A decision was made to apply the Professional Ethics in Pharmacy (PEP) test instead of the standard DIT-2 test since profession-specific tests had been advocated in the literature as more specific measures of moral reasoning within relevant professions. This was the first time that this test had been applied outside Australia. Variation of scores across the scenarios within the test suggested that the PEP test did not translate directly to the UK healthcare system. Despite this limitation, it could potentially be applied to the same cohort of Keele MPharm students in a longitudinal study to identify trends.

The response rate from potential alumni participants was low. Nevertheless, an interesting trend in average P scores was observed since they increased from Year 1 to Year 4 for UG students, decreased in PRTs, and then increased again for ECPs. The numbers were, however, too small to draw firm conclusions.

Despite a low response rate from the PRTs and ECPs, meaningful statistical analysis could be undertaken with total combined scores against demographic factors, and between Year 1 and Year 4 cohorts. Although a positive trend appeared, there was no significant difference in P scores when Year 1 and Year 4 students were compared. It is only by comparing scores from the same cohort longitudinally that a true effect could be identified.

The PEP test provided a measure of implicit moral reasoning. I undertook in-depth interviews alongside this measure to gain a greater understanding of the impact that professional ethics education has had as perceived by alumni subjected to it. In-depth interviewing enabled me to explore the experiences of the alumni to date, including identifying what influenced their decisions in practice. It also provided me with the opportunity to elucidate views on teaching, with a particular focus on Vx.

The next four chapters are devoted to my qualitative research strand. In Chapter 6 I describe my methods in detail and provide an overview of the results. Chapters 7, 8 and 9 follow with an in-depth analysis and brief discussion of each theme.

CHAPTER 6: QUALITATIVE METHODS - Voices of Pre-Registration Trainees and Early Career Pharmacists

The aim of the qualitative strand of my research was to explore with Keele alumni their current practice and past experiences of dealing with ethical dilemmas, and also their views on learning ethics at Keele University, which they had been exposed to as undergraduates. As discussed in Chapter 4, Section 4.1, p.82, semi-structured interviews were deemed most appropriate for my study.

This chapter presents a detailed methods section that includes the development of my interview schedule, and information on sampling and recruitment, data collection and data analysis. This relates to Objectives 3 to 6 of my study:

- To explore the views and experiences of alumni regarding dealing with ethical dilemmas in practice.
- To ascertain the views of alumni on their preparedness for professional practice.
- To identify perceived advantages and disadvantages of using Values Exchange™ to facilitate learning and professional development.
- To determine views on the potential future uses of Values Exchange™.

6.1. Development of the main study interview schedule

The interview schedule was developed based on an analysis of the current literature and Rest's (1983) Four Component Model of morality, i.e. moral sensitivity, moral judgement, moral motivation and moral character. This was discussed in detail in Chapter 1, Section 1.2.2, p.10. Questions were also influenced by a personal working knowledge of Vx and findings from my Initial Study (Allinson and Black 2018).

The “critical incident technique” (CIT) is a well-established research tool that has been used in health studies as a set of procedures for observing human behaviour and, in essence, turning anecdotal evidence into data (FitzGerald *et al.* 2008). As my study focused on elements of the Four Component Model of Morality (FCM; Rest 1983), I based my questions around the FCM in my interview schedule. In a bid to encourage more in-depth discussions as interviews progressed, I extended my questions to include elements of the critical incident technique. The aim of employing the CIT is usually to gather information about significant events that can be used to help solve practical problems. In my study, the CIT questions were included as a prompt for interviewees to consider their ethical dilemmas from additional perspectives (see Appendix 17).

Topics were chosen to address the aim and objectives of the study, with some specific questions exploring views on Vx included which had been derived from the Initial Study findings (see Appendix 1 for a summary of the Initial Study). The first section of my interview related to interviewees’ understanding of ethical dilemmas, their experiences of dilemmas in practice and how prepared they felt to deal with those dilemmas in practice. Questions then moved on to their views on professional ethics teaching at Keele in general before focusing on Vx specifically. Finally, they were questioned on their views of potential future uses of Vx.

The interview schedule was assessed for face validity by an experienced researcher resulting in some rephrasing to avoid leading questions, then was piloted for three interviews. These resulted in the provision of rich data with no major changes being required so were included in the analysis. As qualitative research is an iterative process, some minor adaptations were made to the interview schedule as the interviews and associated analysis progressed. Changes included use of the wider concept of ‘professional problems’ when participants found it difficult to identify

examples of purely 'ethical' dilemmas, and application of elements of the critical incident technique (Flanagan 1954) in an attempt to elicit greater depth in descriptions of scenarios.

6.2. Sampling and recruitment

Sampling in qualitative research is undertaken with the end goals of the research in mind, enabling the research question to be answered (Bryman 2016). Patton (2015) explained that there was no hard and fast rules on sample size in qualitative research, but rather the size of your sample depends on many factors. These include what the researcher wants to find out, the purpose of the study, what would be useful and have credibility and, pragmatically, what could be done within the available time and resources. Braun and Clarke (2013) suggested sample sizes of between 15 and 30 individual interviews was usual for a researcher hoping to identify patterns across data. Morse (2015) explained that the sample size must be big enough for the data to provide variation and depth, that it must be able to provide a detailed understanding of the issues, and adequately represent the phenomenon being addressed. The key justification for sample size in qualitative research, however, tends to be whenever data saturation has been achieved. In my study, broad topics were saturated rather than individual themes. I set data saturation as a point when no new insights into the use of Vx was emerging, as this was the main focus of my study. I was conscious, however, that experiences of dilemmas would be wide and varied, and data saturation may never have been achieved in this respect.

With regards to sampling strategies, the typical approach in qualitative research is purposive sampling (Braun and Clarke 2013). Purposive sampling is when participants are selected based on their ability to provide rich data for analysis (Patton 2015). This aims to ensure that they have characteristics relevant to the research questions. I planned to select Keele alumni who had graduated within the previous three academic

years (2012 to 2014), and were based in the UK. I was aiming for a mix of male and female participants, of varying ethnicities, from both hospital and community pharmacy, and both PRTs and ECPs, in a bid to gain a diversity of perspectives. I hoped to interview a sample that was generally representative of the make-up of the student body who had graduated from Keele.

I also employed two other sampling strategies, namely, *convenience sampling* and *snowballing* (Braun and Clarke 2013). *Convenience sampling* is about selecting a sample because it is accessible to the researcher. Despite being identified by Sandelowski (1995) as the least rigorous sampling method, convenience sampling is commonly employed in participant-based research (Patton 2015). Because initial recruitment was low, I also undertook *snowballing sampling*, by identifying participants through my existing networks and those of interviewees. Snowball sampling is a recognised approach for hard-to-reach groups (Bryman 2016).

Interviewees in my study were initially identified by responding positively to a request to be interviewed which was included at the end of the PEP questionnaire. Interviews were scheduled for May and June 2015. In hindsight, this period could potentially have been encroaching on study time in preparation for the pre-registration exam and may have been a reason for the low acceptance rate by PRTs. Due to the limited number of PRT participants who agreed to be interviewed, a request was made to Keele University Research Ethics Committee to extend the data collection period for a further year. This was duly granted (see Appendix 18).

Current final year students at that time (2015) were then approached at the end of a teaching session and invited to be interviewed the following year. Interviews were planned to be conducted between January and March 2016. This time period was chosen so that PRTs would have had at least 6 months experience in the role, but would be interviewed before their studying and preparation was likely to begin in

earnest for the pre-registration exam in June. All those who had agreed to be interviewed were emailed a participant information sheet in January 2016 (see Appendix 12) and invited to arrange a convenient time and place to be interviewed.

6.3. Data collection

PRTs and ECPs were interviewed between May 2015 and March 2016 at a time and place chosen by the interviewee. Locations ranged from restaurants, work canteens and their own homes. This allowed interviewees to choose a time and place convenient for them, where they should feel comfortable and able to talk freely. The aim of the study and ethical issues regarding consent and confidentiality of data were explained and interviewees were invited to sign consent forms prior to the interview starting (see Appendix 9). I conducted the interviews by following the interview schedule. Topics were scrutinised, prompts used where appropriate, and further questioning undertaken to seek clarification or follow up on previously unexplored ideas. The interview schedule was used as a guide only, to introduce topics of interest. Interviewees were free to express themselves as they wished, and often follow-up questions were asked which were not in the guide. The order of questions in the guide was not adhered to rigidly; rather, conversation was allowed to flow, to allow all issues important to the interviewee to emerge. Reference was made to the guide, however, to ensure that all topics were covered at some point in the interview. At the end of the interview, all interviewees were asked to sign a second consent form relating to the use of quotes (see Appendix 10). All interviews were audio-recorded.

6.4. Data analysis

The *Framework Method* is a method of analysis often termed *thematic analysis* or *qualitative content analysis*, which was developed by Ritchie and Spencer (1994). To be applicable, data must cover similar topics or key issues so as to be homogenous enough to categorise. It is most commonly used for semi-structured interviews. My interviews were structured to cover key topics that could be easily categorised so suited this method of data analysis, whilst the method also allowed for the analysis of new emerging themes. The *Framework Method* is a practical, flexible tool that does not align with any particular epistemologies or theoretical approaches (Gale *et al.* 2013). It can be adapted to be used with many qualitative approaches where the aim is to generate themes. The method supports the development of themes through the systematic search for patterns, whilst comparison of data across a matrix, facilitates refining of themes.

In my study, data was transcribed verbatim, including a record of tone of voice and pauses, whilst field notes included a record of gesticulations and facial expressions. The data was analysed using *QSR International NVivo 10* qualitative data analysis software. Framework analysis was applied enabling comparisons to be made across cases (Gale *et al.* 2013). The data was analysed both inductively and deductively: in general, interviewees' experiences in practice were analysed inductively whereas pre-existing codes were used when deductively analysing their views of Vx. The seven stages of Framework analysis as described by Gale *et al.* (2013) were followed. Stage 1, *transcription*, relates to transcribing the data *verbatim*, i.e. word for word, providing the opportunity for the researcher to become immersed in the data. Stage 2, *familiarisation with the interview*, is a stage when the researcher becomes familiar with the whole interview by listening to the audio recording and/or reading the transcript and any associated field notes. Stage 3, *coding*, requires the researcher to read the transcript line by line and apply a code, i.e. a paraphrase or label, that describes any

important points. At this stage it is important not to overlook anomalies, but identify and try to explain these also. Stage 4, *developing a working analytical framework*, refers to the researcher grouping codes together in categories, often using a tree diagram, which are then clearly defined. This working framework is usually developed from the first few transcripts. Stage 5, *applying the analytical framework*, is the application or indexing of subsequent transcripts using the categories and codes. Stage 6, *charting data into the framework matrix*, involves summarising data by category from each transcript and charting them in a spreadsheet. It is important when reducing data not to lose its original meaning; often interesting or illustrative quotes will be referenced here. Stage 7, *interpreting the data*, involves identifying characteristics of and differences between the data, mapping connections between categories, and exploring relationships. This can be a descriptive process or, if the data is rich enough, can sometimes provide reasons for findings.

6.5 Overview of results

Demographic profile of interviewees

Nearly half of all alumni who responded to the PEP test ($n = 14$ out of 30) agreed to be interviewed, 9 of whom were ECPhs. Two participants (both PRTs) withdrew, one due to illness and the other stating lack of time. When recruiting PRTs for the second round of interviews, 9 final year students provided personal email addresses so that they could be contacted in their pre-registration year closer to the time. When contacted the following year, 6 of the 9 PRTs replied and agreed to be interviewed; the other 3 did not reply.

Eighteen interviews were conducted in total, 9 with PRTs and 9 with ECPhs, and ranged in duration from 50 minutes to 2 hours. Of the 18 interviewees, 13 were based

in community pharmacy and 5 in hospital. There were 13 female and 5 male; 7 were aged over 25. Ten interviewees were white, five held no religious beliefs and one spoke English as a second language. A detailed breakdown of the demographic profile of those interviewed is shown in Table 15.

Table 15 Demographic profile of interviewees

Main current role	Type of work	Gender	Age-range	Ethnicity	Religion	English first language
ECPH1	Comm	F	21-25	White other	None	Yes
ECPH2	Comm	F	31-35	Black Afro-Caribbean	Christian	No
ECPH3	Hosp	M	41+	White British	Christian	Yes
ECPH4	Comm	F	21-25	White British	Christian	Yes
ECPH5	Comm	F	21-25	British Asian	Islam	Yes
ECPH6	Hosp	F	21-25	Arab	Islam	Yes
ECPH7	Comm	M	41+	White British	Christian	Yes
ECPH8	Hosp	F	26-30	White British	None	Yes
ECPH9	Hosp	M	21-25	White British	None	Yes
PRT1	Comm	F	41+	White British	Christian	Yes
PRT2	Hosp	F	26-30	White British	None	Yes
PRT3	Comm	F	21-25	British Asian	Sikh	Yes
PRT4	Comm	F	21-25	Asian	Sikh	Yes
PRT5	Comm	F	21-25	White/Black Caribbean	Christian	Yes
PRT6	Comm	M	31-35	White British	None	Yes
PRT7	Comm	M	21-25	White British	Islam	Yes
PRT8	Comm	F	21-25	Asian	Islam	Yes
PRT9	Comm	F	21-25	British Asian	Islam	Yes

Key:

ECPH	Early Career Pharmacist	Comm	Community Pharmacy	F	Female
PRT	Pre-registration Trainee	Hosp	Hospital	M	Male

Key themes

Three key themes emerged from the data:

- Ethical dilemmas in practice
- Transition to professional practice
- Facilitating learning and professional development

Each theme with its associated subthemes are presented in Table 16, and discussed in detail in Chapters 7, 8 and 9.

Table 16 Organisation of key themes

Ethical dilemmas in practice (Chapter 7)	7.1 Ethical awareness	<ul style="list-style-type: none"> • Defining ethical dilemmas • 'Ethical' versus 'professional' decision-making • Sector of professional practice • Ethical dilemmas in practice
	7.2 Personal factors that impact on dealing with dilemmas	<ul style="list-style-type: none"> • Personal values and beliefs • Professional values • Experience • Confidence
	7.3 Workplace factors that create dilemmas	<ul style="list-style-type: none"> • Time constraints • Culture of the organisation • Professional isolation • Relationship with medical practitioners
Transition to professional practice (Chapter 8)	8.1 Courage and concerns in practice	<ul style="list-style-type: none"> • Willingness to challenge • Stress and moral distress
	8.2 Learning through practice and CPD	<ul style="list-style-type: none"> • Positive role-modelling • Negative role-modelling • Continued learning in practice
Facilitating learning and professional development (Chapter 9)	9.1 The Vx learning environment	<ul style="list-style-type: none"> • General views of Vx • The technology
	9.2 Learning and reflection	<ul style="list-style-type: none"> • Deep approach to learning • Approaches to decision-making • Exposure to cases in preparation for practice
	9.3 Potential enhancements for learning and professional application	<ul style="list-style-type: none"> • Potential improvements to Vx • Professional application

CHAPTER 7: THEME 1 - Ethical dilemmas in practice

Chapter 7 explores the theme 'Ethical dilemmas in practice', which relates to the views and experiences of participants in relation to dealing with ethical dilemmas in early practice (see a summary of content in Table 17). This addresses the third Objective of this study:

- To explore the views and experiences of alumni regarding dealing with ethical dilemmas in practice.

Three key subthemes emerged from the main theme:

1. Ethical awareness
2. Personal factors that impact on dealing with dilemmas
3. Workplace factors that create dilemmas

This chapter looks in detail at each subtheme and related key topics that emerged.

Table 17 Ethical dilemmas in practice

7. Ethical dilemmas in practice	7.1. Ethical awareness	7.1.1. Defining ethical dilemmas Interviewees defined ethical dilemmas in different ways, but ethical literacy appeared poor.
		7.1.2. Ethical versus professional decision-making Interviewees had an awareness of professional problems occurring in the workplace, but not necessarily two competing <i>moral</i> obligations.
		7.1.3. Sector of professional practice Ethical and professional problems appeared to occur more commonly in community practice.
		7.1.4. Ethical dilemmas in practice Interviewees could provide examples of ethical and/or professional dilemmas or 'problems' from practice.
	7.2. Personal factors that impact on dealing with dilemmas	7.2.1. Personal values and beliefs Personal values and beliefs appeared to underpin decisions, for example, family values and religious beliefs.
		7.2.2. Professional values Interviewees identified a range of professional attitudes and values they deemed to be important.
		7.2.3. Experience Decision-making speeded up with greater experience. Decisions changed over time, affected by maturity.
		7.2.4. Confidence For many interviewees confidence had grown with experience, although ECPhs reported a dip in confidence upon qualifying.
	7.3. Workplace factors that create dilemmas	7.3.1. Time constraints Pressure due to time constraints/ heavy workload
		7.3.2. Culture of the organisation Pressure from the employing organisation and exposure to customary poor practice.
		7.3.3. Professional isolation Isolation in the community pharmacy sector
		7.3.4. Relationship with medical practitioners Relationships with doctors varied. Further dilemmas are created when the relationship is poor.

7.1. Ethical awareness

Some interviewees struggled to provide a definition of what an ethical dilemma was, but all were able to provide practical examples of ethical problems. These were either problems they had observed, or incidents in which they had been personally involved. This demonstrated their awareness of ethical dimensions in professional situations. Measuring ethical sensitivity was not a pre-determined objective of this study, but it is closely intertwined with moral reasoning. Ethical sensitivity is the first element of Rest's Four Component Model (FCM) of Morality (Rest 1983). This is the ability to identify and discern ethical dimensions of a situation, and an awareness of how an individual's actions affects others (Bebeau 2002). Other broader understandings of the term have been proposed, for example Weaver (2007) argued that ethical sensitivity should include interpreting, judging and reflecting on situations.

The presentation and analysis of the discussions with interviewees that follows in this chapter suggests that they were generally demonstrating ethical sensitivity through their ability to identify ethical concerns occurring in practice, even if they were not conversant with ethical language. In what follows, I would argue that ethical sensitivity was demonstrated by the majority of interviewees since they showed an understanding of what an ethical dilemma was, could recall ethical cases, and often considered wider aspects than simply the impact on the pharmacist and the patient alone when discussing the cases.

7.1.1. Defining ethical dilemmas

In this study the definitions of ethical dilemmas provided by interviewees fell into three main categories, i.e. situation involves choice of action, situation has emotional impact, and situation has no definitive right answer.

Firstly, ethical dilemmas were understood by some as situations where one is faced with *two conflicting choices*. For example, ECPH9 articulated this as follows:

"I actually had to stand back and think about what I was going to do for a little while, and I had two competing sort of courses of action that I could take." (ECPH9)

This conforms to the Oxford English Dictionary definition of an 'ethical dilemma' as (OED 2017):

'A situation in which a person must choose between two courses of action of (apparent) equal moral importance, so that the choice necessarily entails the transgression of an important moral principle.'

Secondly, others defined ethical dilemmas in relation to the impact it had on their emotions; ECPH8 expressed this:

"Because it makes you feel awkward. I think dilemmas make you feel uncomfortable. So that would be how I would define one." (ECPH8)

Thirdly, they expressed the definition in the context of a *grey area* where there was no clear cut, easy answer. ECPH7 explained:

"I think it's because it's not black or white you know, it's just that grey area and I think that's where most ethical dilemmas arise is in that grey area between yes 100% or no 100%...." (ECPH7)

This corresponds with research published by Cooper *et al.* (2007) where participants talked about the *grey area* of ethics as opposed to legal or procedural rules which were *black and white* and held no ambiguity.

Ethical literacy

Although interviewees could identify and discuss a wide range of ethical dilemmas, there was very limited articulation of ethical values beyond *best interests*. They did not use terminology such as *autonomy* or *non-maleficence*, even though situations relating to them were discussed. Cribb and Barber (2000) raised the importance of pharmacists being ethically literate so that they could discuss and debate the importance of values, and their impact on pharmacy professional practice. Furthermore, Benson *et al.* (2009) argued that being value literate may enable pharmacists to better understand the value implications of their social context. My findings are in accordance with previous studies, indicating that ethical literacy could be improved (Hibbert *et al.* 2000; Chaar *et al.* 2005; Cooper *et al.* 2007; Benson *et al.* 2009; Deans 2010), and demonstrate a gap among Keele graduates overall in ethical literacy that may need to be addressed in the UG course. Despite not being able to explain situations in terms of ethical ‘values’ terminology, interviewees were still able to demonstrate an awareness of the ethical aspects of situations occurring in practice.

7.1.2 ‘Ethical’ versus ‘professional’ decision-making

Quite early on in the interviews it became apparent that ‘ethical’ dilemmas *per se*, when two competing moral obligations had to be addressed, were not particularly common and often other factors came into play. For example, ECPh2 explained:

"... the main thing would be ...what's in the patient's best interest or what's safe for the patient [...] then the legal issues – if there's any legal ambiguity [...] I don't really have many situations where it's a moral issue..." (ECPh2)

Like ECPh2, other interviewees tended to see ethical dilemmas mainly as legal issues balanced against concern for meeting the best interests of the patient. In this respect, this study corroborates the findings of previous research (Hibbert *et al* 2000; Chaar *et al* 2005; Cooper *et al* 2007; Benson *et al* 2009; Deans 2010) in that many examples related to professional dilemmas or 'problems' involving legal or commercial concerns rather than solely moral problems. Cooper *et al* (2007) also reported that many so called 'mundane' problems were reported by their study participants alongside ethical dilemmas, and that law and ethics were viewed as synonymous.

Interviewees in my study appeared to be faced more often with decisions that they did not perceive as purely moral or ethical in basis. 'Professional' decision-making, therefore, as opposed to 'ethical' decision-making appeared to be key, and interviewees seemed to understand the difference. They found 'professional' decision-making much easier to discuss during the interviews since this appeared to be a truer reflection of their experiences in daily practice. Ethical issues arose, therefore, but the dilemmas often involved non-ethical aspects also, for example, legal or regulatory concerns. Making professional judgements on problems was seen as a routine occurrence. For example, PRT5 said:

"I'd say [making professional judgements] every day. Yes definitely every day, if it's not with emergency supplies [it's] over-the-counter, we get a lot of EHCs [requests for an Emergency Hormonal Contraceptive pill] as well."
(PRT5)

They separated out professional 'judgements' from ethical 'dilemmas' and felt that

ethical dilemmas involving two competing moral principles occurred less often in practice.

7.1.3 Sector of professional practice

The exposure to ethical dilemmas, and the ability to recall examples when asked, appeared to be, at least in part, due to the variations in working practices in the different sectors of pharmacy. A clear difference emerged between hospital and community practice.

Interviewees working in the community sector were more able to recall an example compared to those working in secondary care. This, arguably, suggests that community pharmacists may be more likely to be exposed to ethical dilemmas in their practice. For example, ECPH8 worked in hospital pharmacy as a main role but undertook locums in community pharmacy at the weekend. When asked for an example of an ethical dilemma, she found it easier to identify a scenario from shorter periods of time working in community pharmacy as opposed to her main role:

“Do you know, I probably don’t have one [experience of an ethical dilemma] specifically? Definitely not from hospital. And the only ones where I’ve been a bit funny [faced with ambiguity] is when I’ve done a locum ...”

(ECPH8)

Reasons for this could be postulated as being due to the different services that are provided in the two sectors; for example, emergency supplies are only made from community pharmacies. Another reason could be that professional support from a senior colleague to deal with difficult issues is normally available within a hospital environment. Decisions are therefore not, on the whole, left to the PRT or ECPH to

make alone. As ECPH3 (another hospital pharmacist) explained, help is always available:

“...because [in hospital] you’re part of a multidisciplinary healthcare team whereas in a community pharmacy, for example, you might be the only person in the pharmacy at that particular time, and you might have a really difficult dilemma to deal with on your own. So I think from that point of view we do have more support. We’ve always – you’ve always got somebody who you can talk to.” (ECPH3)

These findings are in accordance with those of previous studies. Chaar *et al* (2005) found that the most difficult dilemmas related to community practice, and were often cited as examples by hospital pharmacists also. Likewise, Deans (2010) found that community pharmacists had encountered more of the ethical problems within her pre-specified study questionnaire than the hospital pharmacists who took part in her study.

7.1.4. Ethical dilemmas in practice

Despite the fact that they had indicated that their exposure to major *ethical dilemmas* was not a regular occurrence in their day-to-day practice, all the interviewees were able to give examples of dilemmas when interviewed. They had not been given prior warning that this would be asked in the interviews, so their responses were, therefore, a true representation of their current knowledge and understanding of the subject at that point in time. Although some found it more difficult than others to articulate and think of examples, I would argue that they all demonstrated a level of ethical sensitivity through their awareness of ethical dilemmas occurring in their practice.

Examples of dilemmas provided by participants are categorised below as *legal*,

controlled drugs, sector-specific and wider healthcare issues.

Legal dilemmas

Most interviewees reported the conflicting choice faced when balancing the legal constraints of a situation with the welfare of the patient. Requests for emergency supplies often caused concern as a judgement had to be made on whether it could be deemed a real emergency, or whether or not the patient could feasibly access the medicine from an alternative, legitimate source. In the majority of cases, interviewees revealed that the emergency supply had been made, despite at times working outside the strict letter of the law. They justified this as a means of avoiding potential harm to the patient. For example:

“I did explain that obviously it would be better if she could just go to the walk-in centre, but with her being pregnant and having run out of Ventolin™ I didn’t want, you know, to maybe risk, not just her life, but the life of an unborn child. So I ended up costing [and supplying] it...” (ECPH4)

This is an example of the application of non-maleficence, one of Beauchamp and Childress’ (2009) four principles of bioethics. Similarly, many interviewees were willing to dispense medicine against unsigned prescriptions, provided that they did not contain controlled drugs, but only after carrying out initial checks to ensure that no circumstances had changed with the patient. ECPH2 gave an example:

“...this [receiving unsigned prescriptions] often happens, and the doctor hasn’t signed, and you can see that clearly this person is on a repeat prescription and they have the same drugs, there has been no changes.

There have been times when I've issued it and then chased up the signature afterwards" (ECPh2)

ECPh2 explained that if the prescription was clinically safe, she would feel justified in dispensing it so as not to inconvenience the patient, but if there was any doubt, she would refuse to:

"... the main reason why I would issue it, without chasing up the prescription ...the main sort of point would be the clinical issue and if that's fine, the patient's convenience [...] you're breaking a legal requirement and even though the patient says that there's been no changes, you never really know [...] so it's a large risk in a way to just issue it on the belief or on the hope even that there's been no changes [...] but if I'm in any doubt, then definitely, I would have to send them [the patient] back their prescription." (ECPh2)

ECPh2 is willing to break the rules for the sake of convenience for the patient, but only when she feels it is safe to do so. Although not stating explicitly, she is also avoiding any potential harm through missed medication. The willingness to refuse to dispense if she has concerns implies that the decision is not being made from a conflict avoidance perspective and, arguably, could be considered an example of higher principled thinking.

Controlled drugs

Although also a legal concern, issues around prescriptions for controlled drugs in particular were commonly highlighted as problematic. Controlled drug regulations are enshrined within the *The Misuse of Drugs Regulations 2001*. They are tightly

regulated and this is an area where interviewees generally said they would abide by the law, due to a fear of potential serious consequences at a professional level. Despite this, a few of the ECPHs interviewed gave examples of where they had supplied a controlled drug outside of the strict regulations. They had justified their actions by considering possible detrimental consequences to the patient, ultimately deciding that harm avoidance and preventing suffering was more important than complying with the law. For example, ECPH7 said:

“Because in my mind, he [the patient] needed it [the controlled drug] and... I think it was the sensible decision to make. Although technically the prescription didn't say I could do that.” (ECPH7)

He justified his decision by explaining:

“I thought well, if I do get in trouble by it or somebody says you shouldn't have done it, I can justify it by ethically saying, well what if he hadn't had that and he'd gone out and taken a heroin overdose to satisfy his craving? I can argue, well surely that's worse than the detail on the prescription?” (ECPH7)

This interviewee had considered the potential consequences of their decision in relation to the patient (demonstrating ethical sensitivity) and decided that this outweighed the potential risk of retribution from Pharmacy's regulatory body (GPhC) or employer for the decision made. In this instance, ECPH7 appeared to demonstrate a higher level of principled thinking.

In contrast to this PRT8 was unwilling to break the law and supply the remaining owed controlled drugs from an out-of-date prescription when a patient claimed to be in pain:

"Did you think from the patient's point of view at the time?" (MA)

"I did think about it from the patient's point of view, but ultimately I just sort of saw myself as a pharmacist and kind of saw it like ... you kind of protect yourself first. You're not gonna break the law for someone because they can't be bothered to go to the doctors' surgery. It's not worth it for me. So even though I can see it from their point of view, I can see my point of view more." (PRT8)

"And was this during the week or - was it easy for them to go to the doctors?" (MA)

"It was in the evening cos we're open late so the doctors was definitely closed, but it would have - it might have meant another trip or they couldn't go straightaway." (PRT8)

"Did they have any left at home?" (MA)

"No they had run out. Cos I think sometimes when you're on something often you build up a pile so you don't come for the next lot straightaway so that's how it happened." (PRT8)

PRT8 did not appear to think that consideration of a patient's needs was a sufficient justification to break the law. Neither did she suggest alternative pain relief nor signpost to an alternative source. PRT8 appeared to be practising at the level of Conventional thinking, abiding by rules and regulations (Kohlberg 1969), rather than demonstrating a Postconventional approach. In fact, she explained that, whilst understanding that the patient was not intentionally late to collect her medication, her decision was motivated by a need to follow the law:

“So I realise that I've committed to following these rules, whatever all the moral things I might think about is that these come first because I've signed up for that.” (PRT8)

Although pharmacy professionals are expected to adhere to the law generally, a principled approach would have centred on non-maleficence, that is, avoidance of further harm to the patient (Beauchamp & Childress 2009), but this appeared to be absent, and arguably, indicated a lack of preparedness for ethical pharmacy practice. PRT8 did, however, consider the impact of her decision on the patient, by sharing her view that omitting the pain relief might *“make your [the patient's] quality of life a little bit worse, but I hope it's not gonna impair your ability to survive.”* In fact, many PRTs appeared to be more fearful than ECPs of the potential consequences of not following the law. For example, PRT9 said:

“I just wanted to follow the law, because as a pre-reg you just fear that one thing [...] I kind of became more ethically aware, but I had to be given that nudge [by her pre-registration tutor]....” (PRT9)

Sector-specific dilemmas

Some examples given by interviewees were very specific to the sector of pharmacy in which they practised. Many of those working in community pharmacy highlighted concerns around the supply of over-the-counter (OTC) medicines. This was either in relation to requests for medication where the patient did not fit the licensing criteria, and the difficulties that could arise from this, or sales of medicines that could potentially be abused. ECP5 gave the following example:

“...even over-the-counter stuff you know, especially when it comes to abusing more drugs... when you have to make the decision as to whether you would refuse a supply... it's quite a tricky one but, yeah, I would class that as an ethical dilemma.” (ECPh5)

Previous studies which have reported on ethical dilemmas regarding OTC medicines referred to the pressure put on some pharmacists to promote specific sales, and the need to make a profit for their employing organisation (Chaar *et al.* 2005, Cooper *et al.* 2007). The examples from my study, however, indicated a more patient-centred approach, with concern focusing on whether or not the product was safe and appropriate for the patient as opposed to the commercial aspect.

With respect to hospital pharmacy practice, the difficulty of prioritising patients to review during limited ward time was raised by a hospital PRT as an ethical dilemma:

“I find that [prioritisation] quite difficult because I think, actually I haven't seen the people I wanted to see so at what point do I have to make that decision that I'm not happy to leave this ward until those people have been seen?” (PRT2)

Benson *et al.* (2009) also found this to be a dilemma among their study participants. There are two main ethical principles at stake here, i.e. the principle of *non-maleficence* (to do no harm), and also *justice*. This pharmacist expressed justice in the context of the need to be able to provide an equal level of care for all patients and concern about safe practice. In day-to-day practice, however, tension exists as practitioners have limited time allocated by the organisation, and often have to make difficult choices regarding which patients to prioritise (and thereby potentially ignore others); alternatively they could disregard further duties until the task is completed to their satisfaction.

Wider healthcare issues

Some examples of ethical dilemmas were discussed by interviewees in the context of broad healthcare issues. These included consent, confidentiality, whistle-blowing and safeguarding.

GPhC Standards of conduct, ethics and performance (2012; the relevant professional standards at the time of the study) dictated that pharmacists should respect an individual's dignity and privacy, and never divulge information without consent unless required to do so by law or under exceptional circumstances. One interviewee (PRT3) gave an example of where she had made the decision to ignore this, and told a third party, without the patient's consent, what the indication was for the medication they were collecting:

"They [third party] always want to know [what the medicine is for] and it could be harmless but just like, intrigued to know what it is, so I think you have to judge it by what the medication is. If it's something serious, I wouldn't say. If it's something less serious, like heartburn, I'd tell them."

(PRT3)

This is not the standard of practice expected by the GPhC of a pharmacist or PRT. In this case, PRT3 knew about the overarching ethical requirements for confidentiality and consent, but did not apply them at all times. The need for confidentiality was clearly an important concept to PRT3, however, as she also voiced concern that confidential information discussed in the dispensary might be overheard by patients, an issue addressed directly in the revised code of ethics, the *GPhC Standards for pharmacy professionals* (2017a).

Only one interviewee (ECPh9) gave an example related to whistle-blowing. This was in

the context of reporting a colleague for suspected drug theft:

“So we’ve had a time where stock levels of a particular drug were consistently out – it was a benzodiazepine and I had my suspicions that it was a particular person [...] My thought process was probably... whether or not I should raise it with someone senior or whether I should try and essentially not hurt the person’s career [...] In the end, I did raise it with the Senior, and that particular person doesn’t work for the Trust anymore.”

(ECPh9)

Pharmacists have an obligation to raise concerns regarding the professionalism or competence of work colleagues (GPhC 2017b *Guidance on raising concerns*). In this instance, ECPh9 adhered to professional standards and exhibited moral courage by speaking up. If ECPh9 had chosen not to raise his concerns, his own fitness to practise might have been called into question. Some interviewees also mentioned that dilemmas around end-of-life care were likely to become more prevalent with an ever-increasing elderly population, but no specific examples were given.

7.2. Personal factors that impact on dealing with dilemmas

Some interviewees said that their personal values and beliefs, as well as their professionalism *per se*, were key factors that impacted on how they dealt with dilemmas in practice. ‘Professional’ attitudes and values important to them are also reported here. Interviewees explained that decisions could be made more quickly with greater experience, and that outcomes of decisions could change over time. In addition, some older interviewees said that their extra maturity impacted on the decisions they made. Many stated that their confidence in dealing with dilemmas had

grown with experience, although ECPhs reported a dip in confidence upon first qualifying. This is discussed in more detail in what follows.

7.2.1. Personal values and beliefs

Personal values and beliefs, such as family values and religious beliefs, were felt to provide an underpinning for making decisions. A few interviewees talked about the influence of core values; for example, PRT2 reflected on the underpinning beliefs and family values that helped set an individual's moral compass and impacted on decision-making:

"A lot of it's [decision-making] personal so it's sort of religious beliefs, personal beliefs, the way I've been brought up, the way other people have been brought up. The things that I've been brought up to believe are right and wrong plays a massive impact on it..." (PRT2)

ECPh5 particularly mentioned that their own religious beliefs would affect their decision-making:

"... I'm quite a spiritual person as well, I'm quite a religious person so I feel like if I am able to help people in the eyes of God and I'm acting in their best interests, so that's what motivates me, that's what prioritises kind of my thought process, how I act." (ECPh5)

A number of other interviewees recognised that the religious views held by others were likely to influence their decision-making. This was based on the responses they had observed to some of the hypothetical cases within the Vx system. For example, ECPh9 said:

"I remember quite a few of them [responses to Vx cases] being influenced by, maybe, people who hold religious beliefs about particular things; about maybe contraception one of them was about, or abortion. And I thought, oh that will influence a lot of people and as I say, it turned out it did. It was useful, it was interesting to see how it [religious beliefs] influenced the decision-making process, yeah." (ECPh9)

Historically pharmacists have been allowed to refuse to provide services, e.g. emergency hormonal contraception, on the grounds of moral or religious conscience. Conscientious objection has, however, been debated within healthcare (Deans 2013, Magelssen 2011) and the new GPhC *Standards for Pharmacy Professionals* (2017a) includes a revised conscience clause that states that pharmacy professionals should *"take responsibility for ensuring that person-centred care is not compromised because of personal values and beliefs"*. This ultimately puts the onus on the pharmacist to ensure the patient receives the treatment or service they need, and may require pharmacists to act against their own personal moral beliefs if no alternative provider can readily be found. This could potentially result in dilemmas for some pharmacists in their future practice.

7.2.2. Professional values

A number of key qualities emerged during the discussions which interviewees stated were important attributes to 'being professional'. These included the need to be altruistic, empathetic, caring and compassionate, honest, polite, respectful and non-judgemental. In addition, having effective communication skills, being knowledgeable and working within one's competence were also deemed important. In effect, the interviewees were discussing how professionalism *per se* was a key factor that impacted on their decision-making. Their views on what they perceived to be

professional behaviour were ascertained, in a bid to understand what might influence their own behaviour and, consequently, impact on their decision-making.

Interviewees' views aligned with a number of the professional standards depicted in the *GPhC Professional Standards Wheel* (GPhC 2017a) shown in Figure 12.

Figure 12 GPhC Professional Standards Wheel



Person-centred care

Interviewees demonstrated person-centred care when discussing their experiences. The majority of interviewees explained that patients' needs must be awarded highest priority. Some made reference to their professional Code of Conduct, *Standards of conduct, ethics and performance* (GPhC 2012), where the first principle was to "make patients your first concern". This was seen as overriding all others, for example ECPH1 explained:

“There’s like those eight principles that pharmacists are supposed to follow and they always say the patient is number one, so following the law is important, being professional is important, but I kind of...I always just go back to the patient.” (ECPh1)

The revised GPhC *Standards for Pharmacy Professionals* (2017a) also states that pharmacy professionals must make sure that the patient is their first priority. A working knowledge of the GPhC *Standards* may be one way of empowering pharmacists to make good professional judgements in practice. This could be interpreted as reflecting a desire by the ECPhs and PRTs in this study to make choices for positive professional reasons and not based on fear of the potential consequences of making a ‘bad’ or ‘risky’ decision.

When asked directly what ‘being professional’ meant to them, answers relating to person-centred care appeared to focus on the importance of taking time to listen to patients’ concerns. For example, PRT3 said:

“I was so long [conducting an MUR] because I was listening, and I think it’s important to listen to patients because if you sit down with them they actually wanna talk about how they’re feeling [...] I think it’s important to just listen and be patient with them.” (PRT3)

An explicit example given in the GPhC *Standards* is to: *“listen to the person and understand their needs and what matters to them”*. The specific terminology of ‘person-centred care’ was still a new and evolving concept around the data collection period of my study, so the fact that interviewees did not use this terminology is, perhaps, unsurprising.

Patient-centeredness has been a key finding in previous studies. Elvey (2015) found that pharmacists aimed to be patient-centred, whilst Benson identified working in the 'patient's best interests' as a core value. Deans (2010), however, found that, although some pharmacists said that they placed most importance on the patients' best interests, they did not always prioritise them. Chaar *et al.* (2005) also found in their study of pharmacists that, despite declaring that they wanted to act in the patients' best interests, competing pressures, particularly financial, meant that they did not always do so. In my study, ECPs appeared to be more willing to put patients' best interests first and practise person-centred care compared with PRTs. In general, PRTs appeared to know the right thing to do, but sometimes found it difficult to put this into practice (see Chapter 8, Section 8.1.1, p.172).

Effective communication

Many participants felt that having good communication skills to use with patients and colleagues was fundamental to demonstrating professionalism, for example, PRT7 said:

"Anyone can sort of deal with a scenario, but if your communication comes out wrong, or your tone comes out wrong, the information might be right, but the way it comes across it can completely negate everything that you're trying to say. So I think communication is key." (PRT7)

According to ECP9, the ability to communicate well so that views can either be defended or challenged was a necessary skill for practice:

"You'll have conflicting opinions and things [in practice] and you need to be able to express those in the right manner to another colleague." (ECP9)

Interviewees tended to focus on the act of communicating, thereby building rapport so patients will divulge information, or the social aspect of supporting lonely older patients. This professional standard also includes the need to “*communicate effectively with others involved in the care of the person*”. As discussed later in Section 7.3.4, p.166, the relationship the pharmacist has with other healthcare professionals appeared to affect the pharmacists’ ability to fulfil this requirement.

Professional knowledge and skills

Some interviewees highlighted the need for professionals to be knowledgeable, up-to-date and, importantly, to recognise and work within their competence. They expected professionals to work to a high standard and continually strive to improve. The GPhC expects pharmacists to “*work within the limits of their knowledge and skills*”. ECPh2, for example, saw this as key to having a professional attitude towards work:

“...as a professional, you ...need to be knowledgeable in your subject and ... there’s always going to be holes or areas of expertise or areas of knowledge you have very little experience in and knowing your limitations ...” (ECPh2)

Similar to my study, other studies also found that working within professional boundaries, recognising limitations of knowledge and seeking further information are believed to demonstrate professionalism (Langley and Aheer 2010; Elvey *et al.* 2015).

Professional judgement

Within the *GPhC Standards* it is recommended that pharmacists “*make the care of the person their first concern and act in their best interests*”. The interviewees in this study, similar to the findings of Elvey *et al.* (2011), appeared to see this as fundamental to being a professional. Interviewees had been exposed to the concept from day one of their MPharm degree course and genuinely appeared to want to help patients. PRT6, for example, raised the importance of not just opting for the easy option when dealing with patients:

“But then you’d be ... taking advantage of the patient because they’re vulnerable aren’t they? And then you’d just be making it easy for yourself, which isn’t really the right thing to do, it’s not really putting the patient first.”

(PRT6)

Professional behaviour

Interviewees seemed to relate to this ‘spoke’ of the *GPhC Professional Standards Wheel* more than any other, identifying many attitudes and behaviours they would expect to see demonstrated by a professional. Within my study, by far the most common behaviour discussed was the ability to empathise. For example, PRT5 said:

“You do need to personally put yourself in the patient’s position, I think as well. You need to think about how they are feeling and how it’s going to affect them.” (PRT5)

The *GPhC Standards for Pharmacy Professionals* (2017a) provides a number of examples of expected behaviour, including empathy and compassion. Spiro (2009)

believed that empathy was the foundation of patient care, and saw it as an essential tool for the practising doctor. Similarly Jubraj *et al.* (2016) argued that empathy was key to building high quality values-driven pharmacist-patient interactions.

Care ethics is a moral theory that is ‘action guiding’ and depends on the development of empathy (Kuhse and Singer 2012). The theory espouses that a healthcare professional with a well-developed empathetic response can be guided to the right course of moral action when interacting with a patient. They would be committed to viewing the patient sympathetically, aware of ongoing supportive relationships, and choose an action that would be serving the patient’s best interest, whilst preserving these supportive relationships to the patient. Empathy, therefore, is a key skill to develop as a healthcare professional, and also, to developing ethical sensitivity.

Compassionate care was also identified as important in my study. Following the failings at Mid-Staffordshire NHS Foundation Trust (The Mid Staffordshire NHS Foundation Trust Inquiry 2013), the Nursing profession set out a vision for more compassion in Nursing (DH 2012). The proposed strategy involved ways to implement the ‘6 Cs’ of care, i.e. compassion, care, competence, communication, courage and commitment. These should be equally important to the practise of Pharmacy and were all addressed to varying degrees in my study.

Basic levels of courteousness was deemed by interviewees to be an important aspect of professionalism that was essential for building rapport with patients, as was a respectful and non-judgemental approach. For example, ECPH2 said:

“Professionally, it would be wrong to pass judgement based on that [brief interaction with the patient] and it would be ... almost conflicting with your obligations [...] you have that kind of responsibility to respect ... who they are and what they’re on and just help them how you can ...” (ECPH2)

The GPhC *Standards for Pharmacy Professionals* (2017a) states that patients receive safe and effective care when pharmacy professionals are polite and considerate, treat people with respect and make sure every person is treated fairly. Being polite, respectful and non-judgemental are important elements in building trust with patients, as those in a trusting relationship with their pharmacist are more likely to fully disclose personal information. Potentially this will result in greater patient autonomy and shared decision-making. Additional benefits have also been observed; studies have shown that patients who trust their healthcare professional are more likely to adhere to treatment, with lowered anxiety in relation to that treatment (Caterinicchio 1979, Booth *et al.* 2004).

Speaking out about concerns

Honesty was also held in high regard by the interviewees, and seen as an important aspect of building trust with patients. PRT6 explained:

“Honesty, that's high up. Cos ...if patients think you're not being honest with them and they can't trust you, that's not good.” (PRT6)

As well as being part of appropriate professional behaviour, this also relates to Pharmacy Standard 8 which states that pharmacists should “*speak up when they have concerns or when things go wrong.*” Pharmacists, like all healthcare professionals, are bound by a duty of candour, and are therefore required both legally and professionally to be honest and transparent, particularly when things go wrong (GPhC 2017a). Adherence to standards may require moral courage in practice, despite being fundamental to patient safety. The action and inaction of interviewees in my study are discussed in more detail in Chapter 8, Section 8.1.1, p.172.

In summary, the interviewees demonstrated a broad base understanding of what constitutes 'professionalism' that aligns generally with current *GPhC Standards* (2017a). The key concept of person-centred care was not addressed directly, but this was only an emerging concept during the data collection period. Overall, this study has shown that interviewees had an understanding of the standards expected of them as professionals and appeared to be demonstrating ethical sensitivity in their ability to identify professional concerns.

7.2.3. Experience

Personal professional experiences emerged as an important influence on how interviewees dealt with dilemmas. For example, ECPH1 described how the potential fear of consequences of breaking the law diminished over time, while the confidence to place priority on a patient's wellbeing increased:

"It's not like I came out [of university] feeling unprepared but I definitely came out feeling, "well, I'm going to stick to the law and that's it." I definitely definitely had that opinion coming out of uni and that's what I had probably the first six, eight months working as a relief [pharmacist], but I feel, not that it like dwindles, me caring about the law, but it's just, you know, the patient is the most important thing..." (ECPH1)

PRT9 explained how her growing experience in practice appeared to enable greater insight into potential consequences of decisions made:

"...so that's when I kind of, as a student [on placement], that's when I was like, 'Just give them the methadone. Just get him out of the pharmacy. I

don't care.' But now [with more experience in practice] I think, 'I can't give in,' 'cause they'll come back next week doing the same thing.' (PRT9)

PRT3 went further to explain that, not only had the decisions made changed with experience, but the process of making these decisions also quickened:

"...now I've started to think quickly on the spot, like what's right and what's wrong. So that's how being in practice has helped in that sense." (PRT3)

Dreyfus and Dreyfus (1986) found that 'experts' reason differently to 'novices', thereby conforming to Aristotle's *phronesis* – the wisdom to apply general rules to specific situations - which is learned over time. Greenhalgh and Wieringa (2011) explained that medical practitioners rely not only on relevant research evidence but also tacit knowledge of their wider clinical and social situation when making a decision. Tacit knowledge is largely experience-based, again built up over time. Interviewees in my study discussed how they were learning and building on their experiences. From a pedagogical perspective, this suggests they were applying a constructivist approach to decision-making, involving reflection on current experiences to build on previous knowledge (Kolb 1984, Vygotsky 1978). In theory, this should contribute to the development of their own tacit knowledge as they move from novices towards expert practitioners.

As well as the effect of increased experience in their professional role, some of the older participants who had been mature UG students perceived that their additional life experiences *per se* had also been advantageous, and an influencing factor on their decision-making in their professional role. For example PRT6 discussed learning from previous mistakes made in another non-pharmacy work context:

"I think all people learn by their mistakes, so I suppose it's different for me cos I'm like a mature student, so I've worked [in non-pharmacy areas] for longer and probably made more mistakes..." (PRT6)

7.2.4. Confidence as a practitioner

Interviewees recognised the need to be confident to make decisions in order to feel prepared to deal with dilemmas effectively. In this study, ECPhs tended to feel confident in dealing with dilemmas, whilst PRTs, on the whole, still lacked confidence approximately midway through their pre-registration year. Although confidence appeared to grow with experience generally, from what the interviewees said it seems that confidence levels tended to regress, at least initially, when first qualified.

Personal level of confidence

Some interviewees referred to confidence as an inherent trait that affected their ability (or inability) to make decisions. For example, ECPh9 stated that he felt *"quite self-assured"*, implying this was why he could make and act on decisions, whereas ECPh4 suggested that her personal lack of confidence in general was the reason why she struggled to deal with dilemmas when she first qualified as a pharmacist:

"I'm a person who sort of lacks confidence anyway whereas some people who are more confident probably won't have doubted their own abilities [to make decisions]..." (ECPh4)

In this study, PRTs in particular tended to lack confidence in their ability to take action and deal with dilemmas in practice, despite saying they could make decisions, for

example PRT4 said:

“...to deal with them [decisions] I think I’m there. To kind of communicate them and be confident in them I don’t think I’m there yet [...] knowledge wise and kind of weighing everything up I think I’m there.” (PRT4)

Despite appearing more confident to make and act on decisions, some ECPhs indicated their need to be able to provide strong justification, for example ECPh2 stated:

“I don’t think I’d make a decision if I wasn’t 100% sure I’d be able to justify it.” (ECPh2)

Rosenthal *et al.* (2010) identified lack of confidence as a pharmacist personality trait, suggesting that the highly scientific nature of a pharmacy degree meant that pharmacists were more comfortable with abstract thoughts than application of knowledge. This, they believed, translated to an unwillingness to speak up and act without completely solidifying their conclusions.

PRT2, who undertook her pre-registration year in hospital, reported her view of a lack of confidence amongst her senior work colleagues:

“And sometimes I won’t do something because I’m actually not sure. I don’t have that confidence in my knowledge to back myself up and I think that’s true of people who have been in the profession longer than me is that we don’t always necessarily have the confidence in ourselves to say actually I don’t agree, because we know we’re going to have to be able to justify that and back it up.” (PRT2)

PRT2 described her poor experience of undertaking pre-registration training in a hospital environment that did not provide her with the opportunity to develop her ethical decision-making skills. She explained how she had lost confidence in her ability to make professional decisions through lack of challenge. It appeared that PRT2 was faced with both lack of opportunity to practise skills in ethical decision-making and also negative role-modelling by pharmacists who appeared to lack confidence themselves. The combination of both seems to have been detrimental to the development of her own professional decision-making skills at a time when she should be 'growing' professionally. Frankel and Austin (2013) researched possible explanations for the limited confidence observed in clinical (as opposed to ethical) decision-making skills in hospital pharmacists. They explained that practical experience, personal effort, and the amount of information available all affected confidence in decision-making. They proposed a number of ways to address this, for example, teaching and assessing on accountable decision-making at UG level. They also highlighted the need to address attitudes and behaviours of pharmacists during experiential learning, proposing that negative role-modelling by meek, hesitant, apologetic mentors taught self-doubt and indecisiveness.

Although PRT2 observed this apparent lack of confidence in more experienced practising pharmacists, the ECPs in my study did not raise this as a problem. In contrast to the PRTs, the ECPs, all of whom had been qualified for at least seven months, reported that they tended to feel confident in their ability to make decisions and act on them. ECP2, for example said:

"I think for most everyday situations ... I feel confident to have a quick, you know – a good think over it and make a decision..." (ECP2)

Many of the PRTs in my study claimed to lack confidence, which might be expected since some were only six months into their pre-registration year. Also, transitioning

from university where theoretical decisions are made, to practice where decisions can affect actual patient care, is arguably a big leap and may require more than six months in practice to develop the confidence needed. Their limited confidence, however, may be a result of teaching and learning methods experienced during their UG education, combined with limited time and opportunity to deal with professional problems during university and pharmacy-based placements during vacations. My data suggests that students might benefit from spending more time in a practice environment during UG training to help them develop greater confidence prior to graduating.

Developing confidence

Interviewees reported a dip in confidence, both when transitioning between university and pre-registration year, and then on to qualified practice. This was probably to be expected as they were adjusting to new roles, with increasing levels of responsibility and accountability. Although PRTs expressed apprehension on first experiencing pre-registration year, most of the ECPhs felt more acutely aware of confidence being affected when first qualified:

“Yeah, I think I was terrified. Probably not so much when I first graduated because you're very protected and you're very kept in a little shell and you're not really allowed to do anything or there's all people around you. But when I first qualified I was 'Paracetamol, is paracetamol safe?' I was terrified. And I feel much, much better now than I did then.” (ECPh8)

Time and exposure to professional problems in practice appeared to be fundamental to developing confidence. For example, ECPh4 remembered being taught how to deal with ‘blue’ instalment prescriptions for methadone, but it was only after being exposed to them in practice a number of times, that she built her self-belief and confidence:

"I knew I could do it [dispense against blue methadone prescriptions], it was just believing that I could I guess, whereas now I don't give it a second thought because I'm a lot more confident that I can do the job." (ECPH4)

7.3. Workplace factors that create dilemmas

It emerged from the interviews that factors in the workplace could have an impact on decision-making. In effect, these factors seemed to *create* dilemmas and, thereby, challenged and potentially compromised interviewee's professionalism through the decisions they made. Time constraints, the culture of the organisation, feelings of isolation and relationships with medical practitioners were the key factors identified by the interviewees.

7.3.1. Time constraints

Interviewees talked about their experiences of working within a highly time-pressured environment whereby quick decisions were required amid various other competing priorities that had to be fitted within their work schedules. It appeared that, despite knowing in theory how they should go about addressing an issue, time constraints could create a situation whereby a dilemma arose between adopting best professional practice and compromising to maintain the necessary flow of work. For example, ECPH4 knew that seeking advice from a colleague was best practice and the optimum decision, but time constraints created a dilemma and a different reality:

"...I do feel like even if you wanted to check things with other pharmacists you just physically don't have the time, or if you do have the time like that prescription's already gone because at that moment you were so

overwhelmed with so much other stuff that you couldn't get someone else's opinion." (ECPh4)

Coles (2002) argued that professionals should be able to make decisions in areas of high uncertainty without full information, but an important aspect of good decision-making, considered best practice, is basing your decision on sound information. Interviewees suggested that, due to a lack of time, obtaining full information was not always possible, even though they knew it to be best practice. A stressful day could also potentially have a negative effect on decision-making and not all practising pharmacists appeared to be able to cope with the pressure they experienced, and the subsequent dilemmas that this created. For example, ECPh5 said:

"I've seen other pharmacists kind of crumble under the pressure." [ECPh5]

7.3.2. Culture of the organisation

Direct and indirect pressure from within the employing organisation also appeared to create dilemmas that could compromise decision-making and professionalism. Interviewees particularly mentioned this in the context of Medicines Use Reviews (MURs), a community pharmacy service that attracts a fee per patient from the NHS. For example, ECPh2 revealed how she had been compromised and faced a dilemma when asked by a senior manager to falsify records in order for the pharmacy to meet a weekly MUR target:

"I had a call from the Area Manager [...] the shop needed about five MURs to be put through for the week and she asked if we can print off these receipts to say that we've already done five MURs, even though we hadn't

actually reached that amount of MURs by the week and this was on a Saturday. I felt a bit conflicted with that..." (ECPh2)

Other interviewees had observed indirect pressure on pharmacists to meet organisational targets, and how it had created dilemmas that compromised their professionalism. For example, ECPh7 explained that some pharmacists appeared to view MURs as a "*tick box exercise*" with a focus on quantity rather than quality, rather than taking the time needed to conduct MURs properly in the best interests of individual patients. This could merely reflect the pharmacists' attitudes towards MURs, but, alternatively, it could be a consequence of the pressurised environment that they found themselves working in.

Concern was expressed by interviewees regarding the possibility of falling into bad habits that were customary practice in their organisation. For example, PRT2 explained how, after working in the one place for a long time, she thought she would probably end up conforming to their (poor) way of working:

"...but I can see, if you were in that environment for longer [you] might start to be influenced more by institutional values? I'm not sure that's the right thing to say but the way something has always been done in that place [...] I think after a while that will start to have more of an impact than it currently does on me." (PRT2)

ECPh4 provided another example about how she had conformed to dealing with emergency supplies in a manner that did not follow the letter of the law:

"... that's just the way that they [employing organisation] do it [emergency supplies without charging] so and, I know yeah, when I first started I remember getting very stressed out and being, like, if someone comes in

for emergency supply what am I supposed to do? [...] But now I guess because I've been doing it for so long at the same one [community pharmacy] I guess I don't really think about it..." (ECPh4)

In effect, ECPh4 was describing how she had gradually become immune to situations that would have previously challenged her professional values and beliefs and created dilemmas for her. She appeared to have conformed to the culture of the organisation and institutional poor practice, and become complacent about upholding her previous professional standards, thereby compromising her professionalism. Ideally, interviewees in my study indicated that they would feel empowered to introduce correct procedures when they are faced with poor practices, but this appeared to be difficult in the reality of practice, and perhaps particularly so for a novice practitioner.

7.3.3. Professional Isolation

Interviewees who worked in the community pharmacy sector expressed the view that having sole responsibility in the pharmacy might impact on their decision-making. This was discussed in the context of the feelings of isolation that could be experienced by pharmacists working in this environment. For example, ECPh6 said:

"So in community [pharmacy] I feel like you're by yourself. That's one of the big differences I've found from community and hospital. Hospital you've got kind of like – not a security blanket, but you've got other people that you can talk to. And they understand because they can be in the same situations as you. Community I just felt by myself." (ECPh6)

Cooper *et al.* (2009) reported similar concerns regarding feelings of isolation expressed by community pharmacists. One of these was that professional isolation

prevents communication about professional issues and therefore does not facilitate a shared ethical discourse about ethical norms. Interviewees in my study appeared to be echoing this view although, as discussed later in Chapter 8, Section 8.2.3, p.184, some are using social media to overcome this.

7.3.4. Relationships with medical practitioners

Some interviewees talked about their relationships with medical practitioners and how they felt this influenced their perceptions of a dilemma and their decision-making process. For example, ECPh1 gave the example of how she would have no dilemma in reaching a decision quickly about dealing with a prescription error if she had a good professional and working relationship with the prescribing GP. In this scenario, ECPh1 said she would provide the medicine for the patient in the knowledge that the prescriber would 'make good' the prescription at a later date. In contrast, if that relationship with the prescriber did not exist, ECPh1 discussed how a dilemma would be created that would have to be resolved through a decision-making process. Interviewees' working relationships with medical prescribers, therefore, seemed to create a further dimension to solving a dilemma or professional problem. In effect, they weighed up their response to a dilemma in meeting the patient's best interests against their own insecurities about their relationship with the individual medical practitioner. For example, ECPh7 implied that if there was a poor relationship between the pharmacy and the local GP surgery there may be a reticence to contact them at all:

"And you know, some of the doctors aren't that happy that you are questioning them you know" (ECPh7)

The dilemma of whether or not to even speak to a prescriber appeared to be a greater concern in the community pharmacy setting than the hospital environment. For

example, PRT1 had experience of both hospital and community pharmacy practice:

“...I've spoken to a doctor [General Practitioner] on a few occasions about different patients [...] and it's a little bit different, they've got quite an aura [...] whereas when I've spoken to doctors in hospital, they're a little bit more glad of your advice, glad of your input.” (PRT1)

This may be a reflection of the more clinical role generally undertaken by hospital pharmacists, and the expectation by the medical profession that a pharmacist's role is to support prescribing and medicines optimisation within the hospital setting. Hospital pharmacists are also in a better position to build a strong professional relationship with individual doctors as they may have the opportunity to work with them more often, and become a valued source of advice. By contrast, the majority of contact between community pharmacists and GPs tends to be raising problems, with perhaps limited solutions due to lack of access to full medical records, and limited opportunity to build a good working relationship. Cooper *et al.* (2009) highlighted the feeling of subordination within community pharmacy and found that some pharmacists felt powerless to challenge doctors and would instead continue to dispense suboptimal therapy with associated advice. No interviewees in this study stated they would do so, but the difficulty felt in challenging GPs at times, and the subsequent dilemmas created, was apparent.

7.4. Summary

This chapter explored the views and experiences of PRTs and ECPs in dealing with ethical dilemmas in practice to address Objective 3 of my study.

Ethical awareness and sensitivity (within the narrow definition of the ability to identify and discern the ethical dimensions of a situation) was demonstrated in varying degrees by interviewees. I would argue that this is an important aspect to ethical and professional decision-making, as this moves the decision-making on from a purely 'technical' to a 'professional' undertaking. Some interviewees found it easier than others to identify ethical dilemmas in practice. This could be explained, in part, by having less opportunity to experience ethical dilemmas in the hospital setting as more experienced members of staff tended to be available for advice.

Many examples of dilemmas or problems involved legal concerns as opposed to the conventional two competing moral obligations. This has been found in previous studies by Hibbert *et al.* (2000), Chaar *et al.* (2005), Cooper *et al.* (2007), Benson *et al.* (2009) and Deans (2010) and reflects the difficult decisions faced by many pharmacists on a daily basis. The Pharmacy landscape is changing, however, potentially reducing the burden of legal concerns in decision-making. For example, the advent of electronic prescriptions reduces the likelihood of receiving unsigned prescriptions, whilst locally commissioned emergency supply services may simplify the decision whether or not to supply medicines in an emergency (PSNC 2017).

The ethical literacy of interviewees was poor, in line with previous studies (Hibbert *et al.* 2000; Chaar *et al.* 2005; Cooper *et al.* 2007; Benson *et al.* 2009; Deans 2010). Interviewees in my study were, however, capable of identifying ethical situations, and aware that they had an obligation to put the patient first. There was also a broad understanding of key elements of professionalism. These findings suggest that they knew how they were expected to behave and valued the underpinning inherent qualities that were necessary to personally deliver a high standard of professional care.

Experience of practice appeared to influence both the process of decision-making and the ultimate outcome. With experience, interviewees appeared more willing to break

the law in order to prioritise the patient's best interests. In addition, they had to make decisions whilst facing pressures such as time constraints and professional isolation. It could be argued that students did not leave university unable to make decisions, rather the environment in which they found themselves working created further dilemmas in decision-making, and included having to factor in customary poor practice and role models within the workplace. The confidence of interviewees to deal with dilemmas in an ethical and professional manner also appeared to increase with experience.

To conclude, interviewees demonstrated an awareness of a wide range of ethical and professional problems in practice. More dilemmas seemed to occur in community pharmacy than the hospital sector, where support was more readily on hand. They understood what was expected of them in terms of professional behaviour but felt constrained in their decision-making by a range of personal and work factors. With experience they were learning to adapt to their environment, and their decision-making, as well as their ability (or confidence) to act on decisions, changed over time.

In my next chapter I address my fourth objective which relates to perceived preparedness for professional practice.

CHAPTER 8: THEME 2 – TRANSITION TO PROFESSIONAL PRACTICE

Chapter 8 explores the theme 'Transition to professional practice', which relates to the views and experiences of participants in relation to their perceived preparedness to deal with ethical dilemmas in practice (see a summary of content in Table 18). This chapter addresses the fourth Objective of this study:

- To ascertain the views of alumni on their preparedness for professional practice.

Two subthemes emerged from the main theme:

1. Courage and concerns in practice
2. Learning through practice and continuing professional development (CPD)

This chapter looks in detail at each subtheme and related key topics that emerged.

Table 18 Transition to professional practice

8. Transition to professional practice	8.1. Courage and concerns in practice	8.1.1. Willingness to challenge Some interviewees felt it was important to challenge poor practice and had the moral courage to do so. Others knew that poor practice was wrong but did not have the courage to speak up.
		8.1.2. Stress and moral distress Some interviewees described the worry associated with their own decision-making and a fear of the potential consequences.
	8.2. Learning through practice and CPD	8.2.1. Positive role-modelling Interviewees recognised that they needed further support whilst in practice. They wanted support to be from someone they could respect.
		8.2.2. Negative role-modelling Interviewees mentioned negative role models more frequently, but were able to learn from those not demonstrating optimum practice.
		8.2.3. Continued learning in practice Some interviewees learnt from more experienced pharmacists whilst others learnt from peers, sometimes through the use of different media e.g. WhatsApp Messaging. They also recognised that the level of support required changed as they became more experienced. Interviewees were willing to continue learning through CPD, for example, with peer supervision.

8.1. Courage and concerns in practice

Whereas in Chapter 7, Section 7.2.2, p.148 I distilled what interviewees identified as important elements of being a 'professional', in this chapter I have analysed what actions they were prepared to take themselves when faced with ethical dilemmas in practice. Moral courage is the courage to speak up or act for what you believe to be morally right, in the face of fear of potential consequences for doing so (Kritek 2017). Pharmacists need to have the moral courage to deal effectively with, and act on, ethical dilemmas in practice. The Nursing literature, in particular, has addressed the issue of moral courage in the workplace in recent years (Gallagher 2011, Edmonson 2010) but literature relating specifically to moral courage among pharmacy professionals is lacking. Moral courage relates to Rest's (1983) Four Component Model of Morality which has, as its final element, *moral character* i.e. being able to construct and have the moral courage to implement an action (see Chapter 1, Section 1.2.2, p.10). ECPs and PRTs displaying moral courage may feel afraid but still have the courage to act despite this. Within this study, interviewees tended to be patient-centred in their approach, wanting to do what was best for the patient. They reported experiences where they displayed the courage to do what was in the best interests of their patients, despite being fearful of possible consequences. A few reported observing poor practice by others; some were willing to challenge that poor practice, others were not. Examples are provided in what follows.

8.1.1. Willingness to challenge

A sign of preparedness for practice among the interviewees was a willingness to challenge rules and regulations to ensure that the best interests of patients were met. Although they understood right from wrong in terms of the law, they were willing to make choices contrary to the law which they felt were morally right. In doing so they

were demonstrating moral courage as they were leaving themselves vulnerable to retribution, either from the GPhC or their employing organisation (or both). Arguably, those who claimed to be acting in this way were demonstrating higher principled thinking, acting in congruence with their values and beliefs:

“...the patient is the most important thing so if you decide to go with the law, what’s going to happen to that patient if they don’t have their medicine?” (ECPH1)

Courage was also demonstrated by ensuring work was undertaken within legal boundaries in pharmacies where poor practice was the cultural norm. For example, whilst working as a locum pharmacist, ECPH6 had the courage to stand up to an aggressive patient and dispensary staff who were pressurising her to dispense an unsigned prescription that ultimately was signed and dispensed legally within an hour.

Not all interviewees, however, felt that they could challenge all issues relating to poor practice. PRT6 found it difficult as a PRT to challenge experienced pharmacists who were not following the legal requirements for controlled drug register entries. He would not challenge pharmacists who made legal errors (although he refused to follow suit) but stated that he would challenge decisions that affected patient care:

“...they’re [pharmacists] a professional as well so if they want to do it [write CD entries] wrong they can do it wrong [...] but then if it’s involving other people it’s a bit different cos you need to step in.” (PRT6)

Moral courage is required to raise concerns, particularly when the person participating in poor practice holds a more senior position within the organisation (Anon 2012). At first glance these findings might suggest that interviewees were at different stages of developing moral courage, but it would probably be unfair to draw direct comparisons

since the PRT was in a lower position within the workplace power hierarchy. PRT6's observation of fairly widespread accepted poor practice regarding legal regulations should not be tolerated, but he may have feared retribution, being beholden to the organisation to support him through his pre-registration training year. He was aware of the dilemma, and refused to partake in illegal practices, which does indicate moral courage, but did not have the additional moral courage necessary for him to speak up against poor practice, despite being bound by professional standards to do so (GPhC 2017a Standard 8).

8.1.2. Stress and moral distress

There were a few situations described by the interviewees that could have potentially contributed to moral distress. As discussed in Chapter 7, Section 7.3.2, p.163, ECPh2 was left feeling "*conflicted*" when pressured into falsifying in-house MUR records. She found this ethically challenging, being asked to be dishonest for the sake of commercial concerns. She agreed, justifying her decision by stating that there was "*...an honest intention to do them [the five MURs]*". On reflection she felt that she "*made the right decision for the shop*" demonstrating company loyalty, but at what expense to her own moral values? PRT2 gave another example whereby, due to time constraints, she found it morally challenging to leave a ward not having reviewed all patients. PRT1 also highlighted concerns of inequity regarding provision of service:

"I think it's a bit of a case of somebody shouting down the phone, who shouts loudest gets what they want, then the problem goes away." (PRT1)

Kalvemark Sporrang *et al.* (2005) found that the scenario most likely to cause moral distress among pharmacy staff is where a customer who "cries out louder" receives a more prompt service than others. In my study, some interviewees were unable to act

in a way they felt was morally right, leaving them with feelings of distress. Moral distress has been found to cause anger initially, but longer-term has been associated with, among other symptoms, feelings of guilt, hopelessness, loss of confidence and self-esteem (Burston and Tuckett 2013). It has also been linked to burnout and a reason for leaving a profession.

The examples given by interviewees of stressful feelings were, however, more often related to fear of possible consequences from breaking the law. It could be argued, therefore, that they had acted in congruence with their personal moral values and could not be deemed to have experienced *moral* distress although the impact on the individual might be similar. ECPH7 highlighted the stress caused by having to choose between the patient's best interests and the law:

"...it's a balancing act between what's the best for the patient and whether you're going to be called in front of a disciplinary committee for your actions and can you defend them, so it is stressful." (ECPH7)

Participants in studies by Hadad (1991) and Chaar *et al.* (2005) also described similar feelings. In my study interviewees worried about the potential consequences that a poor decision might have on their career. They articulated this by referring to a fear of legal consequences, regulatory sanctions by the GPhC, or retribution by the employing company. Legal and procedural concerns were evident throughout the interviews but, in most cases, were balanced with a caring, patient-centred approach.

One PRT (PRT9) admitted wanting to choose the path of least resistance to avoid making difficult decisions:

"As a newly qualified pharmacist, I think I would have just said '[go to] the walk-in centre'...I would have just gone for the easiest option available. I

don't know why...making patients [my] first concern is turning out to feel like it's the hardest thing to do [...] everything seems like a barrier in the way." (PRT9)

This reflects the findings of Cooper *et al.* (2008) who identified and described this trait of inactivity and allowing others to make the decision as *ethical passivity*. Moral distress has also been reported in the Nursing literature to link with increasing passivity. Krishnasamy (1999), for example, described the personal and professional disillusionment and distress experienced by nurses unhappy about an increasing responsibility for patient care combined with a lack of authority to influence decisions. Associated mistrust and misunderstanding of medical colleagues resulted in a degree of passivity among nurses who felt discouraged from trying to change the culture of their workplace. Moral distress and stress can, therefore, be debilitating. This is discussed further in Chapter 10, Section 10.1.2, p.231.

8.2. Learning through practice and continuing professional development

Overall, most of the interviewees stated that teaching at Keele SoP had left them generally feeling prepared for dealing with dilemmas in practice when they graduated. For example PRT2 said:

"So I do think that I was quite well prepared, and it [ethical dilemmas] was something that I expected to have to think about." (PRT2)

Despite lack of confidence being a particular issue among the PRTs who were interviewed, they said that the teaching and learning which they had been exposed to as UG students contributed to building their confidence for future practice. For

example, ECPH1 said:

"I think if we hadn't any touch on it [professional ethics] at university I would have been much less confident going out as a newly qualified pharmacist."

(ECPH1)

With the myriad of professional and ethical dilemmas that could potentially occur in practice, interviewees acknowledged that it would be impossible to prepare fully for every eventuality, and that there were limitations on what could be achieved at UG level:

"It did prepare us to a certain extent but you never really know until you are actually in that situation." (ECPH5)

Interviewees, therefore, also recognised a need for ongoing support around professional decision-making, particularly during the pre-registration year and when first qualified. Some reported learning from positive role models that they respected, but there were more frequent comments regarding negative role models who were not demonstrating optimum practice. Arguably, this ability to recognise shortcomings in others demonstrated a level of preparedness in itself.

Interviewees said that they continued to learn from others in a variety of ways. Some valued the insights of more experienced pharmacists whilst others preferred to learn from peers. Concern was raised that they were not always able to benefit from peer support due to isolation, although informal networks of support had been developed by some in the form of social media groups, in particular, WhatsApp Messaging groups. There was recognition that requirements for support on professional and ethical decision-making changed with experience but, even then, a willingness for ongoing learning through CPD was demonstrated. These findings are explained in more detail

in what follows.

8.2.1. Positive role-modelling

In this study, some interviewees referred to their pre-registration tutor as a helpful, positive influence and aspired to be like them. ECPH5, for example, held her tutor in admiration:

“I did my pre-reg and I had an excellent tutor, she was very, very good [...] she was an excellent pharmacist.” (ECPH5)

GPhC *Guidance on tutoring for pharmacist pre-registration tutors* (2018b) states that a pre-registration tutor must act as a professional role model at all times. Pre-registration tutors should be setting a positive example to help PRTs develop their own professionalism in practice.

8.2.2. Negative role-modelling

As values and norms are transmitted through role-modelling, it was disappointing that interviewees made approximately three times as many references to negative experiences as opposed to positive ones. Since they were not asked a direct question regarding role models, these findings may either be a true reflection or it may be that people simply tend to remember and relate poor experiences more often than good ones. This phenomenon is not unknown, for example, according to the White House Office of Consumer Affairs, negative interactions with a business are believed to spread to twice as many people as positive ones (Aksu 2013).

Interviewees identified various forms of negative role-modelling which they had experienced. Poor knowledge of clinical or legal issues was particularly mentioned; for example, PRT2 expressed her disappointment with a community pharmacist who freely admitted to having poor clinical knowledge:

“...when I first started [a two week placement] one of them [community pharmacist] said to me, “you won’t get much clinical from me” which I don’t think is the right way to think about it.” (PRT2)

There is an expectation by both patients and the GPhC that pharmacists maintain a good knowledge base that enables them to provide safe and effective care to patients. This is particularly important as Pharmacy becomes increasingly patient-focused. This comment reported by PRT2 highlighted a lack of professionalism in attitude to learning.

Poor communication skills, including examples of poor attitudes or behaviours, were also reported, with some interviewees critical of the way some pharmacists interacted with patients. For example, ECPh7 complained about pharmacists who demonstrated a general lack of care towards the role itself:

“...to them [pharmacists] it’s just a job that they turn up to, get through as quickly as possible and go [...] I think you’ve just got to have that aptitude you know... I think there’s a few that don’t. [...] I don’t know whether you’d call it aptitude, but it’s a desire to do the job, you know.” (ECPh7)

... whilst PRT6 found that a pharmacist who had only been qualified a few years already lacked compassion, in her view:

“I don’t think he seems that compassionate towards some of the patients [...] he’s only been qualified about three years...” (PRT6)

PRT6 surmised that this particular pharmacist had, within a short period of time, become emotionally detached from patients. Mahood (2011) identified emotional detachment as a result of the hidden curriculum on Medical students. The 'hidden curriculum' refers to the unintended learning of norms, values and beliefs that is transmitted implicitly, but at variance with what is explicitly taught. Mahood (2011) found that some young doctors reverted to a state of emotional detachment when their professionalism ebbed. PRT6 also experienced working with dishonest pharmacists and was shocked by their illegal practices:

"...they're really good pharmacists [...] why the hell are they doing this?

Like this is completely illegal basically." (PRT6)

It was disappointing that interviewees had been exposed to such negative role-modelling but, on a positive note, they all acknowledged that what they had observed was wrong, learned from it and made a conscious decision not to follow suit. Clearly, the examples described did not adhere to the *GPhC Standards for Pharmacy Professionals* (2017a), and interviewees demonstrated an understanding of professional expectations.

8.2.3. Continued learning in practice

Interviewees appeared keen to learn from others in practice in order to further their preparedness for dealing with dilemmas, and to increase their knowledge and skills around decision-making. Preferences on who to seek advice or support from varied.

Learning from pre-registration tutors

A pre-registration tutor has an obligation to support their PRT in meeting specific standards, including to *'Make decisions which demonstrate clear and logical thought.'* (A1.6. Pre-registration Manual, GPhC 2018c). The pre-registration manual makes reference to the GPhC *Standards for the initial education and training of pharmacists* (2011), which requires PRTs to be able to recognise ethical dilemmas and respond in accordance with relevant codes of conduct. Some interviewees in this study tended to refer to their pre-registration tutor as a source of advice, usually to discuss and reflect on problems. PRT1 remembered in a general sense asking for a more in-depth analysis of her pre-registration tutor's decision-making:

"I've asked him about things, sort of saying, 'how do you make decisions? What's your rationale?'" (PRT1)

Not all interviewees had such detailed interactions however, for example, ECPh1 explained how her pre-registration tutor led by example only, possibly following a 'see one, do one' approach to teaching:

"It's not like she was saying 'in this situation you do this', it was just her doing it and let me see the example of it kind of prepared me a bit." (ECPh1)

Leading by example is important, but PRTs would, arguably, gain more knowledge and skills in reasoning by discussing with their tutors their rationales for decisions, along with possible alternative options and their potential consequences. This tutor did not appear to be challenging and helping develop reasoning skills in her trainee. There may have been various reasons for this, including lack of time or lack of ethical literacy, i.e. the tutor may not have been able to articulate her own reasoning.

Learning from other staff

Interviewees indicated that they sought support and learned from not only pre-registration tutors but also other pharmacy staff members. Senior staff, including managers and pharmacy superintendents, were contacted at times when difficult decisions needed to be addressed, but more experienced pharmacists were also called upon for advice, even if they did not hold a senior position. They reported learning from a wider pool of staff in practice, and were not limited to pharmacists. PRT3, for example, respected the depth of knowledge which healthcare assistants in community pharmacy exhibited when serving customers:

"....their [Healthcare assistants'] knowledge of OTC [over-the-counter medicines] stuff is amazing. Like for me as a pre-reg I'm like, oh my God, I wanna be like you guys..." (PRT3)

...whilst PRT7 believed that he learned from working with a range of staff including locums, technicians and dispensers:

"I've seen a lot and seen how other people [locums, technicians and dispensers] handle the issues. It's quite interesting to see different people's perspectives on how to deal with issues. That sort of makes me, not just copy what they did, but take into account all the different approaches you can do." (PRT7)

A few interviewees had also sought advice from support services within their organisation where they could be provided with further insight into problems, while appreciating that, ultimately, the pharmacist would still be accountable for the final decision:

"I'll try and call our governance department at [Company name]. As I say they won't make the decision for you but they'll give you some guidance [...] they'll say if it's legally wrong or right, but you know whether it's an emergency supply or that they'll say it's down to you." (ECPh7)

Learning from peers

Interviewees identified their peers as a valuable source of support and learning. Many indicated that they contacted former friends from university for advice, either whilst in the midst of a difficult dilemma in practice, or when they were reflecting on a past problem. Views varied on preferred sources of advice; ECPh1, for example, preferred to ask peers for advice rather than more experienced pharmacists:

"It's fine ringing up your pre-reg tutor from a year ago but you feel like 'as they've got more experience than me would they make the same kind of choices as I would? Why don't I speak to someone my own age and my own level of experience as a pharmacist?' ...I would probably take their option more than I would a pre-reg tutor's just because they're my age and I feel like I'm on a same par as them." (ECPh1)

...whereas PRT4 did not contact peers for advice at all, despite being advised during her pre-registration training that this was a legitimate course of action:

"...we're always told on my study days as well to phone your friends who are pharmacists but I don't know if I actually would 'cause I feel like they would have the same position as me. Sometimes I feel like the more people you involve the more difficult it becomes..." (PRT4)

PRT2 found it beneficial to keep in contact with peers from university to discuss problems. This appeared to help her cope with the difficulties of isolation she experienced in the hospital where she was undergoing her pre-registration year:

“Actually I speak to some of my friends who are qualified and sort of ask them their thoughts ... [PRTs are] a lot more isolated than we’re used to [at university] and ...for some people it’s not always easy to ask [questions of] other pharmacists or people that they’re working with ... with people that you know [from university] when they’re in different environments I think it might be easier to have those conversations...” (PRT2)

As reported in Chapter 7, Section 7.3.3, p.165, some interviewees mentioned being part of social media ‘What’s App’ messaging groups that had been set up informally among friendship groups, one for ECPhs, the other for PRTs. ECPh1 found this an effective means of support, particularly when first qualified:

“...and we’d have a What’s App group on our iPhones and we’d say “Oh I’ve seen this script. What do you think I should do?” and we’d all give an opinion and we’d help each other.” (ECPh1)

Technological advances such as the emergent growth of social media had enabled new graduates to form supportive online networks. Even those working in a hospital environment, where there are a greater number of pharmacists available to, in theory, ask for advice, appeared to have benefited from this informal supportive structure.

Continued learning through CPD

Interviewees demonstrated a willingness to undertake CPD in ethical decision-making,

even those who felt totally prepared now to deal with dilemmas in practice and did not feel they required ongoing support. For example, ECPH1 who had had nearly two years of experience as a qualified pharmacist, and had stated that she felt “*very prepared now*” to deal with ethical dilemmas, later stated that she would be willing to undertake CPD using Vx:

“Do you think there would be a role for Vx to be used in CPD for professional development for pharmacists and pre-regs?” (MA)

“Yeah. I would if it was accessible to me. Yes, that would be good, yes.”
(ECPH1)

The interviewees gave examples of pre-registration training that included taught sessions on professional ethics and ethical dilemmas delivered as part of a regional study day. PRT2, however, claimed that she did not find it useful as, in her view, extreme scenarios were used as examples rather than real life issues faced in day-to-day practice:

“Like as part of my pre-reg training ... we go to regional study days. One of those there was a really short session about ethical dilemmas but it ... wasn’t practical, I don’t think. I think the examples you were given were quite extreme examples and things that we’re probably actually not very likely to face.” (PRT2)

Cooper *et al.* (2007) also highlighted the many ‘mundane ethical problems’ that occur in practice, since it is likely that these occur more frequently than major dilemmas but judgements still have to be made. My findings appeared to reinforce the need to use common examples of dilemmas from practice when teaching as this would be most relevant and beneficial to students preparing for their future practice.

Some interviewees described their CPD to include more formalised peer supervision. ECPH9, for example, participated in regular peer supervision sessions within his organisation; this involved regular discussions with other ECPHs who started at the same time. He found that peers were much more confident to talk about dilemmas among themselves rather than with senior staff. Similarly, during monthly pre-registration development days, PRT9 and other PRTs had the opportunity to discuss problems together, facilitated by a pharmacist, and this was perceived to be a very effective way of learning:

“...the practitioner would usually ask, ‘So how did everyone’s week get on?’ and [...] that sharing of stories you hear about their dilemmas, I think that’s the best way [...] in my opinion that’s how I learn.” (PRT9)

8.3. Summary

This chapter has presented the data in relation to Objective 4 of this study: to ascertain the views of alumni on their preparedness for professional practice. I have considered how prepared interviewees felt they were to make professional and ethical decisions in practice. Many appeared to demonstrate moral courage and the ability to act in accordance with their moral values. This, combined with the high importance they placed on patients’ needs, showed that they seemed to be providing a person-centred approach to care, and practising in an ethical fashion. Many PRTs claimed to be acting ethically themselves, but some were less willing than others to speak up against observed poor practice. Fear of consequences of breaking the law, or moral distress, was relatively common among ECPHs and PRTs alike in my study. ECPHs still appeared to prioritise the patient in their decisions whilst acknowledging their concerns, whereas PRTs were more reticent at times to put the patient before the law. This difference was probably due to PRTs’ limited experience in practice, combined

with a possible lack of confidence in their own decision-making ability.

Negative aspects of the 'hidden curriculum' have clearly impacted on interviewees in this study, but they claimed to have learned from observing both good and poor practice. Interviewees were keen to continue developing their skills and to learn from others, to build upon the foundation that UG learning provided. They used various sources including their tutors and other experienced pharmacists and staff. They had also developed their own network of peer support, sometimes through the use of social media, and this appeared to help mitigate feelings of isolation for some. Peer supervision within an environment of trust was seen as a useful form of continuous professional development that could benefit PRTs and ECPs.

The UG professional ethics teaching which Keele MPharm students receive, although with limited placement opportunities, appears to have provided a foundation for alumni in practice that was viewed as important and valuable.

In Chapter 9 I present my final theme: facilitating learning and professional development. This focused specifically on interviewees' experiences and views of using Vx, and any perceived impact that has had on their practice.

CHAPTER 9: THEME 3 – FACILITATING LEARNING AND PROFESSIONAL DEVELOPMENT

Chapter 9 explores the theme ‘Facilitating learning and professional development,’ which relates to the views and experiences of participants regarding Vx, including suggested potential enhancements and future uses of the system (see a summary of content in Table 19). This addresses the fifth and sixth Objectives of this study:

- To identify perceived advantages and disadvantages of using Vx to facilitate learning and professional development
- To determine views on the potential future uses of Vx

Three subthemes emerged in relation to facilitating learning and professional development:

1. The Vx learning environment
2. Learning and reflection
3. Potential enhancements for learning and professional application

This chapter looks in detail at each subtheme and associated key topics that emerged.

Table 19 Facilitating learning and professional development

9. Facilitating learning and professional development	9.1. The Vx Learning environment	9.1.1. General views of Vx Overall views of Vx were generally positive and it was seen as a 'safe' environment for learning, although some interviewees could only see its usefulness with hindsight.
		9.1.2. The technology Some thought Vx user-friendly and intuitive whilst others found they needed time to adapt to it.
	9.2. Learning and reflection	9.2.1. Deep approach to learning The Vx prompted interviewees to think more deeply and to use resources to gain a better understanding of the issues involved.
		9.2.2. Approaches to decision-making Interviewees felt that it was important to have a reflective approach, see the 'big picture', weigh up pros and cons, and justify their actions.
		9.2.3. Exposure to cases in preparation for practice Exposure to cases helped prepare students for dealing with problems in practice, but Vx was perceived to be unrealistic.
	9.3. Potential enhancements for learning and professional application	9.3.1. Potential improvements to Vx Ways to improve teaching included clearer instruction and better promotion of Vx, more practice-based cases and resolution of cases.
		9.3.2. Professional application It was felt that Vx could potentially be used in multidisciplinary team meetings, for CPD or as a training tool.

9.1. The Vx learning environment

All but one interviewee reported that Vx was a tool that facilitated learning and professional development during their UG years of study. Discussions regarding the Vx learning environment included general perceptions of the tool, the notion that it provided a safe environment for learning, and issues related to the technology.

9.1.1. General views of Vx

Challenging

Most interviewees appeared to view Vx in a positive light, with the tool being referred to spontaneously as ‘good’, ‘very good’ or ‘excellent’. Many, however, found the subject of ethics *per se* quite challenging:

“I think it’s [ethics] one of the most challenging areas, in terms of study, that I’ve come across... ethics is something that I’ve found really really very challenging, but interesting at the same time.” (ECPH3)

According to Ramsden (2003), an important principle of effective teaching is the need to provide intellectual challenge, as this has been consistently linked with high performance. It is important, therefore, for me to challenge my students when teaching ethics, hence, it is appropriate that they find the subject demanding.

Some interviewees, when referring to their views of Vx as an UG student, indicated that it was innovative and that it promoted active engagement with the scenarios. On the other hand, a few recalled having strong negative feelings towards Vx as a student, primarily because they had found it a very time-consuming process. With hindsight,

however, these interviewees expressed that they could now appreciate the benefits of using it. For example, PRT2 said:

“I think it took up more time than we were expecting it to take up [during the MPharm course] and I think that was why I hated it, but actually looking back on it, it was a really good way of learning ...” (PRT2)

Safe environment for learning

Most interviewees perceived Vx to be a ‘safe environment’ in which to learn and make mistakes, and also conducive to sharing views. For example, ECPH8 said:

“Or even when you've done it [completed the case on Vx] and you've read them [other students' responses] and a lot of people would do something differently, you could be like, 'Oh, actually, maybe they're right and I wasn't thinking about it the right way.' ...I think it was like a safe way of doing it. It was quite a safe environment to say what you think and to look at what other people think without any comeback.” (ECPH8)

They indicated that they respected each other's views and appreciated having the opportunity to challenge without the confrontation possibly associated with face-to-face debate. For example, ECPH9 said:

“It [Vx] reduces the conflict of open debate.” (ECPH9)

In her research with public health students, Tripken (2016) identified a ‘climate of respect’ when learning with Vx; she found that students openly discussed differences of opinions and respected differing points of view. It could be argued, however, that the

'safe' environment of Vx is also providing a platform to hide behind. When Vx was first introduced into the Keele MPharm course, students were allowed to be anonymous. Over time they have been encouraged to share their identity, and now sign up to the Vx system with their names visible. Consequently, although they do not face their peers directly, everybody is aware of each individual's viewpoint.

Views changed over time

Some interviewees explained how their view towards Vx changed over the MPharm course, and felt that they gained most benefit from using it in the latter years. Various reasons were given; for example, they felt better able to navigate the tool after repeated use, as well as being more knowledgeable on Pharmacy law and ethical concepts. In addition, the number of pharmacy practice-based cases presented to them increased over time. Interviewees such as PRT9, expressed the view that this made learning more relevant and positively affected their level of engagement:

"...the scenarios weren't catching my attention as much [early in the course] as probably the final few years, 'cause they were more practice-based [later on], and I started taking my practice-base seriously." (PRT9)

It is important to note that discussion boards were introduced as an add-on to Vx in 2013 so those interviewees who had been qualified more than one year (i.e. ECPH1, ECPH2 and ECPH4) would not have experienced using them during the MPharm course. The other ECPHs who were interviewed used discussion boards during their final year only, while the PRTs would have used discussion boards for two years. Interviewees may, therefore, have found the years in which they had the opportunity to debate online after completing the cases more beneficial. They unanimously stated, however, that working through the screens on Vx first was advantageous as it helped

them develop their understanding and formulate their arguments prior to the discussion:

“...it [lines of arguments] wouldn't be as structured [without using Vx]. It'd probably be more like comments on Facebook and that type of thing. So I think it [working through Vx screens] would have helped them [students] think more deeply maybe about it.” (PRT6)

Negative views

Some interviewees expressed negative views, sometimes by referring to other students in their year group who had not liked Vx. For example ECPH1 said:

“I know a lot of my friends moaned about it but I found it quite useful in the end.” (ECPH1)

It is possible that ECPH1 is reflecting her own personal experience of complaining about Vx as an UG student, and is hiding behind the guise of her friends' responses to it.

All the interviewees except ECPH5 felt that Vx should continue to be used in UG teaching. ECPH5, however, was vehement in her dislike of the tool and found it to be “boring”, “unrealistic” and “time-consuming.” She was the only interviewee who did not see any benefit to having used Vx and felt strongly that it should be removed from the course. She explained her point of view:

“I can see the purpose of it, I can see like the intention behind it, I just don't think it was effective in my opinion.” (ECPH5)

ECPH5 reported that she would rather work without guidance, seeing this as undue influence, stating:

"I'd rather have like a written situation scenario ...not even options, with something like the options kind of influence you" (ECPH5)

Instead, she relished OSCEs (Objective Structured Clinical Examinations) as both a teaching and assessment method, saying:

"I feel like throw us in the deep end OSCE way." (ECPH5)

...and admits to refusing to be guided by Vx, preferring to stick with her initial reaction. She is in essence explaining that she did not engage in a meaningful way:

"Yeah I would say that it [Vx] did prompt you to think like that but to be honest I remember in my case it prompting me and then me thinking no, I'm going to close that door in my mind [...] I go by my gut feeling a lot and then I think about it." (ECPH5)

My personal view of ECPH5 is as a strong self-assured character, as demonstrated by her strength of moral courage:

"Yeah I mean if I think I'm right then why wouldn't I act to what I think is right? If I firmly believe something is right then yeah I would act on it." (ECPH5)

Despite being worried that she might lose her registration, she was willing to dispense a controlled drug to a patient without a prescription on a weekend in a community pharmacy, displaying empathy, compassion and high principled thinking. Lack of

engagement with Vx does not appear to have hindered her development of moral reasoning skills, reportedly motivated partly from her religious beliefs, as mentioned in Chapter 7, Section 7.2.1, p.147:

“...I think it's always been drilled into us from university the patient comes first and I mean I feel like I'm in that position of authority as it is and I'm quite a spiritual person as well, I'm quite a religious person so I feel like if I am able to help people in the eyes of God and ... I'm acting in their best interests...” (ECPH5)

9.1.2. The technology

Interviewees' views varied regarding ease of use of the technology delivering Vx. A few did not appear to have any difficulty with the technology, for example, PRT7 said:

“I think it was very user-friendly, I think the interface was really nice [...] I think it was just very useful, easy to manoeuvre...” (PRT7)

Others, however, found they could not use Vx effectively straight away, but needed time to get used to the tool, for example:

“The problem with it is it's not always the most user-friendly [...] I don't think I started to get the benefit from it until quite a lot later, until I got quite used to using it.” (PRT2)

Previous studies by Robb, Wells and Goodyear-Smith (2012) and Tripken (2016) have also reported technical problems using Vx. Tripken (2016) found that students were apprehensive to use Vx at first, but that the programme was intuitive so they soon felt

comfortable with the tool. In Tripken's study, students repeatedly used the tool over a short time period, whereas Keele students have an introductory session in Year 1 where they complete a practice case, but then have to wait another month before undertaking further cases. This delay might mean students forget how to navigate the system, potentially resulting in them focusing more on logistics rather than the content of the cases when they complete their first set of three.

9.2. Learning and reflection

Learning via Vx was reported by interviewees to be associated with many benefits. They stated that Vx promoted reflection and active engagement with the scenarios. From what they said, it seemed to facilitate a deep approach to learning, with interviewees seeking information to deepen their understanding of the cases. They also indicated that this was carried over into professional practice. The different aspects of learning and decision-making that were expressed by the PRTs and ECPs are presented and discussed in the following sections.

9.2.1. Deep approach to learning

It appeared that interviewees engaged in a deep approach to their learning (Biggs & Tang 2011) when using Vx. It was perceived to promote more active engagement with cases as opposed to learning through case-based workshops. PRT5 translated this active engagement into deep learning by acknowledging that Vx did not offer an easy option that would allow surface learning:

"It did make me think a lot deeper into the scenario. Rather than just like face value of, 'oh I think this is what I would like to do'." (PRT5)

Vx cases appeared to promote lots of discussion and debate on Vx discussion boards and even outside the virtual environment. Some interviewees claimed to be so engaged with cases that they discussed them with family members or friends in addition to debating online, for example, PRT9 said:

“But it [the case scenario] used to actually cause ethical discussions between us, which I wouldn't think would ever be a topic I would discuss with my friends.” (PRT9)

Alongside increased engagement with the cases on an individual level, was the perceived benefit of Vx facilitating active engagement by every student. Interviewees felt that Vx provided an opportunity for ‘quieter’ students to voice their opinions, ensuring everyone had a voice, even those who would not normally speak up in class:

“... in class some people are very vocal and some people, they just avoid it altogether... it's a different platform [Vx] where people feel like they can respond and have their voices heard and express themselves a lot clearer.” (ECPh2)

Furthermore, interviewees felt that the virtual environment facilitated greater honesty than a classroom setting would, perhaps because students were not being directly observed. This study supports findings by Collins *et al.* (2014) who proposed that online learning benefited quiet, introverted learners due to increased reflection time and also from not having to compete for classroom ‘airtime’. They also found students generally to be more revealing in online communication than face-to-face. Arguably, the opportunity for all students to voice their opinions on Vx, and feel that they are being listened to, is likely to strengthen engagement with learning. This should facilitate a deeper

understanding of the topics for students, including those more introverted students who are less likely to offer an opinion in the classroom setting.

PRT9 described how discussion board interactions had prompted her to further research the case topics:

“... but the last part, which is the discussion on the discussion boards, when people were sharing links, that’s when I felt like I was researching more than I would do initially [...] I wouldn’t go Googling things normally.”

(PRT9)

...while PRT4 explained how the boards facilitated greater depth of understanding of the reasons underpinning decisions:

“Before we had the discussion board, people didn’t really get as deep into it [reasons for decisions in a case scenario], so you didn’t really get to see what they were thinking...” (PRT4)

The addition of discussion boards to the Vx platform seemed, therefore, to have been a positive move that increased engagement with the cases and enabled students to develop their reasoned arguments further, possibly resulting in deeper learning. This was perhaps unsurprising as the boards provided students with opportunities to engage in active learning, debating with their peers. This should, theoretically, result in the construction of new knowledge with a deeper understanding of the concepts under discussion (Piaget 1950, Vygotsky 1978, Bruner *et al* 1966).

Previous studies based on the short-term use of Vx reported similar findings. Tripken (2016) found that Vx motivated students to search for in-depth materials related to the case study concepts, and challenged students to think more deeply, prompting more

thoughtful decision-making. Godbold and Lees (2016) determined students' use of Vx to result in the '*uncovering of superficial responses to reveal deeper, multi-layered thinking*', whilst Robb, Wells and Goodyear-Smith (2012) found that the exposure to new concepts promoted deeper thinking. None of these studies, however, included additional online debate on discussion boards; this appeared to have enhanced learning even further amongst those who participated in my study.

Interviewees also held the view though that use of Vx prior to the online discussion board deepened their understanding of the case. For example, the conversation with PRT5:

"Do you think, would you have the same understanding without using the Vx beforehand, if you just debate it [the case] online on any kind of platform?" (MA)

"No, I think those specific screens and the way they prompt you to look at different sections, I wouldn't have thought of those by myself." (PRT5)

This suggested that use of Vx prior to online discussion was perceived to have deepened understanding more than online discussion and debate of the case alone might have.

9.2.2. Approaches to decision-making

Interviewees talked about how they made decisions, relating it to their use of Vx as a student, and how they continued to approach their decision-making in practice in the same way. Having a reflective approach, gaining a wider perspective on each case, weighing up pros and cons, and providing strong justification for their final decision

were all mentioned and are discussed below.

Reflective approach

Vx appeared to have facilitated reflection as interviewees talked about taking time to think about individual Vx cases when making their decisions.

"[Vx] teaches you to think about all the different aspects of making the decision, rather than just going with your intuition; although, I find that you tend to have a feeling about what you should do in a particular circumstance. You think about it and come to the same conclusion ... but it's important to do that, so you can justify what you've done and I think it helps in that way. It makes you take a step back and think about what you're doing." (ECPh9)

Schön (1987) proposed that professionals can undertake reflection-*in*-action and reflection-*on*-action. He proposed that when professionals undertake reflection-*in*-action, reflection guided the action. Moon (1999) questioned whether this was actually any different to reflection-*on*-action or if it was 'deliberation' rather than reflection. I contend that Vx allowed students time to reflect on cases during the decision-making process, thereby enabling reflection-*in*-action. This was perceived by interviewees to be advantageous by supporting them to learn in a more meaningful way. In some instances this even resulted in them changing their original opinion (or 'gut reaction') on a case. For example, PRT5 said:

"I think it's better that you can [...] change your views once you've had that time to reflect on it." (PRT5)

Vx appeared to support students in developing a reflective awareness when faced with decisions, for example, ECPH6 believed that use of Vx had influenced the way she approached problems in practice:

“...it just taught me to think about things a little bit more, not just to rush my decisions. [...] to just look at the bigger picture and to take everything I can into consideration, and not just focus on one aspect of it.” (ECPH6)

Previous studies with Vx also identified that the tool promoted thoughtful reflection (Godbold & Lees 2013, 2016, Tripken 2016). Interviewees also discussed learning from experiences whilst in practice, although only a few mentioned reflective practice specifically, for example:

“I still question myself. You’re still critical; you still question ... the decisions that you make on a day-to-day basis and, and I think that [...] well, you learn from reflective practice, you learn from those things that have happened already” (ECPH2)

That interviewees appeared to be self-critical in practice suggests that they were at times learning experientially, with a constructivist approach that involved reflection on new experiences to build on previous knowledge (Kolb 1984, Vygotsky 1978).

Teaching professional ethics to Keele MPharm students has aimed to promote reflection and a reflexive approach to practice through the use of reflective portfolios throughout all four years of study. Use of Vx also aimed to promote reflection, providing the opportunity for students to reflect on decisions made, and debate them with peers. The reflective approach demonstrated by interviewees in my study is fundamental to their continuous professional development.

Wider perspective

Many interviewees found that using Vx helped to widen their perspective of the cases. PRT9, for example, explained how clicking on the prompts (*“the tiles and stuff”*) in Vx helped her to consider many more aspects to a case than she otherwise would have. She also reported applying this to her practice:

“I probably had no clue of how to handle an ethical dilemma before the Vx. Like I’d probably make a decision but I wouldn’t take into account anything. [...] The Vx allowed me to kind of think about the law but also think about the patient, which I probably wouldn’t have done previous to the Vx, or, about the family...so now, in practice, I kind of think, ‘Oh, there’s family involved.’ I think about the tiles and stuff. So that’s probably what the Vx has done, made me aware of the factors that I wouldn’t have considered before.” (PRT9)

PRT3 reported that, in her view, thoughtful consideration of the prompts would mean that additional aspects would be reflected upon via Vx that might not otherwise have been addressed in a paper-based case study:

“I think we should continue to use it [Vx at Keele SoP] because it helps you think about so many different things that you might not think about in a workshop, because of the prompts [within Vx].” (PRT3)

Some interviewees suggested that Vx guided them through the process of decision-making through the prompts, and, while it is unlikely that they would have been able to recall all the actual prompts used in the Vx system for their future practice, I would argue that each use of Vx reinforced the need to think broadly about an issue when faced with a dilemma in professional practice.

Seeking information to help inform the decision-making process was also referred to by ECPH2 as a trait learned from use of Vx that she now applies in practice. This could be interpreted as a further means of widening one's perspective:

"I like to gain as much different information as much as possible. So I think it's [Vx] made me think a bit broader when I have a question, rather than what's just transpired between me and the patient or between me and a colleague. It's just try to gain as much information from different sources." (ECPH2)

Many interviewees reported that reading the responses posted on Vx by their peers had made them realise the value of gaining a wider perspective on a problem. They particularly mentioned how they gained from comparing their own written thoughts with those of their peers, and were often surprised by the range of views posited:

"I would have thought it would be more or less everybody would think the same thing [about a problem]. But they don't, do they? [...] it wasn't just minor disagreements, it was poles apart." (ECPH7)

This suggests that Vx provides a challenging learning environment that stimulates students' thinking and facilitates critical thinking through individual completion of cases and debating and collaborating on the discussion boards. Some also expressed the view that they were more open to hearing other people's opinions in general as a direct result of having used Vx in UG study. For example, ECPH3 talked about not having a *"blinkered view"*:

"So it would allow you to see from their [peers'] perspective where they were coming from. So that was quite useful I think. Yes, so rather than

having a blinkered view, even if you didn't agree with somebody, you could at least have a look and see what they were thinking about.” (ECPh3)

...whilst PRT8 believed that it had affected her attitude towards others:

“[As a result of using Vx] I've learned not to judge as much and sort of value other people's opinions a bit more.” (PRT8)

This broadening of perspective through use of Vx was also a key finding of my Initial Study (Allinson and Black 2018) and has been reported more widely by Robb, Wells and Goodyear-Smith (2012), Godbold and Lees (2013, 2016), Tripken (2016) and McInerney and Lees (2018). In these previous studies, students from various healthcare disciplines including medicine, nursing, dietetics, occupational health and radiography, reported having new understandings of themselves and their own values base, as well as a greater understanding of others. Godbold and Lees (2016), in particular, highlighted that the students' previous assumptions were challenged. According to the interviewees in my study, reading the perspectives of peers was invaluable in helping them to consider everybody's views in coming to a decision in individual cases, and provided an important learning point that not everyone thinks in the same way. In this way, Vx appears to have facilitated an important step towards person-centred care and shared decision-making.

Weighing up pros and cons

In line with many models of decision-making (RPS 2018, May 1990, Nash 1981, Guy 1990), interviewees in my study talked about weighing up the risks and benefits of different options. They generally believed that the greatest weighting should be in favour of the patient's best interests. That is not to say that all the practising

pharmacists who were interviewed were totally altruistic. For example, ECPH6 acknowledged that pharmacists can be concerned for themselves but the need to put the patient first was still considered paramount:

“I think sometimes we can be selfish as pharmacists and just worry about ourselves [...] we have to weigh out the pros and cons of the decisions that we make and how they might impact – not just us, but the patient first.”

(ECPH6)

This reflected the person-centred approach demonstrated by interviewees throughout my study, and was highlighted as an important element of professionalism as discussed previously in Chapter 7, Section 7.2.2, p.149.

Justifying your decisions

A key finding in this study was that interviewees stated that it was important for them to be able to justify all ethical and professional decisions they made in practice, including those made without having access to full information. Arguably, this could be a result of the use of Vx during UG years of study. Interviewees such as ECPH3 said that using Vx had supported them in coming to a final decision by helping them to determine and be able to justify their viewpoint:

“So it [Vx] led you into making a decision and having to justify it, which is a keystone of ethics I suppose.” (ECPH3)

If a decision could not be justified, interviewees said they would be unwilling to oppose the law and professional regulations, so justification was often focused on either avoiding potential professional and legal consequences of a poor decision, or

avoidance of harm or suffering to the patient. Interviewees did acknowledge, however, that they would be accountable for their decisions, and understood the potential consequences of poor decision-making. For example PRT5 said:

“...it always sticks with me what I've heard other pharmacists say, like I'd rather stand in a court room and say, I gave it [a controlled drug on an out-of-date prescription] because of this reason, rather than to say I didn't give it at all. I think I would rather say that I've tried to help the patient by giving it to them, rather than them having an adverse effect and me not giving it to them.” (PRT5)

9.2.3. Exposure to cases in preparation for practice

Exposure to theoretical cases was perceived by interviewees to have helped them prepare for dealing with professional problems in practice, particularly if they believed they were likely to be faced with similar scenarios.

Learning through case-based discussion

Interviewees believed that prior exposure to cases would help them feel prepared when faced with similar dilemmas in practice as it provided them with the opportunity to reflect and discuss how they might react in practice. For example ECPh8, when speaking generally about having been exposed to example ethical dilemmas during UG teaching, both via Vx and during face-to-face teaching, said:

“So I think having talked about it [a scenario] ... you're more prepared to deal with it.” (ECPh8)

Although experience of dilemmas in real life situations is the gold standard, the case method was still appreciated by interviewees, and enabled a wide range of issues to be covered.

Unrealistic nature of Vx

All of the interviewees acknowledged that Vx did not reflect real life but only ECPH5 said that she disliked the tool for this reason:

"I think that's why I hated it [Vx] so much, yeah it wasn't realistic enough."

(ECPH5)

In practice, decisions generally have to be made quite quickly and within a pressured environment of competing demands whereas students using Vx had much more time to deliberate. Most interviewees, however, reported that time was required to reflect and develop skills in decision-making for when they were qualified and started to practice. For example, PRT3 said:

"... it's important to make sure you learn everything first, so I'd rather have the time to learn it, rather than just doing it quickly [completing a case on Vx] 'cos I wanna think about everything." (PRT3)

Whilst acknowledging the unrealistic nature of the tool, they also presented a more pragmatic viewpoint that Vx was not designed to replace learning in practice, with the inherent pressures therein, but rather as a tool to develop the necessary skills:

"..., it wasn't supposed to be like real life. It was supposed to kind of make you think about things so you could apply it in real life." (PRT4)

Some interviewees saw Vx as a tool for learning that helped them to determine 'ideal' choices but felt that those same decisions might not be acted upon in practice:

"Values Exchange™ would promote you recording what you think is right.

It won't necessarily really reflect what you might end up doing in a real life setting [...] but it's still a useful learning process." (ECPh9)

Inevitably, students may have a naïve approach to decision-making and may not fully understand the impact of competing influences that are present in the workplace. This finding, however, may also be highlighting the need for students to develop moral courage so that they can act on 'ideal' decisions *despite* workplace pressures once in practice. Moral courage needs to be developed alongside ethical sensitivity and moral reasoning skills, so that students are prepared to act on what they believe to be the ideal decisions when in practice.

9.3. Potential enhancements for learning and professional application

This study was an opportunity for me to identify ways to improve or enhance teaching of professional ethics and decision-making, to benefit future students. Views on what support PRTs and ECPhs need to further develop their ethical and professional decision-making skills in practice were also elicited.

9.3.1. Potential improvements to Vx

Interviewees suggested a number of ways to improve how ethical decision-making is taught via Vx. Many suggested that the main change required was to improve how the

tool was introduced so that UG students would understand the importance and relevance of the learning to their future professional roles. Others also highlighted specific changes relating to teaching materials and format.

Promotion and instruction

Some interviewees said that they had not understood the relevance of Vx as students, particularly in Years 1 and 2, and needed more information and explanation about the importance of ethical decision-making, and the benefits to them in the future. For example, PRT4 said:

“I think more could be made of in terms of explaining like why it [Vx] will be relevant in practice [...] why it will benefit us in practice...” (PRT4)

Many also struggled to complete a case on Vx initially, either finding the tool difficult to navigate (as discussed in Section 9.1.2, p.195) or the terminology difficult to understand. ECPH4 suggested addressing the latter problem by providing more in-depth explanations to students regarding the tool prior to its first use:

“I do think at the beginning ... ‘risk’ and things like that [prompts in Vx] need to be explained a bit more...” (ECPH4)

Tripken (2016) also identified a need for a more thorough introduction to the system as some students in her study found the Vx interface overwhelming initially whilst McInerney and Lees (2018) suggested improving the instructions on the Vx platform itself.

More pharmacy-orientated cases

A common criticism made by interviewees was the limited number of pharmacy-based cases available on Vx for Years 1 and 2 students. They said they would like to see pharmacy-orientated cases replace cases based on major ethical issues, for example:

“...the big things [topics e.g. euthanasia] are probably less useful in the teaching and it needs to be more practical [to Pharmacy].” (PRT2)

Bowden and Smythe (2008) and Siegler (2002) had highlighted the importance of using discipline-specific cases to increase the relevance of teaching. Most interviewees in my study thought that this change in focus would better prepare students for their transition into pre-registration year and early practice. This was reassuring since the number of pharmacy-orientated cases had been increased in Vx prior to the data collection period.

Resolution of cases

Interviewees, such as ECPH3, felt that Vx could be improved by providing an overview of how real life cases were actually resolved in practice since they did not always think that a resolution had been reached by students on Vx:

“Some examples of some interesting and challenging cases and how they were resolved in practice might be useful, as there are no right or wrong ways of answering some of these difficult problems.” (ECPH3)

In addition, ECPH9 suggested that students could input their own scenarios to Vx from experiences on placement, and consider resolution of those cases:

"I think maybe for first years and second years, you could continue using the scenarios that are put forward, but I think it might be quite useful for people getting towards the end of their degree to put in their own scenario and how they come to a specific conclusion [...] I think that would be useful." (ECPh9)

Gillam (2012) explained that facilitating ethical debate among students, without providing direction of what their profession expected, risked students believing anything is acceptable if you can find a theory to suit a position held. Although students have to weigh up options and consider potential consequences to decisions when using Vx, it does not provide a resolution to a case. Vx was designed to support values transparency (Seedhouse 2009) but more may be required to address ethical problems within the healthcare professions.

Opportunities for additional discussions

Some interviewees suggested discussing Vx cases in class following the online debate. According to them, extra face-to-face discussion would be likely to increase student engagement with the cases. For example, ECPh4 said:

"...they have to do it [the Vx case] online but then if people want to voice their opinions out loud [in a class debate] then they can do and then it gets a bit more engaging and a bit more active." (ECPh4)

Tripken's (2016) was the only study to have incorporated in-class face-to-face discussions upon completion of Vx cases. This was done without the prior use of an online discussion board and was found to be an effective way to interpret the case results and support students to integrate course concepts into practical applications. In

theory, providing students with the opportunity to challenge and debate face-to-face may help them in developing the moral courage needed to speak up and challenge when in practice.

9.3.2. Professional application

Interviewees suggested that Vx was a tool that could be used in both UG and PG teaching, and could potentially be used for CPD. They felt, however, it would have limited value in supporting practice. Although most felt that pharmacists and other healthcare professionals would not have time to use Vx in practice, many thought that continuing to use Vx throughout the pre-registration year would be helpful in supporting the further development of decision-making skills prior to independent practice as a qualified pharmacist.

With regards to pre-registration year training specifically, PRT5 felt that the focus on clinical issues, to the detriment of ethical considerations, was a limitation of study days; she agreed that they could possibly benefit from the inclusion of Vx, although this could be considered a leading question:

“It’s [study days content] all just very clinical, we’re learning about BNF sections and stuff like that. Maybe if there could be a group that we could discuss things that were happening, so ‘Oh, this happened to me today, how would you have handled it?’ so maybe something like that.” (PRT5)

“Could you use the Vx?” (MA)

“I think so, you could make your own scenarios, couldn’t you? And then debate them.” (PRT5)

Some interviewees suggested that Vx could be incorporated into PG clinical diplomas to add an ethical dimension to learning, for example, ECPH8 said:

“I think it [inclusion of Vx] would probably be a good part of some of the clinical diplomas. It would be good to have that in instead of just focusing on ... knowledge of medicines and conditions.” (ECPH8)

Use of Vx in professional practice

Many interviewees could not see a viable role for Vx within professional practice, but several mentioned a potential use in relation to multidisciplinary team (MDT) meetings. ECPH4, for example, felt Vx could be a useful alternative when it was difficult to arrange face-to-face meetings:

“...multidisciplinary meetings can be difficult to arrange or to combine opinions in the best way whereas if it was on there [Vx], not saying that people would read everyone’s comments, but I think they’d probably be more inclined to read through and see what everyone else thinks.” (ECPH4)

...whilst ECPH2 described a possible role for Vx when professionals have difficulty reaching a consensus on a patient case:

“...I think it would be good for people [different healthcare professionals] to process what their different opinions are and for them to prioritise the most important things to consider [about the patient case] and especially when you’re having trouble coming up with an unanimous decision.” (ECPH2)

PRT2 suggested that values transparency via Vx might engender respect and encourage greater communication within the MDT, both of which she felt was lacking in her hospital trust:

“...I wonder whether something like that [Vx] might help people to ... respect each other a bit more [...] it might encourage more discussion ... and it shows people how valuable all of the other members might actually be to them, and encourage them to see what they could get from talking to each other more in practice...” (PRT2)

ECPH9 was also in favour of using Vx within the MDT but questioned its feasibility in a practice setting other than as a training tool due to workload constraints:

“I think it [Vx] would help but I don’t see how you would get the other members of the MDT to do it because of workload ... constraints. But in a training ... situation, it would be very useful...” (ECPH9)

According to the interviewees, there was less opportunity for use of Vx in community pharmacy practice as it was considered logistically more difficult. For example PRT3 said:

“Yeah, it’s just the time thing, that’s why I don’t think you’d be able to do it as often in community [compared with hospital practice], but I think there’s always space to do it. There’s time to do so many other things in community pharmacy I think there’s no harm in doing a case study every now and again and just discussing it with your team.” (PRT3)

Vx to support continuing professional development (CPD)

Some interviewees thought Vx could be used for CPD to support further development of decision-making skills. ECPH9, for example, suggested it could fulfil CPD requirements for the GPhC, but thought that people were only likely to use Vx if it could serve this purpose:

“I don’t think people would do it unless it fit into CPD, count as CPD.”

(ECPH9)

As Vx can be used as a tool to help reflect on an incident and prompt further research to support lines of argument, the reflection and associated learning could potentially form the basis of at least one of the four CPD entries per year required for revalidation by the GPhC (GPhC 2018a).

Despite considering Vx a potential tool for CPD, some interviewees were concerned by the time commitment required, and questioned whether or not people would actually use the tool on a regular basis to partake in online discussions. Use of Vx as a training platform for ECPHs was, however, suggested by ECPH6:

“...if we had an online thing, like Values Exchange™, as pharmacists, that would make it really good [...] you could have like an online course that goes for, I don't know, a month or something, and you just logon three times a week, discuss, learn something, [...] it would be something I would be interested in.” (ECPH6)

9.4. Summary

The fifth and sixth objectives of this study have been addressed through the data presented in this chapter. Objective 5 was to identify perceived advantages and disadvantages of using Vx to facilitate learning and professional development. This study has determined that Vx was perceived generally to be an effective tool to facilitate both learning and professional development. All but one interviewee advocated its continued use in the UG course.

The data suggested that use of Vx promoted deep learning as it was perceived to challenge and promote active engagement with the cases. Interviewees felt that they gained a wider perspective on cases through reflecting on Vx prompts when deliberating alone, by reading the views of peers, and by debating online. Sometimes interviewees reconsidered their own views on a case in light of being exposed to the perspectives of others. From this, they understood that not everybody thought as they did, reinforcing the need to consider different perspectives when tackling problems. Vx seemed, therefore, for these former Keele students, to have promoted a reflective approach, and supported collaborative working through the discussion boards. Reflection and collaboration are believed to facilitate critical thinking, and so demonstrate higher level learning (Moon 1999).

I contend that interviewees demonstrated ethical sensitivity and moral reasoning skills in practice, at least in part, because they had acquired these skills whilst learning the process of decision-making through consistent use of Vx as UG students. Furthermore, active engagement with Vx may have contributed to the development of skills to become self-directed critical thinkers and reflective learners. These findings have been corroborated by previous research, suggesting this is an impact of the tool (Lees and Godbold 2012; Godbold and Lees 2016; Tripken 2016; Allinson and Black 2018).

Interviewees saw Vx as a platform to give every student an equal voice, in a safe learning environment. They felt the structured process of Vx guided them to develop justifications which then enabled them to formulate coherent arguments when debating on the discussion boards; Vx was therefore perceived to be more useful than standard online discussion boards alone.

Interviewees did raise some disadvantages of Vx; for example, some had found it long-winded and challenging (although the challenge could also be considered a positive). With hindsight, however, they appreciated its importance and value. According to some interviewees, it was unrealistic, being without external pressures and time limitations, although many acknowledged the need for reflection time when learning.

With regards to its potential future uses, addressing Objective 6, interviewees suggested a number of ways to improve or enhance teaching using Vx. Better promotion of, and instruction on, the tool and increasing the number of pharmacy-orientated cases to make learning more relevant to practice were key. Interviewees also thought that future students would benefit from additional face-to-face discussions. This could potentially have many benefits, for example, supporting the development of moral courage, and enabling expert guidance and resolution to be addressed.

Some interviewees saw potential applications for Vx beyond UG level. With regards to professional application, a small number of interviewees thought it might be a useful tool in MDT meetings but there appeared to be little opportunity for use of Vx in practice otherwise. In contrast to this, more participants thought that Vx could be a potential tool for CPD, and for supporting pre-registration training in ethical decision-making. They suggested its incorporation into both pre-registration study days and clinical diplomas, to accentuate the ethical dimension of any therapeutic topics under discussion.

In Chapter 10 I triangulate my findings from both the qualitative and quantitative strands of my study, and discuss the unique contribution of my research to my discipline and wider teaching of ethics. I present the key overarching interpretations of my findings as well as their implications for practice.

CHAPTER 10: FINAL DISCUSSION

In this chapter I begin by presenting an overview of my findings, demonstrating where in my thesis I have met the objectives of my doctoral research, and highlighting the unique contribution of my research. This is followed by a discussion relating the literature to three key topics that have emerged from my research:

- (i) ethical decision-making in practice
- (ii) transition from UG study to pre-registration year and early career as a pharmacist
- (iii) teaching and learning with Values Exchange™

I discuss each in depth, highlighting the relevance and uniqueness of my findings. I then consider the strengths and limitations of my study, followed by the reflexive nature of my research. The chapter concludes with a discussion around implications for professional practice and recommendations for further study.

10.1. Overview of findings

The aim of this study was to explore the perceived effectiveness of Vx in facilitating pharmacy students' learning and development in professional ethics and decision-making, and its potential use by pharmacy graduates. I have demonstrated throughout this thesis that I have addressed all individual objectives, thereby meeting the overall aim of the study.

The uniqueness of my research

My research was unique in a number of ways. I have proposed a pedagogical underpinning to theorise why Vx should be an effective learning tool (see Chapter 2, Section 2.2, p.55). Up to this point, Vx had been viewed from a philosophical standpoint as a means of producing values transparency (Seedhouse 2005), but its pedagogical underpinning had not been addressed. I also undertook a mapping exercise to describe how the activities undertaken in Vx could help develop the skills necessary to exercise professional judgement i.e. to make professional decisions, in line with RPS guidance (RPS 2018). In this chapter I map data from interviewees that emerged relating to skills learned from using Vx onto the RPS guidance. In so doing, I show that, both theoretically and from the perception of students, Vx helps students to develop skills necessary for decision-making in professional practice.

My research was also unique as my study addressed the long-term use of Vx across four years of UG teaching on student learning. Up to this point, studies assessing the impact of Vx on learning or practice had been based on up to one semester of teaching at most (Robb, Wells and Goodyear-Smith 2012; Lees and Godbold 2012; Godbold and Lees 2013; Wright-St Clair and Newcombe 2014; Godbold and Lees 2016; Tripken 2016; McInerney and Lees 2018). Mine was also the only study that considered the potential longer-term impact on practice of having used Vx. All other reported studies had evaluated the impact of Vx shortly after having used the system.

In addition, my research involved the first application of the Professional Ethics in Pharmacy (PEP) test outside its country of origin (Chaar 2009). This was the first time the PEP test had been applied to any cohort of students, PRTs or pharmacists since its validation. Bebeau and Thoma (1999) highlighted the need to use profession-specific tools as a more accurate measure of moral reasoning. I found that the PEP test does not entirely translate in the UK due to differences in the healthcare system (see

Chapter 5, Section 5.3.2, p.116). This was an important finding as it has highlighted the challenges associated with developing profession-specific moral reasoning measures for global application.

Overview of key findings

The key findings that have emerged from my study are listed below:

- PRTs and ECPs either observed or were faced with 'professional' (as opposed to purely 'ethical') dilemmas often. This appeared to occur more frequently in community than in hospital pharmacy practice.
- Interviewees generally appeared to be person-centred and empathetic in their approach to patients, and demonstrated that they understood what was expected of them as 'professionals'.
- ECPs overwhelmingly reported a willingness to break the law when it was in the best interest of the patient; this demonstrated a higher principled approach once qualified (Rest *et al.* 1999a). PRTs appeared to be less willing to do this.
- This willingness to make higher principled decisions seemed to be linked to greater experience in practice and the associated increase in confidence that entailed.
- Developing the ability and courage to make decisions at this level may have been helped by having observed positive role models, but some also reported learning *what not to do* having observed negative role models. This highlights a potential need for consistently positive role models and possibly pre-registration tutor training to achieve this.
- Although the PEP test did not translate entirely in the UK, and the response rate from alumni was too low to have any statistical significance attached to it, an interesting trend in P scores was observed: P scores increased during university, then reduced in practice to below initial Year 1 average score (see Chapter 5,

Section 5.2.4, p.107). This could, hypothetically, be explained by a dip in confidence that some interviewees expressed when they found themselves under real world pressures. The drop in confidence may have impacted on the choices they made when completing the questionnaire.

- Interviewees generally reported that they wanted support to continue for ethical and professional decision-making after leaving university, during their transition pre-registration year and onto the early years of their career.
- Vx was reported to have been a valuable tool that should continue to be used beyond the UG course. It was perceived to have supported the development of reflective practice (Moon 1999) and approaches to decision-making that aligned with the RPS guidance on exercising professional judgement (RPS 2018). This is important as students are taught to apply RPS guidance when making professional decisions, and Vx appears to have helped them develop the necessary underpinning skills to do so.
- Ways to improve teaching with Vx emerged. These included better promotion and instruction about the tool initially, an increase in the number of pharmacy-orientated cases to help students see the relevance of their learning, exemplars of resolution of cases, and additional face-to-face discussion on the scenarios alongside online learning.
- Potential future uses of Vx were proposed including: its use as a tool for CPD; its inclusion in pre-registration study days and postgraduate clinical diplomas; a platform to support a network of PRTs or ECPs in practice. It was perceived to have limited value in the workplace, but some saw a possible role for its use in multi-disciplinary team meetings in hospital practice.

The in-depth discussion that follows is presented in three sections and addresses all of my research objectives. The first section (10.1.1) *Ethical decision-making in practice*, involves the triangulation of data from my two strands of research and addresses the following objectives:

- To determine the moral reasoning skills of students and alumni who have used Vx.
- To explore the views and experiences of alumni regarding dealing with ethical dilemmas in practice.

The second section (10.1.2.), *Transition from undergraduate to pre-registration year and early career as a pharmacist*, addresses the objective:

- To ascertain the views of alumni on their preparedness for professional practice.

This is followed by Section 10.1.3. *Teaching and learning with Values Exchange™*, in which three objectives are addressed:

- To identify the educational underpinning of Vx.
- To identify perceived advantages and disadvantages of using Vx to facilitate learning and professional development.
- To determine views on the potential future uses of Vx.

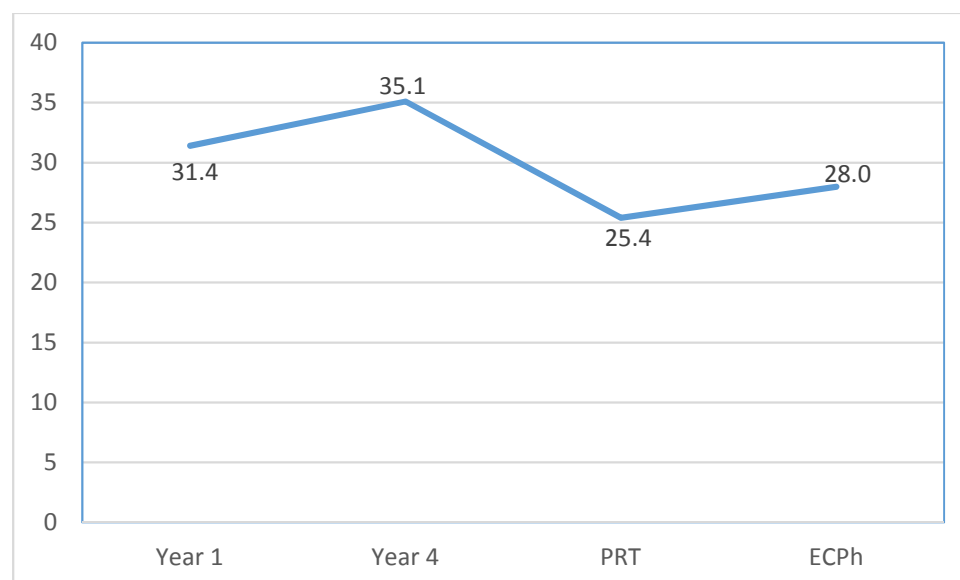
10.1.1. Ethical decision-making in practice

Triangulation of results

During this study, the Pharmacy Ethics in Practice (PEP) test, originally developed in Australia and validated by Chaar (2009), was applied. This was the first time this Pharmacy-specific measure of moral reasoning had been applied in the UK. This was significant because it was unknown if a profession-specific tool developed in one country could be a valid measurement of moral reasoning in another country with different healthcare systems, rules and regulations.

Although the response rate from participants was too low to be statistically valid, an interesting trend in P scores was observed (see Chapter 5, Section 5.2.4, p.107). Average P scores increased between Year 1 and Year 4 cohorts, but then dropped to below the Year 1 average score in PRTs. The average score increased again moving from PRTs to ECPhs, but the score remained below that of the initial Year 1 students. This trend is depicted below diagrammatically in Figure 13, and would be worth exploring in future research to ascertain whether this is 'real' or merely a spurious finding of my research.

Figure 13 Average PEP test P scores across cohorts



During interviews with alumni, their views and experiences about dealing with ethical dilemmas in practice were explored in-depth. Most PRTs discussed experiences they had observed, but ECPhs described personal experiences in which they often demonstrated ethical sensitivity and moral reasoning skills. Even when PRTs talked about their observations, they were demonstrating that they recognised how they should be making professional decisions. It is surprising, therefore, that both the PRTs and the ECPhs achieved such low scores in the PEP test. This could suggest that the PEP test is not measuring what it is supposed to measure. Concerns regarding the PEP test have been mentioned in Chapter 5, Section 5.3.2, p.117) and will be

discussed further in this chapter. This would not, however, explain the dip in scores observed on leaving university whereby the average score achieved by ECPs was lower than that of Year 1 students.

A possible explanation for this trend emerged from the interview data. I would argue that the proposed underpinning pedagogy of Vx, as discussed in detail in Chapter 2, Section 2.2, p.56, alongside wider opportunities for ethical debate during undergraduate study, supported development of moral reasoning skills when the participants were MPharm students. Scores in moral reasoning may have decreased among PRTs, linked to the dip in confidence and a more cautious approach to decision-making that they indicated was a factor of their transition from university student to PRT. The interviewees in general perceived university to be a safe environment within which to make good moral choices. I hypothesise, therefore, that they did not lose their ability to reason, but were influenced by their working environment and the realities of day-to-day pharmacy practice. They may, therefore, have still been able to make reasoned judgements but also had a heightened awareness of real life constraints such as company policies or potential legal and professional consequences associated with their decisions. Alongside their relative lack of experience, this may have resulted in them being more guarded in their approach and, therefore, more likely to abide by rules and regulations. This relates to stage 4 schema, Conventional thinking (Rest *et al.* 1999a) and could mean they may have been less likely to have the moral courage to follow more highly principled actions due to fear of retribution, reflected in lower P scores in the PEP test. With experience in practice, it could be argued that their confidence and associated moral courage started to grow, and they were more willing (and felt better able) to act on what they perceived to be the 'right', most ethical decision within the constraints of professional practice. In this study, however, this did not reach the level (measured by P score) that they potentially left university with.

The interviewees demonstrated a person-centred approach to their patients in almost every case, and reported knowing what was expected of them as pharmacists. PRTs tended to find this more difficult to put into practice than ECPs, but this would be understandable due to a possible lack of confidence and a need to develop moral courage in early practice. The scores may, therefore, reflect the level of confidence or courage to act on decisions, alongside the ability to reason ethically. Similarly, a literature review by Goethals *et al.* (2010) identified how nurses' ethical decision-making was influenced by personal and contextual factors and how dilemmas faced were often linked to the difficult work environment. They found that this tended to result in conformist practices by nurses whereby they would capitulate to the decisions of others, limiting their ability to act in accordance with their own values. In my study, however, interviewees seemed to gain the confidence to make choices in accordance with their ethical values with increasing experience in practice, despite workplace influences. Despite the caveats to my findings, this is the first time this possible trend has been identified in early years pharmacists post-graduation. Interviewees' experiences of lacking confidence to action good moral decisions, possibly related to the trend in P scores (although not of statistical significance), could suggest a real need (as they themselves expressed) for continued support in ethical decision-making and developing moral courage among PRTs and ECPs in practice. Confidence and courage is discussed in more detail in Chapter 10, Section 10.1.2, p.231.

To my knowledge, no previous studies have measured moral reasoning skills across student cohorts and into pre-registration year and early years of practice. Although Gallagher (2011a) measured moral reasoning scores across pharmacy student year groups and among academic staff, he did not include alumni who had recently left university. My results do, however, align with Latif (2000a) who found that community pharmacists in the USA achieved a lower average moral reasoning score than first year pharmacy students, although he also noted that the average score tended to decrease with increasing years in practice. He theorised that low moral reasoning

observed among qualified pharmacists could be the result of lower ethical reasoners choosing to work in community pharmacy, higher reasoners leaving community pharmacy, or that community pharmacists regress in their ability to reason ethically the longer they are in practice. In contrast to Latif's study where community pharmacists with wide-ranging levels of experience were invited to participate, my study was aimed specifically at PRTs and ECPs so direct comparisons cannot be made, but Latif's study does highlight that practice in community pharmacy at least has been shown to negatively affect moral reasoning scores.

Decision-making in practice

When interviewees talked about decision-making in practice, they referred to having a questioning, reflective approach to problems that involved gaining additional information and listening to the perspectives of others to reach a considered decision (see Chapter 9, Section 9.2.2, p.200). Some described how they critically reflected on their decisions either during the process of making decisions, after they had made them, or both; this could possibly have been developed at least in part, through use of Vx. When using Vx, interviewees stated that they gained and developed wider perspectives on cases, either through personal reflection with the aid of prompts within the system or through exposure to the perspectives of their peers. Consistent use of Vx could feasibly have supported them in increasing their ethical awareness by instilling in them the importance of these steps in the process of decision-making. Reflective practice includes learning from experience and making sense between thoughts and actions. It can be used to emphasise the link between values held and actions taken (Ghaye and Lillyman 2010). It is an important element in continuing professional development and necessary for revalidation among healthcare professionals such as pharmacists, doctors and nurses (GPhC 2018a, GMC 2018, NMC 2018).

Being exposed to the perspectives of other students, and taking their views into account when making decisions, may also have helped them to develop empathy. Interviewees placed high importance on empathy and generally demonstrated this in their approach to decision-making within patient-related scenarios. Empathy has been identified as a key trait necessary for the ability to discern ethical dimensions of situations (Kuhse and Singer 2012). An empathetic interaction has been found to build rapport, motivate patients to participate more readily in their treatment, and be a predictor of successful outcomes (Miller *et al.* 1993, Squier 1990). Methods in the literature to 'teach' empathy varies but includes teaching communication strategies (Coulehan *et al.* 2001), reading literature (Charon *et al.* 1995), and writing reflective narratives (Horowitz *et al.* 2003). In one study Winefield and Chur-Hansen (2000) found that empathy scores for 70% of first year Medical students increased after receiving training on communication skills, specifically, two workshops involving video-taped role-play with simulated patients, associated feedback and reflection. In another example, Dasgupta and Charon (2004) evaluated a second year medical student seminar in which students wrote personal illness narratives (based on either the student themselves or a family member or friend), and which they then read aloud to each other. This perhaps aligns with Vx, where students can read and reflect on the personal opinions of their peers, although invariably not at such an emotional level as in the study by Dasgupta and Charon.

Demonstrating ethical sensitivity involves having an ethical awareness, i.e. being able to identify the most important aspects of a moral dilemma, and seeing the implications of potential actions taken within a broad context (Weaver 2007); Vx appeared to support students to do this and interviewees indicated that they continued to apply this in their professional practice. These are generally positive findings compared with previous research; for example, Benson *et al.* (2009) found little evidence of self-conscious reflection or deliberation on dilemmas when interviewing a mix of community pharmacists, hospital pharmacists and pharmacists from other roles such as senior

management positions and academics, whereas examples of reflection were evident in my study. Cooper *et al.* (2007) found some community pharmacists to be what he described as 'ethically inattentive'. In his study of 23 community pharmacists, he found that, although some could identify and describe ethical concerns, many could not readily identify an ethical problem from their practice, or subsequently describe it. Some interviewees in my study had difficulty in identifying ethical dilemmas also, although they tended to be those who practised within the hospital setting; those working in community pharmacy more readily reported examples. Some interviewees distinguished between moral and legal concerns, highlighting an understanding of the difference, but predominantly legal concerns were raised, similar to the study by Cooper *et al.* (2007). This may well have been an accurate reflection of the experience of interviewees in professional practice at that time, but may not be so prominent in the future as the Pharmacy and NHS landscape is currently undergoing important changes which may result in fewer legal issues occurring in pharmacy practice. Examples include the widespread introduction of electronic transfer of prescriptions which greatly reduces the likelihood of unsigned prescriptions being received. Access to summary care records may enable pharmacists to deal with some clinical issues without the need to speak to a doctor, and locally commissioned emergency supply services may help to negate the dilemma of whether or not to supply personal requests for emergency medication (PSNC 2018).

Ethical literacy

Interviewees in my study demonstrated an ethical awareness and an ability to undertake moral reasoning to reach a justified decision, but they did not demonstrate the ability to discuss values in relation to theoretical underpinnings. This finding is possibly a reflection of the way ethics is taught on the Keele MPharm course. An ethicist runs a series of lectures and workshops in Year 1 where the major ethical

theories are discussed. The Four Principles approach of Beauchamp and Childress (2009) is also presented to students in Year 1 and Year 4, and applied to some ethical cases, but cases are deliberated via Vx throughout all four years of study. Vx is focused on decision-making, and although it is underpinned by different ethical theories, these are not made explicit. Students can, therefore, consider ethical aspects to cases without linking overtly to theories. My findings aligned with findings from previous studies; ethical literacy among pharmacists has been shown to be poor in studies by Hibbert *et al.* (2000), Chaar *et al.* (2005), Cooper *et al.* (2007), Benson *et al.* (2009) and Deans (2010).

This raises the question as to whether or not pharmacists need to be able to articulate their values, or if it is sufficient to know that they are acting ethically? Cribb & Barber (2000) highlighted the need for pharmacists to be values literate, part of which involves being familiar with a 'values' vocabulary. Interviewees in my study demonstrated an awareness of codes of ethics and the standards expected of a professional, but often talked about "best interests" without demonstrating a clear understanding of what this entailed. They were, however, still acting ethically, even though most of the time they did not discuss underlying ethical principles. Interviewees tended to discuss issues at the intermediate concept level, for example, right of confidentiality, duty of care, or patient best interests (see Chapter 1, Section 1.2.4. p.16) but did not link them to abstract ethical concepts such as autonomy or beneficence. It could be argued, therefore, that they do not need to be ethically literate as they were still able to articulate their concerns. A counter argument, however, might be that increased ethical literacy, which would include greater fluency in talking about values and abstract concepts, might enable a greater depth of discussion among peers when in practice, particularly since Vx most likely will not be used.

In the next section (10.1.2.) I discuss and interpret findings that emerged from my study regarding the reported preparedness of interviewees for professional practice.

10.1.2. Transition from undergraduate to pre-registration and early career as a pharmacist

Interviewees reported that Vx prepared them for practice insofar as they had developed the skills required to make ethical or professional decisions. They indicated that teaching at Keele had prepared them for professional practice to varying degrees, but all acknowledged that experience in practice was fundamental to developing sound decision-making skills in the face of ethical and professional dilemmas. They described how they were continually learning to deal with ethical and professional dilemmas whilst in practice, and identified a need for further support around ethical and professional decision-making during the transition from UG to early career years. Some interviewees felt there could be a possible role for Vx here. These are all discussed in more detail in what follows.

Developing confidence to demonstrate moral courage

Interviewees described how Vx supported them in developing skills that underpin decision-making (see Chapter 9, Section 9.2.2, p.199), but findings also highlighted that more is needed to support the development of moral courage to act on those decisions in practice. Interviewees felt that experience in practice was required for this to happen. This view was supported by the fact that more ECPs (and therefore those with greater experience) than PRTs stated they were prepared to break rules when they felt it was in the best interests of the patient, and claimed to do so only with strong justification. In contrast, PRTs appeared to lack confidence, and demonstrated a more cautious approach to decision-making (as aligned with P scores in Chapter 5, Section 5.2.4, p.107). This is not a problem specific to Pharmacy. A literature review undertaken by Bickhoff *et al.* (2017) identified that most UG nursing students lack the moral courage needed to speak up or intervene when faced with poor practice, and

Gallagher (2011) explained that even the most morally courageous qualified nurses may fear speaking up at times due to unsupportive organisations. She called for healthcare organisations to create an environment that would enhance moral courage in the workplace, highlighting the fact that the onus should not solely be on the individual to improve courageous practice. Similarly, in Medicine, Martinez *et al.* (2016) developed a tool to measure moral courage, and found that residents (PG medical trainees in their second year and above) were more likely to show moral courage than interns (PG trainees in their first year). The authors credit this finding to interns being more susceptible to '*conforming pressures*' within the clinical environment, for example, medical hierarchy and concerns about evaluations, or organisational constraints.

In order for PRTs and newly qualified pharmacists to grow in confidence and develop the moral courage to make ethical decisions, they need to develop their self-efficacy, or self-belief, that they can make professional decisions in practice. Self-esteem (feelings of self-worth) and self-efficacy both contribute to self-confidence. Self-efficacy is the belief in the likelihood or personal judgement that an individual can perform well and complete tasks (Van der Bijl & Shortridge-Baggett, 2002). Bandura's Self-Efficacy Theory (1982) proposes that performance and motivation are partly determined by peoples' belief in their personal effectiveness. Self-confidence in a person's own ability is therefore an important attribute. One way of improving self-efficacy is considered to be through mastery of events; being successful in a task builds self-belief. The more opportunities individuals have to experience and cope effectively with dilemmas, therefore, the greater their self-belief will be that they can deal with future problems. In theory, therefore, PRTs should benefit from being faced with challenges during their training year from which they can learn.

Interviewees supported the incorporation of an explicit structured approach to ethical or professional decision-making whilst on both community and hospital clinical

placements during UG years to expose them to real life decision-making prior to practice. Siegler (2002) recommended that teaching ethics was reinforced by integrating it into medical clerkships (most closely equivalent to placement opportunities in Pharmacy) so students could observe ethical dilemmas in context and the ethical behaviour and professional conduct of experienced role models. Increasing placement numbers during pharmacy UG years could increase the opportunities for students to practise dealing with real life ethical scenarios, and see how they are resolved in practice. Unlike Medicine, however, the MPharm degree is funded as a science degree. This means that there is no clinical supplement provided to fund clinical teaching and experience. As a result, there is limited opportunity for pharmacy students to learn in the practice setting currently and, although students are encouraged to undertake placements during holidays for example, pharmacy undergraduates are not afforded the same opportunities as their colleagues in other health disciplines.

Many interviewees in my study stated they would benefit from continued support on ethical decision-making after graduating. Sulmasy and Marx (1997) linked confidence in early careers medical practice to increasing knowledge of medical ethics. They introduced a two year curriculum of medical ethics to medical house officers, comprising of alternating monthly discussions on actual cases and conferences on various ethical topics. They found that both knowledge and confidence increased over the two years, indicating that further training on ethics increases confidence from the baseline of early practice. Lachmann (2010) identified further strategies that nurses in practice could undertake to help develop their moral courage, which included the need to develop cognitive strategies to combat risk aversion and deal with highly emotive situations, and training in assertiveness and negotiation skills to cope with hostility or defensiveness in others; these could be considered to include within UG teaching.

Although the focus of my study is specifically on ethical decision-making, and refers to the lack of confidence specifically in dealing with ethical dilemmas, this feeds into a wider problem that has been identified by Magola *et al.* (2018). They found that community pharmacists struggle when they first qualify and are immediately accountable on a professional level. My findings support their research inasmuch as ECPs lacked confidence initially in dealing with dilemmas. Calls have been made for a national support programme to help bridge the transition to practice akin to formal training for junior doctors (Wilkinson 2018); my study provides further evidence to support this.

Stress and Moral distress

The ECPs who were interviewed tended to report that they had the courage to act upon difficult decisions, but also reported feelings of stress and moral distress associated with situations which caused dilemmas. The definition of moral distress has evolved overtime but the first definition was by Jameton (1984) in relation to Nursing practice: *'the distress felt when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action'*. Moral distress was initially seen as being due to institutional constraints and power hierarchies, but is now considered in broader terms to be affected also by situational binds such as legal and professional requirements, and when professional values conflict with personal moral values (Houston *et al.* 2013).

Magola *et al.*(2018) identified the challenges facing novice doctors and nurses through an investigation of published literature, and found that personal, social and job-related experiences (e.g. stress associated with acquiring professional accountability, organisational culture and high workloads) were all perceived to have impeded learning, impaired performance and may have negatively affected patient care. They

stated that some of these challenges may be transferable to community pharmacy settings, despite contextual differences such as isolation and private-sector working. My study has identified that many of these challenges do exist during transition from UG education, through pre-registration year and onto early career practice. For example, the stress and moral distress associated with professional decision-making (Chapter 8, Section 8.1.2, p.174) and workplace factors that can create dilemmas, such as time constraints and the culture of the employing organisation (Chapter 7, Section 7.3, p.162).

In 2009 a report was published which identified some key initial findings relating to workload pressures (RPS & PPRT 2009). Stress was found to be rising among pharmacists who felt under pressure to meet financial targets, particularly with regards to Medicines Use Reviews. My study corroborated the finding that pharmacists were exposed to stressful situations, sometimes created by the working environment. The report from 2009 was followed up with a detailed scoping study to identify organisational solutions to workplace stress, in the hope of enhancing safer practice in community pharmacy (Jacobs *et al.* [PRUK] 2013, Jacobs *et al.* 2018). A range of effective interventions were identified from a review of previous literature, and a model of best practice proposed, including top management support and buy-in from middle management, appraisals, improved communication within the organisation, and clearly delineated tasks and responsibilities. It is hoped that implementing these strategies within organisations will reduce the pressure pharmacists are required to work under, but no follow-up evaluative study has been published assessing this. Although not specifically aimed to reduce moral distress, pharmacists in this 'improved' environment may feel better supported and therefore able to make good professional judgements in the best interest of patients, with less fear of retribution from the employing organisation.

Role models

Role models can play a vital part in preparing pharmacy students and PRTs for practice. Hammer (2006) argued that role-modelling was highly influential and the most important strategy for improving professionalism among pharmacy students. The 'hidden curriculum' is a socialisation process through which values and norms are transmitted; these can often be at variance with what is taught explicitly (Mahood 2011). Most values, attitudes, beliefs and related behaviours are learned implicitly through the 'hidden curriculum' rather than through explicit formal teaching, in part by observing role models and their positive and negative attributes.

Having strong, positive role models appeared to be important in developing confidence in PRTs and ECPs. This has been recognised by some interviewees in my study as a learning opportunity in practice. Observing others deal effectively with professional problems and dilemmas is thought to be a further way to increase self-belief (Bandura 1982). This need for positive role models should, in theory, apply equally in the UG setting, and students might benefit from exposure to longer and more frequent placements during UG years by having more time to observe positive role models in the practice setting prior to qualifying. In an Australian study by McNair *et al.* (2016) medical students were found to increase in confidence over two years of medical training (Years 2 and 3). Patient-centeredness was encouraged within placements by positive role-modelling, direct teaching, and opportunities to practice patient-centred care. The authors concluded that Medical Schools have a responsibility to support students to develop patient-centred care through positive role-modelling during placements. Within Pharmacy, Jee *et al.* (2016) interviewed 20 PRTs from both the hospital and community setting on a number of occasions during and after their pre-registration training year. They identified pre-registration tutors to be strong role models and found that confidence increased among the trainees during their pre-registration year.

Interviewees in my study related positive experiences with pre-registration tutors or other qualified pharmacists, particularly where the tutors explained their underpinning reasons for the decisions they made. This pro-active approach was valued by them. Some, however, also explained how they learned '*what not to do*' from observing negative role models. Interviewees reported making positive choices, or stated that they would not perpetuate the poor attitudes or behaviours observed. Baernstein *et al.* (2009) interviewed 56 medical students and found negative role models in both clinical and classroom settings. Many within the study reported that role models were much more influential than the formal taught curriculum. The authors stated that the presence of negative role models was inevitable, although within the medical curriculum it was possible to have faculty (i.e. academic) staff who could debrief students in an attempt to mitigate any deleterious effects. To counteract potentially negative effects of the hidden curriculum, Mahood (2011) recommended frank dialogue with students about real life experiences and observed challenges to professional ideals. Hopkins *et al.* (2016) also proposed raising awareness of the positive and negative effects that role-modelling could have on students' own professional development, suggesting that this would increase resilience.

Although interviewees claimed good practice had been demonstrated by some pre-registration tutors, findings also indicated a need for improved training. Being both a positive role model, and being able to discuss and challenge ethical and professional decisions, are necessary to help develop the self-confidence that trainees need to learn to make professional decisions effectively. Mills, Blenkinsopp & Black (2013) found that selection and performance management of tutors was the most problematic area in pre-registration training due, in part, to a lack of guidance on expected standards. The GPhC has since made available a policy on tutor suitability and also guidance on tutoring (2014, revised 2018b) and a resource booklet (GPhC 2018d) but my findings suggest that more structured, formal training should probably be provided to tutors regarding their role.

Learning from others

Interviewees discussed learning from others in practice in a variety of ways. Some reported learning from other staff members such as pharmacy technicians and healthcare assistants, as well as from their pre-registration tutors and other pharmacists. Elvey *et al.* (2011) found that ECPhs did not recognise support staff as important to their professional development and undervalued their contribution, but some interviewees in my study appeared to appreciate their value as role models a great deal. My finding is supported by Jee *et al.* (2016) who, although not focussed on dealing with ethical and professional dilemmas, identified that trainees valued and learned from the skills and knowledge of support staff, particularly at the beginning of their pre-registration year. Keele MPharm students are encouraged to seek information from all levels of staff where appropriate when dealing with professional dilemmas.

Interviewees reported learning from peers within their organisation by discussing ethical and professional dilemmas that they had been exposed to. Hu *et al.* (2012) presented a case for peer support within an organisation to cope with emotional stressors, and formally incorporated a one-on-one peer physician support programme within their hospital. This was a structured support system aimed at alleviating moral distress and providing a formalised approach to peer support. One interviewee in my study worked in an organisation that appeared to acknowledge the benefits of peer support and had also formalised the process, although the support seemed less structured than that of Hu *et al.* Peer discussion or 'supervision' provides opportunity for deliberation on real life ethical cases, which is fundamental to developing skills in decision-making (Habermas 1990, Freire 1996). The Health Foundation (2014) reported on a form of peer supervision that happens currently, called *Schwartz rounds*, as an approach to developing person-centred care within organisations. Professionals in the organisation meet for lunch then explore a workplace event such as a patient case, moderated by a trained facilitator. This allows staff time for reflection and sharing

insights. Reported benefits have included increased empathy and greater ability among staff to handle sensitive issues. Interviewees in my study reported finding peer discussion to be a valuable learning approach to dealing with dilemmas.

Some interviewees reported valuing more informal social media-based networking groups set up among friends from university to support each other (see Chapter 8, Section 8.2.3, p.184). Developing a network whereby PRTs and ECPs could discuss their experiences in confidence might be a useful support mechanism for trainees, helping them to maintain their professional approach and not lose their sense of idealism and ethical integrity amid the pressures of practice, and possibly in the face of negative role models. This informal network approach could be promoted to future students as a method of supporting each other in future practice. Boud and Middleton (2003) discussed how people can learn with and from each other informally in the workplace and identified three significant areas of learning: mastery of organisational processes; negotiating the political; and dealing with the atypical. Although in my study interviewees worked in different organisations, they reported learning from each other when dealing with atypical scenarios i.e. when a strategy had to be developed to solve a problem or dilemma. This could possibly be regarded as the development of a loose form of 'community of practice' as proposed by Lave and Wenger (1991) whereby members of the 'community' can develop their practice through various methods such as sharing experiences, requesting information and problem solving.

A review of the literature regarding communities of practice by Ranmuthugala *et al.* (2011) showed that they were wide-ranging across the Medical and Nursing communities. Examples included novice clinicians across ten hospital and community-based organisations partaking in a community of practice to support the development of competencies (Wilson and Pirrie 1999), and an online system where anaesthetists could post critical incidents for discussion (Sharma *et al.* 2006). Ranmuthugala *et al.* suggested that communities of practice, on their own or as part of a larger intervention,

may have a role in improving healthcare performance. They stated, however, that interventions have often been complex and multifaceted, making it difficult to attribute any improvement directly to the impact of the community of practice. Within Pharmacy there is an opportunity for newly qualified pharmacists to join an ECPhs network supported by RPS (<https://www.rpharms.com/network/activity/groupid/48>), but this is an open forum for non-confidential issues and does not appear to be suited to discussing sensitive topics. More usefully, a formal support network using social media could be developed each year by Keele SoP for use by all graduates on entering their pre-registration year and beyond.

10.1.3. Teaching and learning with Values Exchange™

Vx was perceived by the interviewees to be an effective tool to help prepare students for exercising professional judgement in practice; all but one advocated its continued use in UG teaching. Vx appeared to facilitate a deep approach to learning since interviewees stated that it was challenging, and that it encouraged reflection and active engagement to gain further insight into the subject matter.

Deep approach to learning

Good teaching should engender interest in a subject as well as fostering a sense of control by the student over their own learning. The ultimate aim, according to Bruner (1966), is to make the learner self-sufficient. Interviewees reported high levels of engagement using Vx, learning in an independent environment that allowed them to practise '*the art of inquiry*'; without this deep learning is impossible (Ramsden 2003). Ramsden suggested that engagement, inquiry and a level and style of learning to suit individual students were more likely to occur if the teaching environment involved

student energy, problem solving and cooperative learning, all of which Vx offered.

Reflective practice

Moon (1999) considered reflection to be a part of the learning process and to be associated with higher levels of learning. She stated that discussion of a topic in a small group can facilitate reflection when learners intend to develop their understanding of the topic. Questioning can stimulate learners to relate new to previous knowledge to make it more meaningful to them. Working through a case on Vx appears to have helped interviewees develop skills of reflection both *in-action* (reflecting while deliberating on the case individually through the help of prompts) and *on-action* (reflecting and sometimes refining decisions through reading views of, and discussing with, peers). Interviewees reported challenging peers and engaging in debate on the Vx discussion boards, activities that can facilitate reflective processes, supporting students to develop deeper meaning. They reported gaining wide perspectives, helping them to value the importance of seeking as much information as possible, as well as the views of all involved. This insight or widened perspective may have helped them to empathise with those involved in any given situation, a trait that most exhibited throughout the interviews.

Boud *et al.* (1985) and Schön (1987) acknowledged that reflection-*on-practice* is central to learning and development of knowledge in the professions. Key to this is the ability to reflect critically on one's actions, learn from them, and continuously improve. This *personal praxis* (a reflexive consideration of performance in particular situations) is believed to help build the link between knowledge and practice (Kemmis and Smith 2010). Furthermore Fish & Coles (1998) found that writing reflective narratives provided insight into practice, whilst sharing them allowed practitioners to learn from each other. Vx facilitated this approach as students had to write their reflections on

issues concerning each case, and then share their reflections with their peers. Some interviewees reported continuing this 'sharing of reflections in practice' through peer discussion, either face-to-face or on social media, as discussed in Chapter 8, Section 8.2.3, p.184. Moon (1999) proposed that reflective practice had value in improving professional practice specifically, reiterating the importance of developing reflective skills during UG teaching. Reflection is a key aspect of lifelong learning and is a necessary skill for meeting GPhC continuing professional development requirements (GPhC 2018a).

Experiential learning through case-based discussion

Bowden and Smythe (2008) supported the use of case discussion based on specific ethical issues faced within one's profession, whilst Harvard Business School is long established as a strong proponent of the case method to prepare students for the challenges faced in practice (Harvard Business School 2018). Latif (2000b) found that pharmacy students with higher levels of moral reasoning scores thought ethical dilemmas to be less problematic than those with lower scores. He proposed that the discussion of ethical dilemmas caused mental conflict and acted as a catalyst to stimulate upward movement within moral stages. Ethical case discussion can be thought of as a form of experiential learning whereby students analyse a case and make a decision, with the academic or peers providing scaffolding to facilitate learning (Wood, Bruner & Ross 1976). Interviewees reported learning from and valuing the opportunity to deliberate on cases individually, then discussing with and challenging peers on Vx discussion boards (see Chapter 9, Section 9.2.1, p.196). I propose that the Vx platform provided initial scaffolding for students to deliberate on cases, whilst access to the views of peers and the online debate that ensued enabled them to further facilitate each other's learning.

The teaching students received during their MPharm studies involved exposure to a wide range of possible scenarios that they could be faced with in future practice. This wide exposure is likely to be similar for all Schools of Pharmacy who practice case-based learning. Arguably, the difference with using Vx as a teaching tool compared with classroom discussion of cases, however, is the depth of individual analysis that all students undertake in advance. The structured guidance through deliberating on a case, which the interviewees said Vx supported, helped students to develop strong justifications for their decisions. They reported weighing up options, and the desire to act only on actions they felt they could justify.

Collaborative learning

Vygotsky (1978) proposed that students could perform at higher intellectual levels when working collaboratively as opposed to individually. In theory, students working within Vygotsky's 'zone of proximal development' can master skills with a little help from capable peers to complete a task. Gokhale (1995) showed that collaborative learning, albeit in the classroom, resulted in greater critical thinking scores than individual learning. Arguably, collaborative learning was demonstrated in this study as interviewees reported that the responses posted by their peers helped them to realise and understand other viewpoints, and prompted them at times to reconsider their own. They provided scaffolding therefore for each other's learning and potentially helped them to develop a more critical approach to each case.

Having considered the approach to learning facilitated by Vx, I now show how skills interviewees reported developing through use of Vx support making professional judgements.

Mapping Vx-developed skills to RPS guidance

The structured process of following prompts makes Vx too unwieldy to use as an *aide memoire* in practice. Alongside teaching with Vx, Keele MPharm students are taught to follow the RPS approach to exercising professional judgement (RPS 2018). This approach should be easier for students to remember compared with Vx prompts.

Arguably Vx may have helped prepare students to follow the stepwise approach to decision-making advocated by the RPS through developing underpinning skills. Key stages of the RPS approach to exercising professional judgement have been mapped to key skills that interviewees indicated they had developed through use of Vx (see Table 20).

Table 20 Mapping of skills perceived to have been developed through use of Vx to RPS Exercising professional judgement (2018)

RPS Exercising professional judgement	From data: approaches and associated skills developed through Vx
1. Identify the ethical dilemma or professional issue	Development of ethical awareness: reflection-in-action, gaining a wider perspective, developing an empathetic person-centred approach
2. Gather relevant information	Studying the topic, reading / seeking the perspectives of others
3. Identify the possible options	Considering all the angles of the case in depth through prompts from Vx and debating with peers to identify all options
4. Weigh up the benefits and risks of each option	Weighing up the pros and cons, considering the risks and potential consequences of actions
5. Choose an option	Providing strong justification for action chosen
6. Record	Reasons underpinning decisions are articulated and recorded within Vx and in the PebblePad™ portfolio

In Chapter 2, Section 2.2.6, p.63, I mapped individual Vx activities to their proposed pedagogical underpinning and also to the RPS guidance, *Exercising professional judgement*. I have now mapped data from my study relating to the skills that interviewees felt they developed through use of Vx onto the RPS guidance (Table 20). Through this unique mapping I have shown:

- Theoretical pedagogical reasons to support use of Vx as a tool for learning
- Data-driven evidence that Vx is perceived by students to help develop skills necessary to exercise their professional judgement in line with RPS guidance

Consistent use of Vx throughout the MPharm degree appeared to support interviewees in developing the skills needed to exercise their professional judgement in practice, as can be seen from Table 20. Overall, it could be argued that consistent use of Vx had impacted on the way interviewees approached case-based problems in UG years of study. Moreover, interviewees stated that these skills persisted and impacted on how they made decisions in early practice. This was reported by interviewees despite alumni achieving low average moral reasoning scores. Possible reasons for the low scores were discussed in Section 10.1.1, p.224.

Recommendations for improving teaching with Vx

Although all but one interviewee recommended that Vx should continue to be used as a teaching tool in the MPharm degree, specific recommendations were suggested to improve the learning experience. These are listed in Table 21 along with the changes I have implemented since the data collection period of my study:

Table 21 Recommended improvements to ethics teaching using Vx

Recommendation for improvement	Changes implemented
To improve the promotion and instruction of Vx	<ul style="list-style-type: none">• Highlighted the importance of ethical decision-making and its relevance in practice at the beginning of each year• Provided a more detailed introductory session, explaining meaning of individual Vx prompts• Provided short video clips of how to use Vx• Reduced the time gap between introducing Vx to Year 1 students and opening first assessed case• Made practice cases available on Vx
To increase the proportion of Pharmacy-orientated cases	<ul style="list-style-type: none">• Replaced some cases that address major ethical issues (e.g. euthanasia) with Pharmacy-specific cases• Introduced cases that reflected common ('mundane') problems that students were likely to be faced with in practice.
Resolution of cases / opportunities for additional discussion	<ul style="list-style-type: none">• Introduced summary Vx classes face-to-face to discuss and debate each case after discussion boards end – provided resolution where appropriate• In addition to Vx, introduced 'real life' cases in workshops and discussed how they were resolved in practice:<ul style="list-style-type: none">○ Deliberated on students' own cases from practice○ Sessional pharmacists talked through some of their experiences

I have introduced these changes in the hope that students will have a better understanding of the concept of ethical decision-making and see its relevance and importance from the beginning of their studies. Hopefully, by providing a more detailed

introduction, my students will be able to focus on the ethical, professional and legal aspects of each case without being distracted by technological issues or unfamiliar terminology. Previous studies using Vx have found that technological issues have impacted on the learning experience (Robb, Wells and Goodyear-Smith 2012; Tripken 2016; Allinson and Black 2018). Web-based courses have, however, been shown to be effective in teaching ethics, for example, Chao *et al.* (2017) showed that web-based teaching was effective in developing ethical decision-making in nurses, whilst McManus *et al.* (2012) found that accounting students who were taught using a web-based ethics module were more likely to whistle-blow than their peers who were taught in a classroom. Despite the technological problems, therefore, web-based courses have been shown to be a valid method for teaching and learning ethics.

Siegler (2002) recommended the use of real cases in teaching medical ethics to UG medical students to maximise relevance, whilst Holden *et al.* (2014) asked medical students to identify their own cases during clinical placements which they could analyse. Although cases on Vx may not be actual cases that happened, making more of them Pharmacy-specific will hopefully increase engagement, particularly in the early years of study, and mean that the learning is more beneficial to students to prepare them for future practice. The addition of sessional staff talking through their professional dilemmas, and students sharing their own experiences should also help increase the perceived relevance of the teaching.

Additional face-to-face ethical discourse may not only further facilitate students developing their verbal communication skills, but could potentially help students to develop moral courage by practising defending their own views in person and challenging those of their peers. Lachman (2010) identified strong communication skills as being necessary when in situations requiring moral courage, particularly when needing to be assertive and to negotiate within a specific situation. Debating with peers

on ethical issues in the classroom will challenge students to demonstrate both assertiveness and negotiation skills.

Gillam (2012) recommended providing resolution to ethical cases when teaching future healthcare professionals as they will be accountable for their actions and wrong decisions may have dire consequences. Gillam considered it important, therefore, to guide them as to what would be considered acceptable within their professional boundaries, a point also made by Siegler (2002) in medical ethics education. In providing resolution where appropriate, I can help students understand what might constitute 'strong justification'. Although pharmacists may resolve situations in different ways, students still need direction on what might be deemed the best way and what would not be considered acceptable within the profession.

Potential uses of Vx beyond the MPharm degree

Interviewees reported that Vx could have a potential future role in supporting PRTs to further develop their ethical decision-making skills, either to be used during pre-registration study days or as a support platform for trainees to post their own real life cases for discussion. They stated that ECPs might benefit from this too.

There was limited value perceived in using Vx in daily practice, but a few interviewees said that there could possibly be a place for it supporting a multi-disciplinary team discussion in a hospital setting. They stated, however, that it could be used more widely to support training in ethical decision-making, either as an option for continuing professional development as part of the revalidation process (GPhC 2018a) or incorporated into structured training courses such as PG clinical diplomas. For any of this to happen, issues around funding, facilitation and security (based on the use of real (albeit anonymised) data would need to be addressed. Any introduction would

need to be on a trial basis, and fully evaluated, before more widespread use could be recommended.

10.2. Strengths and limitations

The strengths and limitations of each of my two strands of study are addressed separately in the discussion that follows. Consideration is then given to the reflexive nature of my research.

10.2.1. Strengths and limitations of the PEP test

A key strength of using the Professional Ethics in Pharmacy (PEP) test, was the fact that this study was its first application outside of Australia. There has been a considered move to using profession-specific measures as they are thought to be a more accurate representation of moral reasoning (Bebeau and Thoma 1999). My findings, however, have highlighted the difficulty associated with including service-specific scenarios in questionnaires for use in countries of similar, yet still disparate, healthcare systems; Australia has a public Medicare system and the UK has a National Health Service (Smith 2012). It was impossible to tease out whether the very low scores associated with scenario three of the questionnaire was a result of a lack of understanding of the service it referred to, or if it was perhaps due to a more conventional level of moral reasoning within UK participants. In addition, there are no large multiple community pharmacy companies in Australia, so pharmacists in Australia may experience less pressure to abide by company policy than their UK counterparts. From this study, an important finding, therefore, was that either a profession-specific moral reasoning test needs to be validated in the country in which it is being applied, or scenarios should not link to specific services. If the PEP test is to

be used more widely in the UK, this scenario should be replaced with one that poses more of a dilemma across the legal boundaries of the UK healthcare system.

Nevertheless, the PEP test included two cases that could be analysed, and provided trends that warrant further investigation.

The response rate to the questionnaire by alumni was low. Bowling (2002) acknowledged that there is no minimum acceptable response rate, but suggested that a response rate of 75% and above was good. Nulty (2008) when reviewing response rates of teaching evaluation surveys however found response rates as low as 33% in one study, with the majority in the 50 – 60% range, suggesting that a 75% response rate is quite ambitious. Nonetheless, the low response rate of 15% from alumni was a limitation of this study.

Possible reasons for the low response rate included the sensitive nature of the questionnaires relating to attitudes and potential behaviour in practice. In an attempt to address this, confidentiality was assured. Another reason is that the questionnaire may have been considered long and time-consuming to complete but it contained the same number of cases as the shortened form of the Defining Issues Test-2, and, as it was a pre-validated tool, no major amendments could be made to it without compromising its validity.

The fact that a postal questionnaire was chosen over an online version for alumni may have affected response rate, although, as discussed in Chapter 5, Section 5.1.3, p.94, response rates have tended to be higher with paper-based questionnaires than with online surveys (Cho *et al.* 2013). All of the potential respondents should have been computer-literate, however, and may have preferred the convenience of completing a questionnaire online. Of key disappointment was the fact that Keele University did not hold contact information for all alumni, and many contact details may not have been accurate as alumni could have moved location following completion of their pre-

registration year. For this reason emailed reminders were sent in preference to postal reminders as people probably tend to change their email address infrequently.

A low response rate introduced two key problems. Firstly it introduced response bias (Bowling 2002, Oppenheim 1992). There may have been differences between responders and non-responders which might have affected the reliability of the results. For example, students who either particularly enjoyed or disliked ethics, and had strong views either way, may have been more likely to respond, rendering it less representative of the cohort as a whole. Secondly, the small sample size equated to a loss of precision in the results and therefore invalidated any statistical analyses looking at cohort effects among alumni. Response rates among UG students were, however, high enough for statistical analysis, and valid conclusions could be drawn from comparing two student cohorts, and analysing all combined responses.

10.2.2. Strengths and limitations of the in-depth interviews

Major strengths of this study were that it was the first to ascertain views on Vx following consistent long-term use, first to assess its impact on practice, and the depth of exploration to gather views and experiences of Keele alumni in practice. Overall, the views of Vx provided by interviewees in this study broadly reflected findings from both the Initial Study (Allinson and Black 2018) and previously reported studies on Vx following its short-term use (Robb, Wells and Goodyear-Smith 2012, Lees and Godbold 2012, Godbold and Lees 2013, Godbold and Lees 2016, Tripken 2016, McInerney and Lees 2018).

Recruitment was initially low among PRTs. This may have been due to the timing of the request, as interviews were sought in the lead-up to the pre-registration examination. To overcome this, an extended data collection period was applied for,

and interviews were held earlier in the following year (January to March 2015). This enabled the collection of thick, rich data (Geertz 1973), with enough variation and depth to ensure data saturation was achieved with regards views on Vx, which was the primary aim of the research and, therefore, supported the validity of my study (Morse 2015). Interviewees also referred to the professional practice of other pharmacists, for example, pre-registration tutors or locum pharmacists. This 'shadow data' provided further information beyond the number of interviewees in my study (Morse 2015), although this meant that it was limited to the perspectives of the interviewees on what they had observed and how they interpreted it.

10.2.3. Reflexive thoughts on the research

Banister *et al.* (1994) argued that reflexivity was the defining feature of qualitative research. Finlay (2002) reminds us that qualitative researchers influence, or even actively construct, collect, select and interpret data. All of my research, therefore, is a product of my interviewees, myself and our relationship. I acknowledge that a different researcher might, therefore, have found a different narrative but I hope that, by making explicit my impact on the construction of my study, my data collection and my analysis, that the transparency and trustworthiness of my research can be judged. I considered my reflexive approach to my study in Chapter 4, Section 4.2, p.87. I elaborate on this further below.

Morse (2015) identified two sources of researcher bias that could be clarified by a reflexive approach. First, unconscious bias may be in the design of the study, and the questions asked. I encountered difficulty recruiting, and all interviewees were self-selected. Despite this, they varied in gender, age, ethnicity and branch of pharmacy. I also managed to recruit an equal number of PRTs and ECPhs. Furthermore, in a bid to avoid biased questions, my interview schedule was assessed for face validity by an

experienced qualitative researcher (Gray 2018). The second potential source of researcher bias warned by Morse (2015) was the tendency to see what you think you will see. This could result in unfair emphasis of anticipated views in the analysis. To combat this, I actively sought negative cases and compared them with common cases to help reveal differences, and thereby, hopefully, deepen my understanding of the analysis (Morse 2015). This was done in a bid to minimise the risk of researcher bias interfering with or altering my interpretation of the data (Anderson 2010). I also compared each interview with previous interviews across the dataset, ensuring I was treating the data as a whole, rather than a fragmented analysis (Anderson 2010). I applied a stepwise approach in my analysis (Framework Method as described in Chapter 6, Section 6.4, p.125) to help ensure that I presented a balanced view of my findings, and a reflexive approach when interpreting my data, in a bid to better understand my findings.

It is important for me to acknowledge the socially contingent nature of my study, both through interviews and the PEP test. Participant responses on the day were driven by social contingency, therefore potentially affected by many things; for example, interviewees may have been affected by the place and time of the interview, but these were their choice. Some interviews were held in the homes of interviewees, and these tended to last longer, perhaps because the interviewee felt more comfortable in their home surroundings and therefore more willing to speak freely and elaborate. Some interviews were held in noisy cafes and restaurants, so at times the background noise was distracting and affected the flow of the conversation. This may not have been so conducive an environment to discuss sensitive topics. While interviewing, I found myself considering how I might have dealt with each dilemma in turn, and was conscious of the risks interviewees had taken at times in their decision-making. I found myself feeling responsible for their decisions. Were they taking risks because I taught them to do what they thought was right (with justification)? I was careful not to expose

my views through non-verbal communication, but it was an awakening to see the potential impact my teaching might have on my students' professional careers.

The fact that interviews were conducted by myself, a lecturer who taught ethics and led on Vx, introduced both a power dimension and increased the risk of social desirability bias (Bowling 2002). Interviewees may have wanted to give a good impression of themselves, but I am hopeful that the level of openness expressed by them showed this not to be a major concern. Finlay (2002) acknowledges the need to focus on the diverse and shifting positions that are mutually adopted by the researcher and interviewees. Although we had all graduated with Pharmacy degrees, I had many more years of experience, and was older than all my interviewees. The ECPs in general seemed more inclined to talk to me as an equal, whereas many PRTs still seemed to be deferential. In fact, PRT 9 asked my advice on an ongoing issue at her workplace after the interview ended.

Likewise my interpretation of the data was also socially contingent, and I was mindful of this throughout, questioning my own interpretation of it in light of my previous knowledge and views of Vx while aiming to ensure that my voice did not overshadow the interviewees. I collected such rich, deep data that it has been impossible to present everything. I have tried to present what I think were the most important points made by the interviewees, but even this was open to interpretation. Not all interviewees discussed all aspects of the findings I have presented, but I have aimed to provide as complete a picture as possible of the teaching and learning interviewees perceived to have received. I have presented both positive and negative findings, and have interviewed some who had enjoyed learning about ethics and others who had not.

Interviewees presented a very sensitive, careful and caring approach to decision-making in practice. They appeared to be very empathetic and patient-centred, and made me feel very proud of their professional approach in practice. There were a

small number of examples that were questionable; for example, one interviewee did not have the moral courage to speak up and report illegal practices, and another agreed under pressure to falsify in-house MUR records. I would argue that these examples demonstrated the powerful external influences impacting on real life practice. A further example showed that an interviewee did not appear to act in a patient-centred way when faced with a request for medicine (despite claiming that she believed she was patient-centred). This was the only example given in the entire dataset, however, that indicated a willingness to put one's own needs over a patient's need. In this scenario the PRT was choosing to stay within the letter of the law, and could, arguably, be making the correct decision, particularly from a company expectation point of view.

I could sense hesitation among some interviewees, and their attempts at a tactful, diplomatic approach to spare my feelings, but I am hopeful that, nevertheless, through my probing an accurate account of their views at that time has been presented. Views ranged from rating Vx as an excellent tool to believing it had no value whatsoever (and everything in between!). It was reassuring that they felt they could raise negative views about Vx. I am hopeful that I have achieved a balanced view overall, although the fact that some felt the need to justify negative comments suggested that they may have been more diplomatic with me than with an independent researcher. That some interviewees commented on the negative views of other students towards Vx also suggested that selection bias may have occurred; they were implying that there were many other students who did not like Vx. Alternatively, they may have been using them as a vehicle to express their own dislike. What is unknown is how many of these other students might have changed their opinion with hindsight, or how many were complaining about the extra workload implications as opposed to Vx itself. I urged the interviewees to be honest from the start and, as I was no longer their lecturer when I collected the data, they would have had nothing to lose since they would no longer have had a vested interest in completing the MPharm degree. From this, I believe that selection bias is unlikely to have factored strongly and am hopeful that I have

presented a representative viewpoint.

10.3. Implications and recommendations for practice

It is clear from the findings of this study that Vx was seen by the interviewees as a valuable tool in the development of ethical and professional decision-making and on that basis its use should be continued within the Keele MPharm course. From a School viewpoint, teaching using Vx has been discussed at strategy meetings within the Pharmacy Practice Team, and at Undergraduate Course Committee meetings, leading to its incorporation into the Keele University MPharm Teaching, Learning, Assessment and Feedback Policy 2015-2019. Adaptations to enhance the learning experience have already been made in response to interviewees' suggestions as stated in Table 21 (Section 10.1.3, p.247).

Consideration could also be given to the incorporation of Vx into PG teaching and policy. For example, Keele University SoP provides study days for hospital PRTs in the West Midlands so this is a possible avenue for expanding the use of Vx to support further development of professional and ethical decision-making skills in graduates which would not be limited to alumni from Keele University.

Interviewees suggested the wider application of Vx as a tool for CPD, not only in the pre-registration year, but also during the early years of practice. Likewise, opportunities for Vx to be incorporated into PG clinical diploma programmes from Keele could be explored further.

Another finding was the impact of pre-registration tutors on supporting trainees to develop their ethical and professional decision-making skills. Support appeared to vary widely, with some tutors actively discussing cases and challenging trainees, some leading by example without explanation, and a small number of trainees feeling that

they were not challenged in their learning at all. Many examples of negative role-modelling were reported by interviewees who had observed tutors and other pharmacists through working alongside them. This study highlighted a need for tutors to be more pro-active in their approach to supporting their trainees, for example, by explaining their underpinning reasons for professional and ethical decisions and involving trainees in solving them. It may indicate a need for formal training of pre-registration tutors alongside a greater awareness of the importance of role-modelling so that they can respond to the needs expressed in this study.

In my study interviewees appeared to value peer support in continuing to develop and hone their ethical and professional decision-making skills. Organised peer supervision was suggested as an example of good practice that could be replicated across organisations to benefit many PRTs and ECPs. Students should also be encouraged to form their own informal social media-based networks on graduating so that they can continue to support each other in practice. In addition, Keele SoP could provide more formal support on decision-making via use of Vx for recent graduates.

10.4. Further studies

A continuing longitudinal study of the Year 1 cohort of students could be undertaken to identify statistically significant trends in moral reasoning scores. Despite questions being raised regarding its validity in the UK setting, merit could still be gained from using the PEP test to assess moral reasoning in their final year of study, mid to end of pre-registration year, and two years post-qualification. Trends in P scores could be followed, even if the actual P scores cannot be compared with those achieved in Chaar's study (2009). Following the one cohort in a longitudinal study would provide an opportunity to test the hypothesis generated from observing P scores among the small

number of PRTs and ECPs who participated in my research. It would be interesting to see if a dip in P scores is observed during pre-registration year in the larger cohort, which could potentially be linked to a dip in confidence levels, as interviewees highlighted. A longitudinal study comparing the same cohort over time would also eliminate confounding factors that limit this study to be exploratory in nature; causality cannot be proven (Gray 2018). Prior to wider application of the PEP test in the UK, however, I would suggest that a new scenario be developed, and the revised questionnaire revalidated against the DIT-2 test.

Further research into supporting ethical and professional decision-making post-graduation would also be useful. Extended use of Vx introduced to Keele alumni during their pre-registration year could be evaluated. Likewise, any introduction of Vx into a PG clinical diploma course. It would be interesting to compare views of Vx among Keele alumni enrolled on the course and other PG students who had no previous experience of the tool.

Some interviewees suggested a possible role for Vx in multi-disciplinary team meetings in hospital practice. This could be undertaken in a single Hospital Trust in the first instance and evaluated. If Vx was to be considered as a tool for CPD, as also suggested by interviewees, a feasibility study would need to be undertaken regarding issues such as training, costs and staffing required to facilitate it.

Guidance on pre-registration tutoring was published by the GPhC in 2014 (revised 2018) which emphasised the importance of good role-modelling (GPhC 2014, 2018b). There does not appear to be any formal GPhC training available to pre-registration tutors currently regarding supporting trainees in professional and ethical decision-making. A module could potentially be developed to support tutors, and consequently evaluated, with views from trainees on pre-registration tutoring sought before and after the training. It might also be useful to measure the moral reasoning skills of pre-

registration tutors to see how they compare with PRTs before any module is developed.

CHAPTER 11: CONCLUSIONS

In my study I aimed to explore the effectiveness of Vx, an online decision-transparency tool, in facilitating pharmacy students' learning and development in professional ethics and decision-making. I also sought to identify any further potential use of Vx by pharmacy graduates. This study was unique since no previous research has addressed the impact of long-term use of Vx during UG education on practice. In addition, this study included the first-time use of a pre-validated pharmacy-specific moral reasoning tool (PEP test) outside Australia.

Keele PRTs and ECPs showed an ethical awareness in practice, and an ability to make decisions on ethical and professional dilemmas. They appeared to understand what was expected of them as pharmacy professionals, demonstrating empathy and a willingness to put patients first in their decision-making, even if this meant breaking the law occasionally when justified. They acknowledged the influence of personal and professional values, and workplace constraints which created dilemmas for them. ECPs tended to be more confident in their decision-making than PRTs, as confidence grew with experience.

Despite the PEP test not entirely translating in the UK healthcare system, and a low response rate from alumni, an interesting trend in P scores (a measure of higher principled thinking) was observed. Although not statistically significant, scores increased from Year 1 to Year 4, then dropped in PRTs, increasing again in ECPs (but still to below that of Year 1 students). The drop in average P score observed in PRTs and ECPs could, theoretically, represent the dip in confidence experienced in practice, due to the pressures and constraints of making decisions in the real world. It may be that PRTs do not lose the ability to reason ethically, but make different choices based on their influences and concerns in practice. This suggests that more should be done during UG education, pre-registration training and in early years of practice to

support the development of moral courage so that PRTs and ECPs have the confidence to make, and also act on, ethical and professional decisions.

Vx appears to help MPharm students prepare for facing ethical dilemmas in practice but cannot replace real world experience. Interviewees continued to learn during their pre-registration year and early practice through interactions with their pre-registration tutors and other pharmacists and staff, and also through supporting each other, for example, through social media networks. Positive role models were valued but they also learned how not to behave from negative role models. Findings suggested a need for further training of pre-registration tutors so that they can best support their PRTs, as well as more widespread adoption of peer supervision.

The study has provided a pedagogical underpinning for Vx which has been mapped to Vx activities and to the RPS guidance, *Exercising professional judgement* (2018) model of decision-making. This is a unique output that provides both theoretical pedagogical reasons and also data-driven evidence to support the use of Vx as a teaching tool to help MPharm students develop the skills to make professional decisions in practice.

A number of suggestions to improve the student experience of using Vx emerged and have been implemented. A possible role for Vx in CPD and training was identified, but with the exception of its incorporation into multi-disciplinary team meetings in hospital practice, its use in professional practice was perceived as limited.

REFERENCES

- Aksu, H (2013). *Customer Service: the new proactive marketing*. Huff Post. Available at: https://www.huffingtonpost.com/hulya-aksu/customer-service-the-new-b_2827889.html?guccounter=1 [Accessed 27 Oct 2018].
- Allinson MD and Black P. (2018) Students views of an online decision-support tool, *Currents in Pharmacy Teaching and Learning*, 10(2), pp. 226-230.
- Anderson C. (2010) Presenting and evaluating qualitative research, *American Journal of Pharmaceutical Education*, 74(8), article 141, pp. 1-7.
- Anderson LW *et al.* (2001) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's*. Harlow, Essex: Pearson Education Ltd.
- Anon. (2012) Moral courage. *Ethics Matters*, 78, pp. 1-3.
- Anon. (2018) New dispensing error decriminalisation legislation due by April 2018, *Pharmaceutical Journal*, 19 Feb 2018. Available at: <https://www.pharmaceutical-journal.com/news-and-analysis/news-in-brief/new-dispensing-error-decriminalisation-legislation-due-by-april-2018/20204412.article> [Accessed 27 Oct 2018].
- Appelbe GE, Wingfield J and Taylor LM. (2002) *Practical Exercises in Pharmacy Law and Ethics*. London: Pharmaceutical Press.
- Arawi T. (2010) Using medical drama to teach biomedical ethics to medical students, *Medical Teacher*, 32(5), pp. e205-210.
- Astbury JL, Gallagher CT and O'Neill RC. (2014) *Development of a tool to measure moral distress in community pharmacists*. Pharmacy Research UK. Available at: <http://pharmacyresearchuk.org/wp-content/uploads/2014/01/PRUK-Report-Moral-Distress-R1.pdf> [Accessed 27 Oct 2018].
- Astbury JL, Gallagher CT and O'Neill RC. (2015). The issue of moral distress in community pharmacy practice: background and research agenda, *International Journal of Pharmacy Practice*, 23, pp. 361-366.
- Austin W. (2007) The ethics of everyday practice. Healthcare environments as moral communities, *Advances in Nursing Science*, 30(1), pp. 81-88.
- Baernstein A, Amies Oelschlagel AME, Chang TA and Wenrich MD. (2009) Learning professionalism: perspectives of pre-clinical medical students, *Academic Medicine*, 84, pp. 574-581.
- Bandura A. (1982) Self-efficacy mechanisms in human agency, *American Psychologist*, 37, pp. 122-147.
- Banister P, Burman E, Parker I, Taylor M and Tindall C. (1994) *Qualitative Methods in Psychology: A Research Guide*. Buckingham: Open University Press.
- Bauman Z. (1993) *Postmodern Ethics*. Malden: Blackwell.

BBC news. (2017) 'Wrong pills' pharmacist suspended after woman's death. Available at: <http://www.bbc.co.uk/news/uk-northern-ireland-41512452> [Accessed 27 Oct 2018].

Beauchamp TL and Childress JF. (2009) *Principles of Biomedical Ethics*. 6th edn. New York: Oxford University Press.

Bebeau MJ, Born DO and Ozar DT. (1993) The development of a professional role orientation inventory, *Journal of the American College of Dentists*, 60, pp. 27-33.

Bebeau MJ. (2002) The Defining Issues Test and the Four Component Model: contributions to professional education, *Journal of Moral Education*, 31(3), pp. 271-295.

Bebeau MJ and Thoma SJ. (1994) The impact of a dental ethics curriculum on moral reasoning, *Journal of Dental Education*, 58, pp. 684-692.

Bebeau MJ and Thoma SJ. (1999) "Intermediate" concepts and the connection to moral education, *Educational Psychology Review*, 11, pp. 343-360.

Bell CR and Margolis FH. (1978) Blending didactic and experiential learning methods, *Training and Development Journal*, Aug, pp. 16-21.

Benson A, Cribb A and Barber N. (2009) Understanding pharmacists' values: A qualitative study of ideals and dilemmas in UK pharmacy practice, *Social Science and Medicine*, 68, pp. 2223-2230.

Bertolami CN. (2004) Why our ethics curricula don't work, *Journal of Dental Education*, 68(4), pp. 414-25.

Bickhoff L, Sinclair PM and Levett-Jones T. (2017) Moral courage in undergraduate nursing students: A literature review, *Collegian*, 24, pp. 71-83.

Biggs J and Tang C. (2011) *Teaching for Quality Learning at University*. 4th edn. Berkshire: SHRE/Open University Press.

Blasi A. (1980) Bridging moral cognition and moral action: a critical review of the literature, *Psychological Bulletin*, 88(1), pp. 1-45.

Booth ML, Bernard D, Quine S, Kang MS, Usherwood T, Aperstein G and Bennett DL. (2004) Access to health care among Australian adolescents: young people's perspectives and their sociodemographic distribution, *Journal of Adolescent Health*, 34, pp. 97-103.

Boud D, Keogh R and Walker D. (eds) (1985) *Reflection: Turning Experience into Learning*. London: Kogan Page.

Boud D and Middleton H. (2003) Learning from others at work: communities of practice and informal learning, *Journal of Workplace Learning*, 15(5), pp. 194-202.

Bowden P and Smythe V. (2008) Theories on teaching and training in ethics, *Electronic Journal of Business Ethics and Organization Studies*, 13(2), pp. 19-26.

Bowling A. (2002) *Research Methods in Health. Investigating Health and Health Sciences*. 2nd edn. Buckingham: Open University Press.

Braun V and Clarke V. (2013) *Successful qualitative research: a practical guide for beginners*. London: Sage.

- Brinkman S and Kvale S. (2015) *InterViews: Learning the Craft of Qualitative Research Interviewing*. 3rd ed. Los Angeles: Sage.
- Bruner JS. (1966) *Toward a Theory of Instruction*. Cambridge, MA: Harvard University Press.
- Bryman A. (2016) *Social Research Methods*. 5th edn. New York: Oxford University Press.
- Buerki RA and Vottero LD. (2013) *Pharmacy Ethics: A Foundation for Professional Practice*. Washington DC: American Pharmacists Association.
- Burston AS and Tuckett AG. (2013) Moral distress in nursing: contributing factors, outcomes and interventions, *Nursing Ethics*, 20, pp. 312–324.
- Campbell AV, Chin J and Voo TC. (2007) How can we know that ethics education produces ethical doctors? *Medical Teacher*, 29(5), 431–436.
- Carr W and Kemmis S. (1986) *Becoming Critical: Education, Knowledge and Action Research*. London: The Falmer Press.
- Caterinicchio RP. (1979) Testing plausible path models of interpersonal trust in patient-physician treatment relationships, *Social Science and Medicine*, 13, pp. 81–99.
- Chaar B, Brien J and Krass I. (2005) Professional ethics in pharmacy: the Australian experience, *International Journal of Pharmacy Practice*, 13, pp. 195–204.
- Chaar, B. (2008) *Professional Ethics in Pharmacy*, PhD, University of Sydney, New South Wales.
- Chaar BB. (2009) Professional ethics in pharmacy practice: developing a psychometric measure of moral reasoning, *Pharmacy World and Science*, 31, pp. 439–449.
- Chao S-Y, Chang Y-C, Yang SC and Clark MJ. (2017) Development, implementation, and effects of an integrated web-based teaching model in a nursing ethics course, *Nurse Education Today*, 55, pp. 31–37.
- Charmaz K. (2006) *Constructing grounded theory. A practical guide through qualitative analysis*. London: Sage.
- Charon R, Banks JT, Connelly JE, Hawkins AH, Hunter KM, Jones AH, Montello M and Poirer S. (1995) Literature and medicine: contributions to clinical practice, *Annals of Internal Medicine*, 122, pp. 599–606.
- Chin J (Editor-in-Chief) (2017) *Caring for Older People in an Aging Society: a Singapore Bioethics Casebook, Volume II*. Singapore: Centre for Biomedical Ethics, National University of Singapore. Available at: <http://www.bioethicscasebook.sg/> [Accessed 27 Oct 2018].
- Cho YI, Johnson TP and VanGeest JB. (2013) Enhancing surveys of health care professionals: a meta-analysis of techniques to improve response, *Evaluation and the Health Professions*, 36(3), pp. 382–407.
- Chung EK, Rhee JA, Baik IH and A OS. (2009) The effect of team-based learning in medical ethics education, *Medical Teacher*, 31, pp. 1013–1017.

Clance PR and Imes SA. (1978) The imposter phenomenon in high achieving women: Dynamics and therapeutic interventions, *Psychotherapy: Theory, Research and Practice*, 15, 241–247.

Cohen S. (2004) *The Nature of Moral Reasoning*. Melbourne, Australia: Oxford University Press.

Coles C. (2002) Developing professional judgement, *The Journal of Continuing Education in the Health Professions*, 22, pp. 3-10.

Collins D, Weber J and Zambrano R. (2014) Teaching business ethics online: perspectives on course design, delivery, student engagement, and assessment, *Journal of Business Ethics*, 125, pp. 513-529.

Conroy SJ and Emerson TLN. (2004) Business ethics and religion: Religiosity as a predictor of ethical awareness among students, *Journal of Business Ethics*, 50(4), pp. 383-396.

Consensus Statement by teachers of medical ethics and law in UK medical schools. (1998) Teaching medical ethics and law within medical schools: a model for the UK core curriculum, *Journal of Medical Ethics*, 24, pp. 188–192.

Cooper RJ, Bissell P and Wingfield J. (2007) Dilemmas in dispensing, problems in practice? Ethical issues and law in UK community pharmacy, *Clinical Ethics*, 2, pp. 103-108.

Cooper RJ, Bissell P and Wingfield J. (2008) Ethical decision-making, passivity and pharmacy, *Journal of Medical Ethics*, 34, pp. 441-445.

Cooper RJ, Bissell P and Wingfield J. (2009) 'Islands' and 'doctor's tool': the ethical significance of isolation and subordination in UK community pharmacy, *Health*, 13(3), pp. 297-316.

Coulehan JL, Platt FW, Egner B, Frankel R, Lin C-T, Lown B and Salazar WH. (2001) "Let me see if I have this right. ...": words that build empathy, *Annals of Internal Medicine*, 135, pp. 221–227.

Creswell JW and Creswell JD. (2018) *Research design. Qualitative, quantitative and mixed methods approaches*. 5th edn. London: Sage.

Cribb A and Barber N. (2000) *Developing pharmacy values: stimulating the debate. A discussion paper*. London: Royal Pharmaceutical Society of Great Britain, pp. 1-28.

DasGupta S and Charon R. (2004) Personal illness narratives: Using reflective writing to teach empathy, *Academic Medicine*, 79(4), pp. 351-356.

Davis DS. (1991) Rich cases: the ethics of thick description, *Hastings Center Report*, 21, pp. 12-17.

Davis B, Sumara D and Luce-Kapler R. (2000) *Engaging minds: Learning and teaching in a complex world*. Mahwah, NJ: Lawrence Erlbaum.

Dean KL and Beggs JM. (2006) University professors and teaching ethics: conceptualizations and expectations, *Journal of Management Education*, 30(1), pp. 15-44.

Deans Z. (2010) *Ethics in Pharmacy Practice*. London: Pharmacy Practice Research Trust.

Deans Z. (2013) Conscientious objections in pharmacy practice in Great Britain, *Bioethics*, 27(1), pp. 48–57.

Deans Z and Dawson A. (2005) Why the Royal Pharmaceutical Society's Code of Ethics is due for review, *The Pharmaceutical Journal*, 275, pp. 445-446.

Denzin N. (1997) *Interpretative ethnography: Ethnographic practices for the 21st century*. Thousand Oakes, CA: Sage.

Denzin NK and Lincoln YS. (2018) *The SAGE Handbook of Qualitative Research*. 5th edn. Los Angeles: Sage.

Department of Health. (2008) *Pharmacy in England- Building on strengths, delivering the future*. London: The Stationary Office. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228858/7341.pdf [Accessed 27 Oct 2018].

Department of Health. (2010). *Personalisation through Person-Centred Planning*. London: Crown. Available at http://webarchive.nationalarchives.gov.uk/20130123201648/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_115175 [Accessed 27 Oct 2018].

Department of Health. (2012) *Compassion in Practice: Nursing, Midwifery and Care Staff—Our Vision and Strategy*. Available at: <https://www.england.nhs.uk/wp-content/uploads/2012/12/compassion-in-practice.pdf> [Accessed 27 Oct 2018].

Dolinsky D and Gottlieb J. (1986) Moral dilemmas in pharmacy practice, *American Journal of Pharmaceutical Education*, 50, pp. 56-59.

Drake P. (2010) Grasping at methodological understanding: a cautionary tale from insider research, *International Journal of Research and Method in Education*, 33(1), pp. 85-99.

Drake P and Heath L. (2011) *Practitioner research at doctoral level: Developing coherent research methodologies*. New York, NY: Routledge.

Dreyfus HL and Dreyfus SE. (1986) *Mind over machine: The power of human intuition and expertise in the era of the computer*. Oxford: Blackwell.

Edmonson C. (2010) Moral Courage and the Nurse Leader. *The Online Journal of Issues in Nursing*, 15(3), Manuscript 5.

Elvey R, Hassell K, Lewis P, Schafheutle E and Willis S. (2015) Patient-centred professionalism in pharmacy: values and behaviours, *Journal of Health Organization and Management*, 29(3), pp. 413-30.

Elvey R, Lewis P, Schafheutle E, Willis S, Harrison S and Hassell K. (2011) *Patient-centred professionalism among newly registered pharmacists*. London: Pharmacy Practice Research Trust.

Ethical dilemma. (n.d.) In *Oxford English Dictionary* [online] Oxford: Oxford University Press. Available at: https://en.oxforddictionaries.com/definition/ethical_dilemma [Accessed 27 Oct 2018].

- Field A. (2013) *Discovering Statistics Using IBM SPSS Statistics*. 4th edn. London: Sage.
- Finlay L. (2002) Negotiating the swamp: the opportunity and challenge of reflexivity in research practice, *Qualitative Research*, 2(2), pp. 209-230.
- Fish D and Coles C. (1998) *Developing professional judgement in health care: learning through the critical appreciation of practice*. Oxford: Butterworth-Heinemann.
- FitzGerald K, Seale S, Kerins CA and McElvaney R. (2008) The Critical Incident Technique: A Useful Tool for Conducting Qualitative Research, *Journal of Dental Education*, 72(3), pp. 299-304.
- Flanagan JC. (1954) The critical incident technique, *Psychological Bulletin*, 51(4), pp. 327-358.
- Flick U. (2014) *An introduction to qualitative research*. Los Angeles: Sage.
- Frankel GEC and Austin Z. (2013) Responsibility and confidence: identifying barriers to advanced pharmacy practice, *Canadian Pharmacists Journal*, 146, pp. 155-161.
- Freire P. (1996) *Pedagogy of the Oppressed*. London: Penguin Books.
- Fulford KWM. (2004) Ten Principles of Values-Based Medicine. Chapter 14 in J Radden (ed.) *The Philosophy of Psychiatry: A Companion*. New York: Oxford University Press.
- Gale NK, Heath G, Cameron E, Rashid S and Redwood S. (2013) Using the framework method for the analysis of qualitative data in multi-disciplinary health research, *BMC Medical Research Methodology*, 13, pp. 117-24.
- Gallagher A. (2011) Moral Distress and Moral Courage in Everyday Nursing Practice, *Online Journal of Issues in Nursing*, Kent 16(2), pp. 1-8. Available at: <https://search.proquest.com/openview/5cc064b115db6db1505b3c2050c2251b/1?pq-origsite=gscholar&cbl=43860> [Accessed 27 Oct 2018].
- Gallagher CT. (2011a) Assessment of levels of moral reasoning in Pharmacy students at different stages of the undergraduate curriculum, *International Journal of Pharmacy Practice*, 19, pp. 374-380.
- Gallagher CT. (2011b) Building on Bloom: a paradigm for teaching pharmacy law and ethics from the UK, *Currents in Pharmacy Teaching and Learning*, 3, pp. 71-76.
- General Medical Council. Revalidation [online]. Available at: <https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation> Accessed [27 Oct 2018].
- General Pharmaceutical Council. (2010) *Code of conduct for pharmacy students*.
- General Pharmaceutical Council. (2011) *Future pharmacists. Standards for the initial education and training of pharmacists*. Available at: https://www.pharmacyregulation.org/sites/default/files/document/gphc_future_pharmacists_may_2011.pdf [Accessed 27 Oct 2018].
- General Pharmaceutical Council. (2012) *Standards of conduct, ethics and performance*.

General Pharmaceutical Council. (2014) *Guidance on tutoring for pharmacists and pharmacy technicians*.

General Pharmaceutical Council. (2017a) *Standards for Pharmacy Professionals*. Available at: https://www.pharmacyregulation.org/sites/default/files/standards_for_pharmacy_professionals_may_2017_0.pdf [Accessed 27 Oct 2018].

General Pharmaceutical Council. (2017b) *In practice: Guidance on raising concerns*. Available at: https://www.pharmacyregulation.org/sites/default/files/in_practice-guidance_on_raising_concerns_may_2017.pdf [Accessed 27 Oct 2018].

General Pharmaceutical Council. (2018a) *Revalidation at a glance*. Available at: <https://www.pharmacyregulation.org/revalidation-glance> [Accessed 27 Oct 2018].

General Pharmaceutical Council. (2018b) *Guidance on tutoring for pharmacist pre-registration tutors*. Available at: https://www.pharmacyregulation.org/sites/default/files/document/guidance_on_tutoring_for_pharmacist_pre-registration_tutors_august_2018.pdf [Accessed 27 Oct 2018].

General Pharmaceutical Council. (2018c) *Pre-registration Manual*. Available at: <https://www.pharmacyregulation.org/preregmanual> [Accessed 27 Oct 2018].

General Pharmaceutical Council. (2018d) *Pre-registration manual: Pharmacist Pre-registration, tutor development resource*. Available at: https://www.pharmacyregulation.org/sites/default/files/document/pharmacist_pre-registration_tutor_development_resource_2017-18.pdf [Accessed 27 Oct 2018].

Georgiou I, Zahn C and Meira BJ. (2008) A systemic framework for case-based classroom experiential learning, *Systems Research and Behavioral Science*, 25, pp. 807-819.

Geertz C. (1973) Thick Description: Toward an Interpretive Theory of Culture. In *The Interpretation of Cultures: Selected Essays*. New York: Basic Books, pp. 3-30.

Ghaye T and Lillyman S. (2010) *Reflection: Principles and Practices for Healthcare Professionals*. 2nd edn. London: MA Healthcare.

Gielan UP and Markoulis DC. (1994) Preference for principled moral reasoning: A developmental and cross-cultural perspective. In LL Adler and UP Gielen, eds. *Cross-cultural topics in psychology*. Westport, CT: Greenwood, pp. 73-87.

Gillam L. (2012). Teaching ethics in the health professions. In H Kuhse and P Singer (eds.) *A Companion to Bioethics*, 2nd edn. Chichester, West Sussex: Wiley-Blackwell, pp. 584-593.

Gilligan C. (1982) *In a Different Voice: Psychological Theory and Women's Development*. Cambridge: Harvard University Press.

Godbold R and Lees A. (2013) Ethics education for health professionals: a values based approach, *Nurse Education in Practice*, 13, pp. 553-560.

Godbold R and Lees A. (2016) Facilitating values awareness through the education of health professionals: can web based decision making technology help? *Nurse Education in Practice*, 17, pp. 193-199.

- Goethals S, Gastmans C and Dierckx de Casterle B. (2010) Nurses' ethical reasoning and behaviour: A literature review, *International Journal of Nursing Studies*, 47, pp. 635-650.
- Gokhale AA. (1995) Collaborative learning enhances critical thinking, *Journal of Technology Education*, 7(1), pp. 22-30.
- Goldie J, Schwartz L, McConnachie A and Morrison J. (2004) The impact of a modern medical curriculum on students' proposed behaviour on meeting ethical dilemmas, *Medical Education*, 38, pp. 942-949.
- Gracia D. (2003) Ethical case deliberation and decision making, *Medicine, Healthcare and Philosophy*, 6, pp. 227-233.
- Gray DE. (2018) *Doing Research in the Real World*. 4th edn. London: Sage.
- Greenhalgh T and Wieringa S. (2011) Is it time to drop the 'knowledge translation' metaphor? A critical literature review, *Journal of the Royal Society of Medicine*, 104, pp. 501–509.
- Guba EG and Lincoln YS. (1989) *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Guba EG and Lincoln YS. (1994) 'Competing paradigms in qualitative research,' in NK Denzin and YS Lincoln (eds.) *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage.
- Guba E and Lincoln YS. (2005) Paradigmatic controversies and emerging confluences. In NK Denzin and YS Lincoln (eds.) *The SAGE handbook of qualitative research*, 3rd edn, Thousand Oaks, CA: Sage, pp. 191-216.
- Guy M. (1990) *Ethical Decision Making in Everyday Work Situations*. New York: Quorum Books.
- Gwozdek AE, Klausner CP and Kerschbaum WE. (2008) The utilization of computer mediated communication for case study collaboration, *Journal of Dental Hygiene*, 82(1), pp. 1-10.
- Habermas J. (1990) *Moral Consciousness and Communicative Action*. Cambridge, Massachusetts: The MIT Press.
- Hadad AM. (1991) Ethical problems in pharmacy practice: a survey of difficulty and incidence, *American Journal of Pharmaceutical Education*, 55(1), pp. 1-6.
- Hammer D. (2006) Improving student professionalism during experiential learning. *American Journal of Pharmaceutical Education*, 70 (3), Article 59.
- Hanna L-A, Barry J, Donnelly R, Hughes F, Jones D, Laverty G, Parsons C and Ryan C. (2014) Using debate to teach pharmacy students about ethical issues. *American Journal of Pharmaceutical Education*, 78(3), Article 57.
- Hanna L-A, Gillen J, and Hall M. (2017) An investigation of final year Pharmacy students' moral reasoning ability, and their views on professionalism and fitness to practice panel determinations: a questionnaire study. *Currents in Pharmacy Teaching and Learning*, 9(4), pp. 652–659.

- Harasym PH, Tsai TC and Munshi FM. (2013) Is problem-based learning an ideal format for developing ethical decision skills? *Kaohsiung Journal of Medical Sciences*, 29, pp. 523-529.
- Harvard Business School. (2018) *The HBS case method*. Available at: <https://www.hbs.edu/mba/academic-experience/Pages/the-hbs-case-method.aspx> [Accessed 27 Oct 2018].
- Hasan S. (2011) Teaching ethics to Pharmacy students using a team-based learning approach, *Pharmacy Education*, 11 (1) pp. 99–106.
- Hibbert D, Rees J and Smith I. (2000) Ethical awareness of community pharmacists, *International Journal of Pharmacy Practice*, 8, pp. 82-87.
- Hochberg MS, Kalet A, Zabar S, Kachur E, Gillespie C and Berman RS. (2010) Can professionalism be taught? Encouraging evidence. *The American Journal of Surgery*, 199(1), pp. 86-93.
- Holden BJ, Burnett AH and Vivekananda-Schmidt P. (2014) Case-based learning: integrating medical ethics and law into clinical practice, *Education for Primary Care*, 25(5), pp. 283-287.
- Holloway S. (2000) Values and the practice of pharmacy, *Pharmaceutical Journal*, 265, pp. 308-312.
- Horowitz CR, Suchman AL, Branch WT and Frankel RM. (2003) What do doctors find meaningful about their work? *Annals of Internal Medicine*, 138, pp. 772–775.
- Hopkins L, Saciragic L, Kim J and Posner G. (2016) The hidden curriculum. Exposing the unintended lessons of medical education, *Cureus*, 8(10), e845.
- Houston S, Casanova MA, Leveille M, Schmidt KL, Barnes SA, Trungale KR and Fine RL. (2013) The intensity and frequency of moral distress among different healthcare disciplines. *Journal of Clinical Ethics*, 24, pp. 98–112.
- Hren D, Marusic M and Marusic A. (2011) Regression of moral reasoning during medical education: combined design study to evaluate the effect of clinical study years. *PLoS ONE* 6(3): e17406.
- Hu YY, Fix ML, Hevelone ND, Lipsitz SR, Greenberg CC, Weissman JS and Shapiro J. (2012) Physician's needs in coping with emotional stressors, *Archives of Surgery*, 147(3), pp. 212-217.
- Hunt C and Sampson F. (2006) *Writing: self and reflexivity*. Basingstoke: Palgrave Macmillan.
- Huxtable R. (2013) For and against the four principles of biomedical ethics, *Clinical Ethics*, 8(2/3), pp. 39-43.
- Jacobs S, Hassell K and Johnson S. (2013) *Managing workplace stress to enhance safer practice in community pharmacy: a scoping study. Final report*. Available at: <http://pharmacyresearchuk.org/wp-content/uploads/2013/07/Final-report-FINAL.pdf> [Accessed 27 Oct 2018].
- Jacobs S, Johnson S and Hassell K. (2018) Managing workplace stress in community pharmacy organisations: lessons from a review of the wider stress management and prevention literature, *International Journal of Pharmacy Practice*, 26, pp. 28-38.

- Jameton A. (1984) *Nursing Practice the Ethical Issues*. New Jersey: Prentice Hall Inc.
- Jee SD, Schafheutle EI and Noyce PR. (2016) Exploring the process of professional socialisation and development during pharmacy pre-registration training in England. *International Journal of Pharmacy Practice*, 24, pp. 283-293.
- John D and Reissner D. (2013) Professional conduct. In GE Appelbe and J Wingfield (eds.) *Dale and Appelbe's Pharmacy and Medicines Law*, 10th edn. London: Pharmaceutical Press, pp. 325-343.
- Jordan K, Croft P and Ong BN. (1998) *Mastering statistics: a guide for health service professionals and researchers*. Cheltenham: Stanley Thornes.
- Jubraj B, Barnett NL, Grimes L, Varia S, Chater A and Auyeung V. (2016) Why we should understand the patient experience: clinical empathy and medicines optimisation, *International Journal of Pharmacy Practice*, 24, pp. 367-370.
- Kalvemark S, Hoglund AT, Hansson MG, Westerholm P and Arnetz B. (2004) Living with conflicts-ethical dilemmas and moral distress in the health care system. *Social Science and Medicine*, 58, pp. 1075-1084.
- Kalvemark Sporrang S, Hoglund AT, Hansson MG, Westerholm P and Arnetz B. (2005) "We are white coats whirling round" – moral distress in Swedish pharmacies, *Pharmacy World and Science*, 27, pp. 223-229.
- Kalvemark Sporrang S, Hoglund AT and Arnetz B. (2006) Measuring moral distress in pharmacy and clinical practice, *Nursing Ethics*, 13(4), pp. 416-427.
- Kemmis S and Smith T. (2010) Praxis development: learning through experience. In: Kemmis S, Smith T (eds.) *Enabling Praxis: Challenges for education*. Rotterdam: Sense.
- Knights D and Clarke CA. (2013) It's a bittersweet symphony, this life: Fragile academic selves and insecure identities at work, *Organization Studies*, 35(3), pp. 335–357.
- Kohlberg L. (1969) Stage and sequence: The cognitive developmental approach to socialization. In D. A. Goslin, (ed.) *Handbook of socialization theory and research*. Chicago: Rand McNally.
- Kolb DA. (1984) *Experiential Learning*. Englewood Cliffs, NJ: Prentice-Hall.
- Krichbaum K, Rowan M, Duckett, L, Ryden MB and Savik K. (1994) The clinical evaluation tool: A measure of the quality of clinical performance of baccalaureate nursing students, *Journal of Nursing Education*, 33(9), pp. 395-404.
- Kritek PB. (2017) Reflections on moral courage, *Nursing Science Quarterly*, 30(3), pp. 218-222.
- Krishnasamy M. (1999) Nursing, morality, and emotions: phase I and phase II clinical trials and patients with cancer, *Cancer Nursing*, 22, pp. 251–259.
- Krueger RA. (1994) *Focus Groups. A Practical Guide for Applied Research*. 2nd edn. London: Sage.

Kuhse H and Singer P. (eds.) (2012) *A Companion to Bioethics*, 2nd edn. Chichester, West Sussex: Wiley-Blackwell.

Lachman VD. (2010) Strategies Necessary for Moral Courage. *The Online Journal of Issues in Nursing*, 15(3), Manuscript 3. Available at: <http://ojin.nursingworld.org/MainMenuCategories/EthicsStandards/Resources/Courage-and-Distress/Strategies-and-Moral-Courage.html> [Accessed 27 Oct 2018].

Langley C and Aheer S. (2010) Do pharmacy graduates possess the necessary pharmacy skills? *Pharmacy Education*, 10(2) pp. 114-118.

Latif DA and Berger B. (1997) Moral reasoning in pharmacy students and community pharmacists, *Journal of Social and Administrative Pharmacy*, 14, pp. 166–179.

Latif DA, Berger B, Harris S, Barker KN, Felkey BG and Pearson RE. (1998) The relationship between community pharmacists' moral reasoning and components of clinical performance, *Journal of Social and Administrative Pharmacy*, 15, pp. 210–224.

Latif DA. (2000a) Ethical cognition and selection-socialization in retail pharmacy, *Journal of Business Ethics*, 25, pp. 343-357.

Latif DA. (2000b) The relationship between ethical dilemma discussion and moral development, *American Journal of Pharmaceutical Education*, 64 (Summer), pp. 126-133.

Latif DA. (2004) An assessment of the ethical reasoning of United States Pharmacy students: a national study, *American Journal of Pharmaceutical Education*, 68(2), article 30.

Latif DA. (2009) The influence of pharmacy education on students' moral development at a school of pharmacy in the USA, *International Journal of Pharmacy Practice*, 17, pp. 359-363.

Lave J and Wenger E. (1991) *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.

Lee N-J. (2009) Professional doctoral supervision: Exploring student and supervisor experiences, *Nurse Education Today*, 29(6), pp. 641-648.

Lees AB and Godbold R. (2012) To tell or not to tell? Physiotherapy students' responses to breaking patient confidentiality, *New Zealand Journal of Physiotherapy*, 40(2), pp. 59-63.

Lincoln YS and Guba EG. (1985) *Naturalistic Inquiry*. Newbury Park, California: Sage.
Lowenthal W. (1988) Ethical dilemmas in pharmacy, *Journal of Medical Ethics*, 14, pp. 31-34.

Maeda Y, Bebeau MJ and Thoma SJ. (2009) Understanding the relationship between moral judgment development and individual characteristics: The role of educational contexts, *Journal of Educational Psychology*, 101 (1), pp. 233-247.

Magelssen M. (2011) When should conscientious objection be accepted? *Journal of Medical Ethics*, 38(1), pp. 18-21.

Magola E, Willis SC and Schafheutle EI. (2018) What can community pharmacy learn from the experiences of transition to practice for novice doctors and nurses? A narrative review, *International Journal of Pharmacy Practice*, 26, pp. 4-15.

- Mahood SC. (2011) Medical education. Beware the hidden curriculum, *Canadian Family Physician*, 57, pp. 983-985.
- Manson HM. (2012) The development of the CoRE-Values framework as an aid to ethical decision-making. *Medical Teacher*, 34, pp. e258-268.
- Martinez W, Bell SK, Etchegaray JM and Lehmann LS. (2016) Measuring Moral Courage for Interns and Residents: Scale Development and Initial Psychometrics. *Academic Medicine*, 91(10), pp. 1431-1438.
- Marton F and Säljö R. (1976a) On qualitative differences in learning-I: outcome and process, *British Journal of Educational Psychology*, 46, pp. 4-11.
- Marton F and Säljö R. (1976b) On qualitative differences in learning-II: outcome as a function of the learner's conception of the task, *British Journal of Educational Psychology*, 46, pp. 115-127.
- May WW. (ed,) (1990) *Ethics in the Accounting Curriculum: Cases and Readings*. Sarasota, Florida: American Accounting Association.
- Mays N and Pope C. (1995) Observational methods in health care settings, *British Medical Journal*, 311, pp. 182-184.
- McGartland M and Polgar S. (1994) Paradigm collapse in psychology: the necessity for a 'two methods' approach, *Australian Psychologist*, 29(1), pp. 21-28.
- McInerney J and Lees A. (2018) Values exchange: using online technology to raise awareness of values and ethics in radiography education, *Journal of Medical Radiation Sciences*, 65(1), pp. 13-21.
- McManus L, Subramaniam M and James W. (2012) A comparative study of the effect of web-based versus in-class textbook ethics instruction on accounting students' propensity to whistle-blow, *Journal of Education for Business*, 87, pp. 333-342.
- McNair R, Griffiths L, Reid K and Sloan H. (2016) Medical students developing confidence and patient centeredness in diverse clinical settings: a longitudinal survey study, *BMC Medical Education*, 16(176), pp. 1-8.
- Miller WR, Benefield RG and Tonigan JS. (1993) Enhancing motivation for change in problem drinking: a controlled comparison of two therapist styles, *Journal of Consulting and Clinical Psychology*, 61, pp. 455-461.
- Mills E, Blenkinsopp A, Black P. (2013) Quality management in pharmacy pre-registration training: current practice, *Pharmacy Education*, 13(1), pp. 82-86.
- Millstone M. (2014) Teaching medical ethics to meet the realities of a changing health care system, *Journal of Bioethical Inquiry*, 11(2), pp. 213-221.
- Mitcham C. (2005) *Ethics Overview. Encyclopedia of Science, Technology and Ethics*. Detroit: Macmillan Reference USA, 2, pp. 700-704.
- Monrouxe LV, Rees CE, Dennis I and Wells SE. (2015) Professionalism dilemmas, moral distress and the healthcare student: insights from two online UK-wide questionnaire studies, *British Medical Journal Open*, 5:e007518, pp. 1-13.
- Moon JA. (1999) *Reflection in Learning and Professional Development*. London: Kogan Page.

Morality (n.d.) In *Oxford English Dictionary* [online] Oxford: Oxford University Press. Available at: <https://en.oxforddictionaries.com/definition/morality> [Accessed 27 Oct 2018].

Morse JM. (2015) Critical analysis of strategies for determining rigor in qualitative inquiry, *Qualitative Health Research*, 25(9), pp. 1212-1222.

Morse J (2018) Reframing rigor in qualitative inquiry, in NK Denzin and YS Lincoln (eds), *The SAGE Handbook of Qualitative Research*. 5th edn. Thousand Oaks, CA: Sage.

Moses J, Berlinger N, Dunn MC, Gusmano MK and Chin JJ. (2015) Bioethics Casebook 2.0: Using web-based design and tools to promote ethical reflection and practice in health care. *Hastings Center Report*, 45(6), pp. 19-25.

Narvaez D and Bock T. (2002) Moral schemas and tacit judgement or how the Defining Issues Test is supported by cognitive science, *Journal of Moral Education*, 31(3), pp. 297-314.

Nash L. (1981) Ethics without the sermon, *Harvard Business Review*, 59 (Nov-Dec), pp.79-90.

NHS England. (2014) *Five year forward view*. [online]. Available at: <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf> [Accessed 27 Oct 2018].

Norman GR and Streiner DL. (2008) *Biostatistics. The Bare Essentials*. 3rd edn. Shelton, Connecticut: People's Medical Publishing House.

Nulty DD. (2008) The adequacy of response rates to online and paper surveys: what can be done? *Assessment and Evaluation in Higher Education*, 33(3), pp. 301-314.

Nursing and Midwifery Council. Revalidation. [online]. Available at: <http://revalidation.nmc.org.uk/> [Accessed 27 Oct 2018].

O'Flaherty J and Gleeson J. (2014) Longitudinal study of levels of moral reasoning of undergraduate students in an Irish university: the influence of contextual factors, *Irish Educational Studies*, 33(1), pp. 57-74.

Oppenheim AN. (1992) *Questionnaire Design, Interviewing and Attitude Measurement*. New ed. London: Pinter.

Patton MQ. (2015) *Qualitative research and evaluation methods*. 4th edn. London: Sage.

Petrova M, Dale J and Fulford KWM. (2006) Values-based practice in primary care: easing the tensions between individual values, ethical principles and best evidence, *British Journal of General Practice*, 56, pp. 703-709.

Report and Outcomes of Joint Royal Pharmaceutical Society of Great Britain and Pharmacy Practice Research Trust Symposium. (2009) *Workload pressure and the pharmacy workforce: supporting professionals and protecting the public*. Available at: <http://pharmacyresearchuk.org/wp-content/uploads/2012/11/workplace-pressures-FINAL-web.pdf> [Accessed 27 Oct 2018].

- Pharmaceutical Services Negotiating Committee. (2018) *Community pharmacy IT*. Available at: <https://psnc.org.uk/contract-it/pharmacy-it/> [Accessed 27 Oct 2018].
- Pharmacy Voice and PSNC. (2016) *Community pharmacy forward view*. Available at: <http://psnc.org.uk/wp-content/uploads/2016/08/CPFV-Aug-2016.pdf> [Accessed 27 Oct 2018].
- Piaget J. (1932) *The Moral Judgement of the Child*. M. Gabain, (Trans.) New York: Free Press.
- Piaget, J. (1950) *The Psychology of Intelligence*. London: Routledge & Kegan Paul.
- Piercey R. (2001) Not choosing between morality and ethics, *The Philosophical Forum*, 32(1), pp. 53-72.
- Polgar S and Thomas SA. (2008) *Introduction to Research in the Health Sciences*. 5th edn. London: Churchill Livingstone Elsevier.
- Prescott J, Becket G and Wilson SE. (2014) Moral development of first year Pharmacy students in the United Kingdom, *American Journal of Pharmaceutical Education*, 78(2), article 36.
- Quay J. (2003) Experience and participation: relating theories of learning, *The Journal of Experiential Education*, 26(2), pp. 105-116.
- Rachels J and Rachels S. (2006) *The Elements of Moral Philosophy*. 5th edn. Boston: McGraw-Hill.
- Ramsden P. (2003) *Learning to Teach in Higher Education*. 2nd edn. London: Routledge.
- Randall DM and Gibson AM. (1990) Methodology in business ethics research: a review and critical assessment, *Journal of Business Ethics*, 9, pp. 457-471.
- Ranmuthugala G, Plumb JJ, Cunningham FC, Georgiou A, Westbrook JI and Braithwaite J. (2011) How and why are communities of practice established in the healthcare sector? A systematic review of the literature, *BMC Health Services Research*, 11(273), pp. 1-16.
- Rawls J. (1971) *A Theory of Justice*. Cambridge, Massachusetts: Harvard University Press.
- Rest JR. (1979) *Development in Judging Moral Issues*. Minneapolis: University of Minnesota Press.
- Rest JR. (1983) Morality. In PH Mussen. (ed.) *Manual of child psychology*, 4th edn. Vol.3. New York: Wiley, pp. 495–555.
- Rest JR. (1986a) *Manual for the Defining Issues Test*. Minneapolis: Centre for the Study of Ethical Development, University of Minnesota.
- Rest JR. (1986b) Moral development in young adults. In K Kitchener and R Mines. (eds.) *Social Cognitive Development in Young Adults*, pp. 92-111, New York: Praeger.
- Rest JR and Narvaez D. (eds.) (1994) *Moral Development in the Professions: Psychology and Applied Ethics*. Hillsdale, New Jersey: Lawrence Erlbaum.

- Rest J, Narvaez D, Bebeau MJ and Thoma SJ. (1999a) *Postconventional Moral Thinking. A Neo-Kohlbergian Approach*. Mahwah, NJ: Lawrence Erlbaum.
- Rest J, Narvaez D, Thoma SJ and Bebeau M. (1999b) DIT-2: Devising and testing a revised instrument for moral judgment, *Journal of Educational Psychology*, 91, pp. 644 – 659.
- Rest JR, Narvaez D, Thoma SJ, Bebeau MJ. (2000). A Neo-Kohlbergian approach to morality research, *Journal of Moral Education*, 29(4), pp. 381-395.
- Ritche J and Spencer L. (1994) *Qualitative data analysis for applied policy research, Analysing Qualitative Data*. Edited by: Bryman A and Burgess RG. London: Routledge.
- Robb G, Wells S and Goodyear-Smith F. (2012) Values add value: An online tool enhances postgraduate evidence-based practice learning, *Medical Teacher*, 34, pp. e743-750.
- Roche C, Thoma S and Wingfield J. (2014) From Workshop to e-learning: Using technology-enhanced “intermediate concept measures” as a framework for pharmacy ethics education and assessment, *Pharmacy*, 2, pp. 137-160.
- Roche C and Thoma SJ. (2017) Insights from the Defining Issues Test on moral reasoning competencies development in community pharmacists, *American Journal of Pharmaceutical Education*, 81(8), Article 5913, pp. 21-32.
- Roche C, Thoma SJ, Grimes T and Radomski M. (2017) Promoting peer debate in pursuit of moral reasoning competencies development: spotlight on educational intervention design, *Innovations in Pharmacy*, 8(4), Article 2, pp.1-14.
- Rosenthal M, Austin Z and Tsuyuki RT. (2010) Are pharmacists the ultimate barrier to pharmacy practice change? *Canadian Pharmacists Journal*, 143(1), pp. 37-42.
- Roethlisberger FJ and Dickson WJ. (1939) *Management and the Worker*. Cambridge, MA: Harvard University Press.
- Royal Pharmaceutical Society. (2018) *Medicines, Ethics and Practice. The professional guide for pharmacists*. 42nd edn. London: Pharmaceutical Press.
- Sandelowski M. (1995) Qualitative analysis: What it is and how to begin, *Research in Nursing and Health*, 18(4), pp. 371-375.
- Savulescu J. (2006) Conscientious objection in medicine, *British Medical Journal*, 332, pp. 294-297.
- Schanzenbach DW. (2012) Limitations of experiments in education research, *Education Finance and Policy*, 7(2), pp. 219-232.
- Schlaefli A, Rest J and Thoma S. (1985) Does moral education improve moral judgment? A meta-analysis of intervention studies using the Defining Issues Test, *Review of Educational Research*, 55(3), pp. 319-352.
- Schön D. (1987) *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco, CA: Jossey-Bass.
- Schonfeld TL. (2005) Reflections on teaching health care ethics on the web, *Science and Engineering Ethics*, 11(3), pp. 481-494.

- Schwitzgebel E. (2014) The moral behaviour of ethicists and the role of the philosopher. In: Luetge C, Rusch H, Uhl M. (eds.) *Experimental Ethics: towards an empirical moral philosophy*. Hampshire, UK: Palgrave MacMillan, pp. 59-64.
- Seale C. (1999) *The Quality of Qualitative Research*. London: Sage.
- Seedhouse D. (2005) *Values-Based Decision-Making for the Caring Professions*. Chichester: John Wiley.
- Seedhouse D. (2009) Values transparency and inter-professional communication, *Journal of Primary Health Care*, 1(4), pp. 332-334.
- Self DJ. (1993) The moral development of medical students: A pilot study of the possible influence of medical education, *Medical Education*, 27, pp. 26-34.
- Self D and Baldwin DC (1994) Moral reasoning in medicine. In: JR Rest, D Narvaez. (eds.) *Moral Development in the Professions*. Hillsdale, NJ: Lawrence Erlbaum.
- Self DJ, Olivarez M and Baldwin DC (1998) The amount of small-group case-study discussion needed to improve moral reasoning skills of medical students. *Academic Medicine*, 73, pp. 521-523.
- Sharma S, Smith AF, Rooksby J and Gerry B. (2006) Involving users in the design of a system for sharing lessons from adverse incidents in anaesthesia, *Anaesthesia*, 61, pp. 350-354.
- Sheehan TJ, Husted SD, Candee D, Cook CD and Bargen M. (1980) Moral judgement as a predictor of clinical performance, *Evaluation and the Health Professions*, 8, pp. 379-400.
- Shevell HA, Thomas A and Fuks A. (2015) Teaching professionalism to first year medical students using video clips, *Medical Teacher*, 37(10), pp. 935-942.
- Siegler M. (2002) Training doctors for professionalism: Some lessons from teaching clinical medical ethics, *Mount Sinai Journal of Medicine*, 69(6), pp. 404-409.
- Sim J and Wright C. (2000) *Research in Health Care: Concepts, Designs and Methods*. Cheltenham: Stanley Thornes.
- Sims RR. (2002) *Teaching Business Ethics for Effective Learning*. London: Quorum Books.
- Slife BD and Williams RN. (1995) *What's behind the research? Discovering hidden assumptions in the behavioural sciences*. Thousand Oaks, CA: Sage.
- Smith F. (1999) Health services research methods in pharmacy. Triangulation, *International Journal of Pharmacy Practice*, 7, pp. 60-68.
- Smith J. (2012) *From Australia to England: the health care reform challenge*. [online] Nuffield Trust. Available at: <https://www.nuffieldtrust.org.uk/news-item/from-australia-to-england-the-health-care-reform-challenge> [Accessed 27 Oct 2018].
- Southall-Edwards G. (2006) More like the Sweeney! Beware the rise of the society's regulatory machine, *Pharmaceutical Journal*, 276, pp. 564.
- Spiro H. (2009) Commentary: The practice of empathy, *Academic Medicine*, 84(9), pp. 1177-1179.

Squier RW. (1990) A model of empathic understanding and adherence to treatment regimens in practitioner-patient relationships, *Social Science & Medicine*, 30, pp. 325-339.

Stirrat GM. (2010) Teaching and learning medical ethics and law in UK medical schools, *Clinical Ethics*, 5, pp. 156-8.

Strike KA. (1982) *Educational Policy and the Just Society*. Chicago, IL: University of Illinois Press.

Sulmasy DP and Marx EC. (1997) Ethics education for medical house officers: long-term improvements in knowledge and confidence, *Journal of Medical Ethics*, 23(2), pp. 88-92.

Tashakkori A and Teddlie C. (1998) *Mixed methodology: combining qualitative and quantitative approaches*. Newbury Park, California: Sage.

Teehan J. (2003) Kantian ethics: after Darwin. *Zygon*, 38(1), pp. 49-60.

The Health Foundation. (2014) *Person-centred care made simple. What everyone should know about person-centred care*. Available at: <https://www.health.org.uk/sites/health/files/PersonCentredCareMadeSimple.pdf>. [Accessed 27 Oct 2018].

The Health Foundation. (2016) *Person-centred care resource centre*. Available at: <http://personcentredcare.health.org.uk/overview-of-person-centred-care/what-person-centred-care> [Accessed 27 Oct 2018].

The Mid Staffordshire NHS Foundation Trust Inquiry. (2013) *The Mid-Staffordshire NHS Foundation Trust Public Inquiry. Final report*. Available at: <http://webarchive.nationalarchives.gov.uk/20150407084231/http://www.midstaffpublicinquiry.com/report> [Accessed 27 Oct 2018].

The Misuse of Drugs Regulations 2001. Available at: <http://www.legislation.gov.uk/ukxi/2001/3998/contents/made> [Accessed 27 Oct 2018].

Thorlby R, Smith J, Williams S and Dayan M. (Feb 2014) Nuffield Trust Research report. *The Francis Report: one year on*. London: Nuffield Trust. Available at <https://www.nuffieldtrust.org.uk/files/2017-01/francis-report-one-year-on-web-final.pdf> [Accessed 27 Oct 2018].

Trevino LK. (1986) Ethical decision-making in organizations: a person-situation interactionist model, *The Academy of Management Review*, 11(3), pp. 601-617.

Trevino LK and Nelson KA (1999) *Managing Business Ethics*, 2nd edn. New York: John Wiley.

Tripken JL. (2016). The educational efficacy of a values-based online tool in a public health ethics course, *Journal of Health Education Teaching*, 7(1), pp. 39-51.

UKCEN. (2018) UK Clinical Ethics Network. Practical Guide to Clinical Ethics Support. Section C: Ethical frameworks. Available at: http://www.ukcen.net/education_resources/support_guide/section_c_ethical_frameworks. [Accessed 27 Oct 2018]

Uleman JS and Bargh JA. (eds.) (1989) *Unintended Thought*. New York: The Guilford Press.

van der Bijl JJ and Shortridge-Baggett LM. (2002) The theory and measurement of the self-efficacy construct. In EA Lentz and LM Shortridge-Baggett. (eds.) *Self-efficacy in Nursing: Research and Measurement Perspectives*. New York: Springer, pp. 9-28.

van der Burg S and van de Poel I. (2005) Teaching ethics and technology with *Agora*, an electronic tool, *Science and Engineering Ethics*, 11, pp. 277-297.

Vygotsky L. (1978) *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Weaver K. (2007) Ethical sensitivity: state of knowledge and needs for further research. *Nursing Ethics*, 14(2), pp. 141-155.

Weinstein B (ed.) (1996) *Ethical Issues in Pharmacy*. Washington DC: Applied Therapeutics.

Wilkinson S. (1988) The role of reflexivity in feminist psychology, *Women's Studies International Forum*, 11(5), pp. 493-502.

Wilkinson E. (2018) Bridging the gap: CPOs back foundation training plan, *The Pharmaceutical Journal*, 23rd May. Available at: <https://www.pharmaceutical-journal.com/news-and-analysis/features/bridging-the-gap-cpos-back-foundation-training-plan/20204858.article> [Accessed 27 Oct 18].

Williams T and Dickson K. (2000) Teaching real-life OR to MSc students. *Journal of the Operational Research Society*, 51(12), pp. 1440-1448.

Wilson V and Pirrie A. (1999) Developing professional competence: lessons from the emergency room, *Studies in Higher Education*, 24, pp. 211-224.

Winefield HR and Chur-Hansen A. (2000) Evaluating the outcome of communication skill teaching for entry-level medical students: does knowledge of empathy increase? *Medical Education*, 34, pp. 90-94.

Wingfield J, Wilson K and Hall S. (2005) What the APPLET project has done to progress law and ethics teaching, *The Pharmaceutical Journal*, 275, pp.549-550.

Wingfield J, Bissell P and Anderson C. (2004) The scope of pharmacy ethics – an evaluation of the international research literature. *Social Science and Medicine*, 58(12), pp. 2383-2396.

Wingfield J and Badcott D. (2007) *Pharmacy Ethics and Decision Making*. London: Pharmaceutical Press.

Wood D, Bruner JS and Ross G. (1976) The role of tutoring in problem solving, *Journal of Child Psychology and Psychiatry*, 17, pp. 89-100.

Wong CK and Abbruzzese LD. (2011) Collaborative learning strategies using online communities, *Journal of Physical Therapy Education*, 25(3), pp. 81-87.

Working Group on Pharmacist Ethics and Professional Autonomy. (2014) *Reference document. Pharmacist Ethics and Professional Autonomy: Imperatives for Keeping Pharmacy Aligned with the Public Interest*. International Pharmaceutical Federation. Available at: https://www.fip.org/www/uploads/database_file.php?id=358&table_id= [Accessed 27 Oct 2018].

Wright-St Clair VA and Newcombe DB. (2014) Values and ethics in practice-based decision making, *Canadian Journal of Occupational Therapy*, 81(3), pp. 154-162.

You D and Bebeau MJ. (2013) The independence of James Rest's components of morality: evidence from a professional ethics curriculum study, *Ethics and Education*, 8(3), pp. 202-216.

APPENDICES

APPENDIX 1: Precis of initial study

Background to initial study

An initial study was conducted to assess the feasibility of undertaking further research on Vx (Allinson and Black 2018). The views of students were sought at the end of their third year of study in the assumption that they would have gained adequate experience using Vx by then to provide valid opinions on longer-term use of the tool. Focus groups were considered the best option as they allowed for the generation of ideas in exploratory studies, with a wider range of views and ideas often generated following in-depth discussions during focus groups than through the sum of individual interviews (Smith 1998a). My role as an insider researcher threatened the permissive environment advocated by Krueger (1994) but by encouraging all comments and not showing approval or disapproval I hoped to minimise my impact and encourage free and open reporting of opinions.

Topics addressed experiences of navigating and using the system, effectiveness of the tool in supporting ethical decisions, suggestions to improve its use, and the use of Vx as a forum for IPE (see Appendix X; Bowling 2002). Ethical approval was requested from Keele University Research Ethics Committee to undertake the study, but was not required as this was deemed an evaluation of teaching. Ethical considerations were applied throughout the process. Importantly, students were assured that their participation (or non-participation) would not affect their relationship with me or the university in any way (Oppenheim 1992).

Response rate was poor with only nine Pharmacy students volunteering to participate but students were contacted near the end of the academic year close to examination

period which may explain in part the poor response. Two focus groups were conducted and digitally recorded to enable full transcription of the discussions. The five stage framework approach to the analysis of data described by Pope *et al.* (2000) was applied, namely: familiarisation, identifying a thematic framework, indexing, charting and finally mapping and interpretation. Independent analysis was undertaken by a second researcher to identify themes and thereby improve the reliability of the analysis. Focus group results were combined; findings were similar between the groups, which were not considered diverse enough to make meaningful comparisons.

Results and discussion of initial study

Both focus groups lasted approximately fifty minutes in duration (n=4, n = 5). Of the nine students, two were mature (one male, one female; both aged > 40 yrs), seven of the nine students were female, and the observed ethnic mix was: 3 British Caucasian, 3 British Asian, 1 European, 1 Black African and 1 Chinese. There was a high degree of agreement between researchers found on independent analysis of the transcripts. Four key themes emerged from the focus groups, namely: widening perspective of ethical issues, reflection, preparedness for future practice, and satisfaction with the delivery platform.

Students identified that the Vx supported development of ethical reasoning skills by gaining a wider perspective of issues and through reflection. They also undertook their own research to gain a deeper understanding of the cases. The use of Vx helped students to realise that not everybody thinks as they do and that people make decisions for many different reasons.

Vx was believed to support the development of skills and attitudes that would equip students for professional practice. These included collaborative skills and the ability to compromise, influencing skills and professionalism. Students believed that using an

online forum to discuss ethical issues had many positives, such as enabling a truer representation of views, and promoting greater openness and honesty in a less pressured environment. In most cases, online was preferred over face-to-face teaching, with the main negative aspect being the asynchronous nature of Vx. Students expressed some misunderstanding, however, regarding how to use Vx and identified specific aspects of the system that they struggled with, in particular the 'Reasons' section of the system. Suggestions for improvement included additional written guidance and more detailed explanations within the introductory sessions for each year group.

This study was limited to two small focus groups in a group of self-selected students who may have more positive views than the whole cohort in general. It also provided views of Vx as a teaching tool, but had no bearing of its impact on practice.

Furthermore, as focus groups were undertaken in the SoP and were recorded, some students may have found this inhibiting. Despite these limitations, I have included students from a range of backgrounds with a mix of ethnicity, maturity and gender. They also have three years' experience of using Vx, so have had time to form valid opinions of the system.

My role as an insider-researcher was also likely to have impacted on the study. Although students did voice negative views, they may not have spoken as freely as they might have if an independent researcher was conducting the focus group. This is inherent with the role of an insider researcher (Drake 2011). Gouldner (1973) argued that by undertaking reflexive research practice one should not try to remove this influence, but be aware of it. I now knew that some students liked to use Vx and believed it was helping them to develop ethical decision making skills, thereby preparing them for practice. Findings from this initial study have been used to inform the interview schedule for the main research: to gain views of participants to ascertain if they believed Vx had helped prepare them for practice.

APPENDIX 2: Outline of ethics teaching across the curriculum

In year 1, we introduce an overview of law and ethics early in the semester and students are asked to consider the knowledge, skills, attitudes and values of a range of people involved either directly or indirectly with the care of patients. Following this students are introduced to decision-making in general, and then specifically to professional decision-making. This is based on the 6-step guidance on exercising professional judgement from the Royal Pharmaceutical Society (MEP guide 2017) and involves discussing a number of pharmacy-based scenarios in small groups. Students are also presented with Beauchamp and Childress's four principles of autonomy, justice, beneficence and non-maleficence to help them to weigh up options (Beauchamp and Childress 2009). Vx cases are completed by all year groups.

In first year dispensing classes, students are also presented with the opportunity to deal with a small dilemma within a communication station, for example, they are told that a manufacturer cannot supply the product prescribed and are asked to propose a suitable way forward.

During the second semester of the first year an ethicist runs a short course on bioethics which includes a brief introduction to two ethical theories, namely, consequentialism and deontology. This is followed by a series of lectures and workshops on three themes: ethics and religion in healthcare; animal rights (including animal experimentation); and embryo research and gene modification.

In year 2, the only specific teaching in ethics that students currently receive is via Vx. Issues such as consent, confidentiality, truth-telling, end-of-life, human rights and fitness-to-practise are introduced **in year 3**. Students are presented with dilemmas in workshops to deliberate on and discuss in small groups.

In their **final (4th) year**, students are presented with a wide range of scenarios from practice. Two experienced (external) pharmacists talk to the students about some dilemmas they have faced in practice. The students are presented with the dilemmas and asked to consider options open to them and how they would potentially deal with the scenario before then being told what course of action the pharmacists took, with reasons given for their choices, and the ultimate outcomes. Later in the year students are asked to share any dilemmas that they have faced personally or have observed a pharmacist being faced with whilst on placement or in work; these scenarios are

discussed in detail. The session is completed with a 'quick fire' look at a few dilemmas they could be faced with in practice whereby students are asked in small groups to detail their course of action, with justification; these are debated in class.

APPENDIX 3: Overview of Vx cases

STAGE 1 Vx CASES

Case 1 : Who do you employ?

You own a community pharmacy and wish to reduce your hours and employ a pharmacist to work in your pharmacy three days a week. You have received two applications and have interviewed both ladies. You now must decide who to employ. The first applicant, Jackie White, fits all the criteria you are looking for. She is an experienced pharmacist who comes with glowing references. During the interview however she tells you that she will not sell or supply EHC (emergency hormonal contraception) on the grounds of her deeply held religious beliefs. The second applicant, Leslie Brady, has adequate references and is very inexperienced, having never worked in a pharmacy as busy as this one. Leslie tells you that she is happy to supply EHC. Your pharmacy is close to another competitor pharmacy who provides EHC so you are aware that patients could possibly be signposted there. You are situated in an area with quite a high young population and regularly supply four or five EHCs a week providing an income of £26 per individual supply.

Proposal: It is proposed that you employ Leslie, the inexperienced pharmacist who is willing to supply EHC

Case 2: Biotechnology – Is genetic engineering on humans ethical?

Biotechnology has provided modern society with many useful products such as insulins and vaccines, but is genetic engineering on human embryos ethical? And how much further should scientists be allowed to go?

Proposal: It is proposed that the implantation into women of modified human embryos is legalised in the UK

Case 3: Spice up your life (Social media use)

You are a Stage 1 pharmacy student and are enjoying University life so far. There was a big night out at the Student's Union last night and this morning you log onto your social media to see if you have been tagged in any photos. Upon logging in, you notice one of your class mates, Johnny, has updated his status:

"Wild night out last night, can't deal with this hangover today! #spice"

You know that Pharmacy students have a code of conduct to follow, but are unsure what to do in this situation.

Proposal: It is proposed that you report Johnny to the School of Pharmacy for taking Spice

STAGE 2 Vx CASES

Case 1: Concerns about another pharmacist - Should you blow the whistle?

You are the locum pharmacist at Kettleton Pharmacy covering for the regular pharmacist, Peter, for the week as he is on holiday. As it is quiet you decide to perform the weekly controlled drugs balance check, which your dispenser advises you “Peter always does”. Whilst checking the register for Sevredol Tablets 20mg you notice an error in the calculations. Although the number of tablets in the CD cabinet matches the current running balance, there are a few occasions where the running balance is 5 tablets less than what it should be based on quantity received and supplied. Peter has always stamped the running balance as being correct and there are no footnotes to suggest the quantity supplied or running balance were entered incorrectly.

You have identified these errors in the CD register and are suspicious that tablets are being taken from the cabinet intentionally.

Proposal: It is proposed that you report your concerns about Peter to the GPhC

Case 2: Placebos: Is it ethical to use them?

You are part of a multi-disciplinary team (MDT) discussing the management of a patient, Mrs Jayne Monroe, a 54 year old factory worker, who is having difficulty mobilising due to chronic back pain. The team are aware that all proven medical treatments have been tried and the pain team have optimised her analgesia. The consultant pain specialist has asked for a placebo to be prescribed and specifically asks you not to let the patient know that it is a placebo. You are aware that all other pharmacological options have been exhausted.

Proposal: It is proposed that the team prescribes the drug to Mrs Monroe without disclosing that it is a placebo

Case 3: Right to die

You are a representative of the All Party Pharmacy Group and are debating the Government's stance on euthanasia. In 2015 Parliament rejected the case for legalising assisted dying for terminally ill patients who have less than six months to live however it has been decided to review this decision.

Proposal: It is proposed that UK law is changed to legalise euthanasia

STAGE 3 Vx CASES

Case 1: Medicines Waste

Judith is the pharmacy manager at her local community pharmacy, where she has worked for the past 2 years. Whilst conducting a Medicines Use Review (MUR) with Mr Smith, the patient informed Judith that although he does not need everything on his prescription each month, he orders it anyway. Mr Smith explained that he does this for two reasons; firstly that he is concerned his GP may think he is not using his medicines properly and take them off his repeat, and the other being 'well why shouldn't I? It's free anyway'.

During the review Judith explained why it was important for Mr Smith to only order medicines when he needed them and the impact that inappropriate ordering is having on the NHS. Mr Smith agreed to stop ordering items he did not need and explained to Judith that he would bring back the stock that he had accumulated over time so that at least 'it will not go to waste then.' The following day Mr Smith returns with his unused medicines, namely 6 Epipens and 8 packs of Aviva test strips, which are accepted by the Healthcare Assistant and put for disposal. All items are unopened and in their original packaging. A day later Miss Gilmore, a 17 year old, brings in a prescription for an Epipen. Judith is aware there is a supply issue and Epipens are going to be unavailable for at least a month. When this is explained to Miss Gilmore she expresses her concerns as she needs the Epipen in case of emergency and has tried many pharmacies who cannot get the item either.

Proposal: It is proposed that you dispense one of the returned Epipens to Miss Gilmore

Case 2: Testing on Humans Not Animals

The Home Office claims that everything possible is done to minimise the use of animals in testing, but recognises that there is an ethical issue in using any animals. Should human volunteers be used instead of animals for the testing of new medical treatments?

Proposal: It is proposed that human volunteers are used instead of animals for the testing of new medical treatments

Case 3: IPE: Truth Telling

Lisa Stephens is a 14 year old patient who has had Cystic Fibrosis since childhood, for which she attends regular physiotherapy to help clear her lungs. She has been admitted to hospital for 10 days as she has developed a respiratory infection for which she is being treated with IV antibiotics. On the 8th day of her treatment Lisa's parents need to attend the funeral of Lisa's grandmother who has recently passed away from cancer. Both parents feel confident in leaving Lisa in the care of the hospital, especially as her condition has improved, and so leave for the funeral.

During the day Lisa begins to experience an unexpected worsening of her symptoms, and her condition deteriorates rapidly. The nurse in charge makes several attempts to contact Lisa's parents but they cannot be reached. The Paediatrician decides that it is necessary to ventilate however Lisa slips into respiratory depression, causing significant distress to Lisa, who passes away before ventilation can begin, despite the best efforts of the medical team. Lisa's parents return to the hospital where the Paediatrician informs them that Lisa has died.

It is two weeks later and you have been called to a Multi-Disciplinary Team (MDT) meeting to discuss Lisa's care as you have received a request from Lisa's parents, who would like to know what happened whilst they were at the funeral. There is no suggestion of negligence or inappropriate treatment, but the parents specifically want to know whether she suffered at the end.

Proposal: It is proposed that you advise Lisa's father that Lisa had a peaceful death

STAGE 4 VX CASES

Case 1: Supervised Methadone

Shabana, a regular patient, arrives at the pharmacy late in the afternoon and gives Jacob, the pharmacist, a methadone prescription which has not been signed by the doctor. She has been on a methadone supervised consumption scheme for the past 3 months, and this is her new prescription which starts today. Jacob rings the surgery, which is some distance away, and talks to the doctor. The GP says that he has been interrupted part way through writing the prescription, which is probably why it was unsigned and that as it is late, he will come to the pharmacy and sign the prescription tomorrow.

Proposal: It is proposed that Jacob dispenses today's dose of methadone to Shabana

Case 2: Who to employ? (Same as stage 1 case)

Case 3: MUR Practice

You have recently taken on the role of pharmacy manager in a busy community pharmacy dispensing approximately 500 items per day. Tracey, the Area Manager, has phoned you this morning to tell you that you are not showing as having conducted any Medicines Use Reviews (MUR) this week and that this was "*not providing the best service to our patients*" therefore you must make this your priority for the remainder of the week. Your Pharmacy Technician has identified three suitable patients, all of whom are in the pharmacy at present. These patients are Reuben, who is taking 10 medicines including Warfarin and inhalers, Halima, who is taking Levothyroxine and Diclofenac, and Boris, who is taking 3 blood pressure medicines. Boris also had an MUR 18 months ago, whereas Reuben and Halima have never had one. There are other patients waiting and you have monitored dosing system trays for a nursing home waiting to be checked that needs to be delivered today.

Proposal: It is proposed that you conduct Medicines Use Reviews on Halima and Boris rather than Reuben

APPENDIX 4: Working through a case on Vx

Initial screen: Proposal is stated and student is asked if they agree or disagree.

VALUESexchange HOME APPS PROFILE NEWS FEED FRIENDS GROUPS BOARDS

Stage 4 2017/18 - Supervised Methadone

It's proposed that It is proposed that Jacob dispenses today's dose of Methadone to Shabana

BASICS SUBMIT ?

Stage 4 2017/18 - Supervised Methadone

Shabana, a regular patient, arrives at the pharmacy late in the afternoon and gives Jacob, the pharmacist, a methadone prescription which has not been signed by the doctor. She has been on a methadone supervised consumption scheme for...more

It's proposed that: It is proposed that Jacob dispenses today's dose of Methadone to Shabana

Do you agree with the proposal?

☐ I Agree ☒ I Agree Strongly ☐ I Disagree ☐ I Disagree Strongly

Who matters most?

☐ You ☐ Your Institution ☐ No-One In Particular ☐ A Group Of People Or Animals ☒ Everyone ☐ One Individual (Born Or Unborn)

Reactions: Student choose which ideas they think are relevant to the case. For each one, they click on options relating to the idea, and explain their reason for choosing it.

REACTIONS SUBMIT ?

1. What Ideal is most important in this case?

☒ Courage ☐ Balance ☐ Forgiveness ☐ Patience ☐ Determination ☐ Compassion ☐ Curiosity ☐ Tolerance ☐ Respect ☐ Justice ☐ Honesty ☐ Other ideal (write it)

2. How confident are you that this ideal can be achieved in this case?

☐ Extremely ☒ A lot ☐ A bit ☐ Not at all

Agreeing with the proposal entails a lot ideals but courage is the most vital as the pharmacist would have to be courageous to make a decision based on their competency as well as bearing in mind the law surrounding the supply of CD's. It takes a courageous individual to put their job on the line to ensure patient receives the care they deserve.

Reasons: Students now click on the tiles that they feel best supports their underpinning reasons for their decision, and explains their view within the text box.

REASONS SUBMIT ?

Click any tile then define it. Use only those tiles that help you say what you really want to.

General Ideas and Comments

I agree to this proposal as it will ensure that the health of the patient is kept paramount but also takes into account the dangers of supplying a controlled drug without it being fully legally valid. I believe personally inquiring from the GP involved for clarification and also securing a date to quickly get the prescription signed is the best pre-cautious measure that could be taken. It is also necessary that notes are made for other staffs of the pharmacy so that they can quickly chase up for the prescription the next day.

Once students have worked through a case individually, they can access the **combined results** from all those who completed the case. Some examples from the combined reports are shown below:

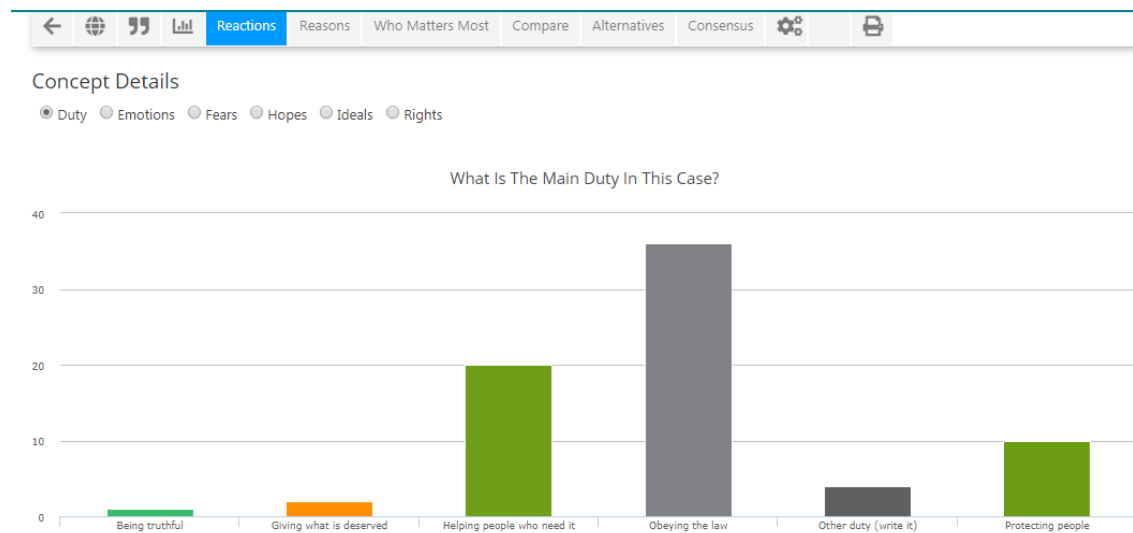
Poll results:

It is proposed that Jacob dispenses today's dose of Methadone to Shabana

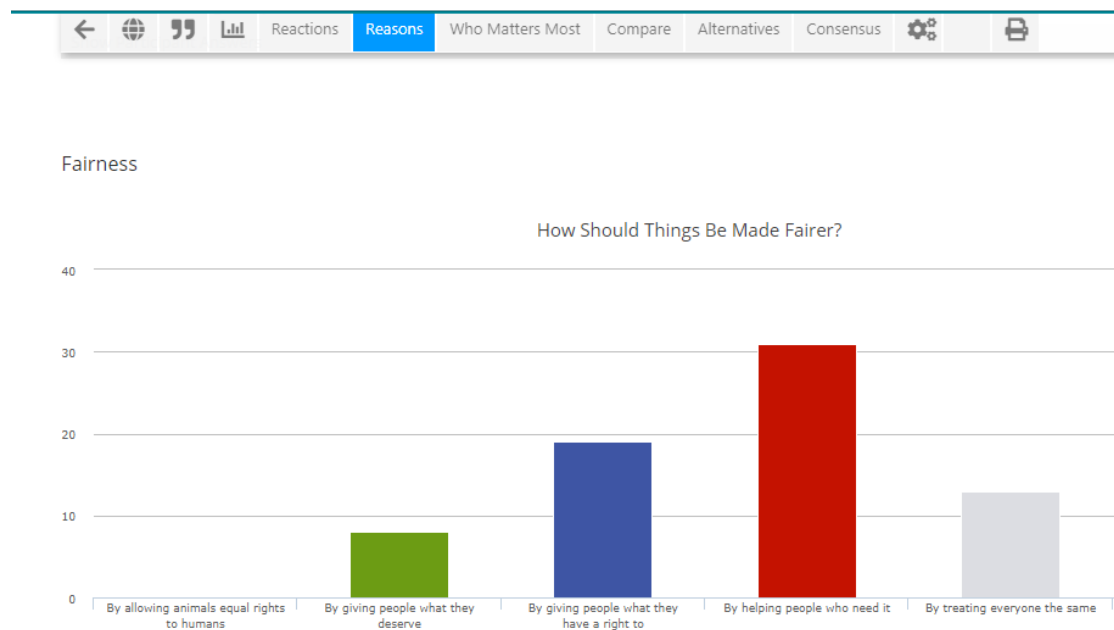
Agreement



From Reactions section: Duty



From Reasons section: Fairness



Online discussion board

Students then have a two to three week window to debate the issues and challenge each other's views on an online discussion board within Vx. The example screenshot below shows comments from two students. It highlights how students will direct others to sources of evidence to support their argument, and how they will challenge specific quotes.

Discussion on methadone

I am not surprised that there is a rough split on the decision to supply the methadone. It was a difficult decision to make, but I made the conclusion to disagree with the statement. My decision was based on the potential risk to the safety of the patient, there may have been a clinical error on the prescription and if the GP had made an error in signing then there could have been another potential error on the prescription. I did feel that it wasn't the fault of the patient and its can cause the patient undue stress to receive their medication. I also had concerns on the legality of the prescription as it was a controlled drug. I based my final decision on the fact the patients on methadone do not actually feel the effects of withdrawal immediately and it typically reaches its peak 2-4 days after the last dose. So, by missing one dose they may not suffer as they can receive their dose the following day.

After reading some of the statements that my colleagues have made, I can see that they had the same concerns as I did about withdrawal. One response stated that "Shabana will suffer if she didn't receive her methadone and will be likely to go back on her addiction" I disagree with this statement because I believe that it isn't a black and white issue. If the patient has any symptoms of withdrawal according to nice (<https://cks.nice.org.uk/opioid-dependence#scenario:53>) I would be more inclined to give the medication. I think that we do need to ensure that the patient doesn't go back to drug abuse. But NICE also states that the withdrawal effects reach their peak at 2-4 days after the last dose (4-6 days at high dose). NICE also states (<https://cks.nice.org.uk/opioid-dependence#scenario:6>) that the patient can miss up to 3 doses and the same dose can be given and the patient tolerance would not be reduced. It is from day 4 of missed doses when the dose would have to be reduced. So, by not giving the patient the methadone by 1 day there wouldn't be a significant risk of withdrawal.

Another response was that the "This reassures the pharmacist that this prescription is okay clinically even though it might lack the GP's signature." I disagree with this as if the GP made a mistake signing it there could also be

Patient safety or law abiding

I am not surprised with the outcome of this case as I was also in two minds how to go about this situation if this was to happen in practice. After thinking about this for a while, I decided it was best to put the patients needs first. I believed that if the patient was not to receive her dose she would resort to other illegal substances which she may be abusing in the past. This would out her health and safety at risk and I did not want this to happen.

"I believe obeying the law is the main duty of the case"

The above comment was written by one of my fellow students who disagreed with the proposal. I understand the prescription is not legal because there is not signature but the patient has been a regular patient for the past 3 months. The pharmacist should be able to assess whether the prescription missing a signature is more important or the patients health needs.

Another comment was, "I wouldn't want to chance giving her the wrong dose and causing serious harm to her", the student further explained that because the GP was interrupted there may be a chance of error in the prescription. This is a valid point and I had not thought about this initially when responding to the case. There are chances there may be an error with the methadone dose but the patient has been coming to the pharmacy for 3 months. The PMR of Shabana could easily be accessed and her previous dose can be brought up. If the dose is different to those being previously prescribed I would contact the doctor and clarify this. However, if the dose is the same, I would still call the Prescriber and explain about patient safety and tell them you have decided to dispense her daily dose and would just like to clarify the dose with them.

After reading everyone's responses, I still believe I would dispense her methadone dose. I would contact the Prescriber as mentioned above so I am not putting the patients health at risk and clarify the

CHAT

The final part of the journey for a student is submitting their reflections within an **online portfolio** (PebblePad™). Students are asked to reflect on quotes that they posted, then on quotes that they disagreed with. They then must consider if their views have changed at all from reading other people's arguments. In the final section they are asked to identify one of the GPhC standards that is relevant to each case, and explain how their final decision aligns with that standard.

Initial PebblePad™ template:

ts	SWOT Analysis	Web PA Reflection and Acti...	Reflection on Competencie... ▾	Reflection on Standards for ...
----	---------------	-------------------------------	--------------------------------	---------------------------------

You are required to complete the following reflective piece based on your experience of undertaking **three** Values Exchange cases and participating in the associated discussion groups.

Identify one of **your own quotes** from the **discussion board** that highlights your personal view **on each case**.

Copy the quotes into the 3 spaces below. For each, reflect on why you hold these views and also the reaction from others to your comments.

Quote 1

Please enter quote here

APPENDIX 5: Letter of approval (Ethics Committee)



Keele
University

RESEARCH AND ENTERPRISE SERVICES

Ref: ERP322

2nd February 2013

Marie Allinson
School of Pharmacy
Hornbeam Building

Dear Marie,

Re: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Thank you for submitting your application for review. I am pleased to inform you that your application has been approved by the Ethics Review Panel.

The following documents have been reviewed and approved by the panel as follows:

Document	Version	Date
Summary Document	2	27/01/2013
Letter of Invitation	2	27/01/2013
Information Sheet	2	27/01/2013
Consent Form	2	27/01/2013
Consent Form for the use of quotes	2	27/01/2013
Interview Topic Guide	2	27/01/2013
Questionnaires	2	27/01/2013

If the fieldwork goes beyond the date stated in your application, you must notify the Ethical Review Panel via the ERP administrator at uso.erps@keele.ac.uk stating ERP3 in the subject line of the e-mail.

If there are any other amendments to your study you must submit an 'application to amend study' form to the ERP administrator stating ERP3 in the subject line of the e-mail. This form is available via <http://www.keele.ac.uk/researchsupport/researchethics/>



RESEARCH AND ENTERPRISE SERVICES

If you have any queries, please do not hesitate to contact me via the ERP administrator on uso.erps@keele.ac.uk stating ERP3 in the subject line of the e-mail.

Yours sincerely

A handwritten signature in cursive script that reads "Heidi".

Handwritten initials, possibly "HP", in cursive script.

Dr Helena Priest
Chair – Ethical Review Panel

CC RI Manager

APPENDIX 6: Information Sheet for Pharmacy students

Study Title: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Aims of the Research

The overall aim of my study is to establish the effectiveness of an online ethical decision-making tool, Values Exchange (Vx), in facilitating Pharmacy students' learning and development in professional ethics and its potential use in practice. My specific objective is to determine the impact of the Vx system on students' and practitioners' moral reasoning skills.

Invitation

You are being invited to take part in the research study *An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice*. This project is being undertaken by myself, Maria Allinson, as part of my research for a Professional Doctorate in Pharmacy.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with friends and relatives if you wish. Ask me if there is anything that is unclear or if you would like more information.

Why have I been invited?

You have been invited to participate in this project because you are a current student in either your first or fourth year of study at the School of Pharmacy, Keele University.

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons. Choosing not to take part will not affect you in any way or your relationship with the University.

What will happen if I take part?

Whether or not you take part in this study, you will be given a questionnaire which should take approximately 20 minutes to complete. This will involve rating and ranking comments relating to three scenarios involving ethical dilemmas. Demographic information such as age, gender, ethnicity etc. will also be collected to enable trends to be identified in the data. You should complete the questionnaire during a timetabled session as part of your current course curriculum. If you decide to take part in my

study you will be asked to sign two consent forms at this time; one for you to keep and the other for our records. This will enable me to include your data in my study.

What are the benefits (if any) of taking part?

There are no immediate benefits to you of taking part in this study but your data will help inform future use of Values Exchange as a teaching tool for ethics at the School of Pharmacy, Keele University and more widely through dissemination via publication.

What are the risks (if any) of taking part?

I am not aware of any disadvantages or risks to you in taking part in the evaluation.

How will information about me be used?

Results will be collated into a spreadsheet and analysed so that moral reasoning scores can be calculated. Further analysis will compare average group scores and comparisons made with demographic information so that any trends can be identified. The data gathered may be used for illustration in presentations and publications. It may also feed into future research. If so, further ethics approval will be sought at this stage.

Who will have access to information about me?

Questionnaires will not be coded and all data will be anonymous. No other use will be made of the data without your written permission, and no one outside the study will be allowed access to the original data. Electronic data will be stored securely on password-protected media that only my supervisory team (Professor Patricia Black and Dr Lizzie Mills) and I will have access to. Hardcopies of the questionnaires will be kept secure in a locked cupboard. Data will be retained by the principal investigator (Maria Allinson) for five years, after which time they will be destroyed.

Who is funding and organising the research?

This research is funded by the School of Pharmacy, Keele University as part of a DPharm (Professional Doctorate in Pharmacy) degree.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher who will do her best to answer your questions. You should contact Maria Allinson on 01782 734133 or email m.d.allinson@keele.ac.uk. Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black on 01782 734132 or email p.e.black@keele.ac.uk.

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address:-

Nicola Leighton
Research Governance Officer
Research & Enterprise Services
11.6 Innovation Centre 1
Keele University
ST5 5BG

E-mail: n.leighton@keele.ac.uk
Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me (Mrs Maria Allinson) at m.d.allinson@keele.ac.uk or on telephone number 01782 734133.

Thank you for taking the time to read this information!

APPENDIX 7: Information Sheet for Keele Alumni (PEP Test)

Study Title: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Aims of the Research

The overall aim of my study is to establish the effectiveness of an online ethical decision-making tool, Values Exchange (Vx), in facilitating Pharmacy students' learning and development in professional ethics and its potential use in practice. My specific objective is to determine the impact of the Vx system on students' and practitioners' moral reasoning skills.

Invitation

You are being invited to take part in the research study *An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice*. This project is being undertaken by myself, Maria Allinson, as part of my research for a Professional Doctorate in Pharmacy degree.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with friends and relatives if you wish. Ask me if there is anything that is unclear or if you would like more information.

Why have I been invited?

You have been invited to participate in this project because you have graduated from Keele School of Pharmacy within the past three years and are based in the UK.

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons. Choosing not to take part will not in any way affect your relationship with the University.

What will happen if I take part?

You will be sent a questionnaire which should take approximately 20 minutes to complete. This will involve rating and ranking comments relating to three scenarios involving ethical dilemmas. Demographic information such as age, gender, ethnicity etc. will also be collected to enable trends to be identified in the data. You should complete and return the questionnaire in the postage paid reply envelope by *<date 3 weeks from sending out>*. Consent will be assumed by completion and return of questionnaire.

What are the benefits (if any) of taking part?

There are no immediate benefits to you of taking part in this study but your data will help inform future use of Values Exchange as a teaching tool for ethics at the School of Pharmacy, Keele University, and more widely through dissemination via publication.

What are the risks (if any) of taking part?

I am not aware of any disadvantages or risks to you in taking part in the evaluation.

How will information about me be used?

Results will be collated into a spreadsheet and analysed so that moral reasoning scores can be calculated. Further analysis will compare average group scores and comparisons made with demographic information so that any trends can be identified. The data gathered may be used for illustration in presentations and publications. It may also feed into future research. If so, further ethics approval will be sought at this stage.

Who will have access to information about me?

Envelopes for questionnaires will be numerically coded to allow follow-up of non-responders; the principal investigator (Maria Allinson) will be the only person who will have access to the numerical codes. All information will be kept confidential, with codes kept separate from questionnaire responses. No other use will be made of the data without your written permission, and no one outside the study will be allowed access to the original data. Electronic data will be stored securely on password-protected media that only my supervisory team (Professor Patricia Black and Dr Lizzie Mills) and I will have access to. Hardcopies of the questionnaires will be kept secure in a locked cupboard. Data will be retained by the principal investigator (Maria Allinson) for five years, after which time they will be destroyed.

Who is funding and organising the research?

This research is funded by the School of Pharmacy, Keele University as part of a DPharm (Professional Doctorate in Pharmacy) degree.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher who will do her best to answer your questions. You should contact Maria Allinson on 01782 734133 or email m.d.allinson@keele.ac.uk. Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black on 01782 734132 or email p.e.black@keele.ac.uk.

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address:-

Nicola Leighton
Research Governance Officer
Research & Enterprise Services
11.6 Innovation Centre 1
Keele University
ST5 5BG
E-mail: n.leighton@keele.ac.uk
Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me (Mrs Maria Allinson) at m.d.allinson@keele.ac.uk or on telephone number 01782 734133.

Thank you for taking the time to read this information!

APPENDIX 8: Consent form for PEP test

CONSENT FORM

Title of Project: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Name and contact details of Principal Investigator: Maria Allinson, 1.24 Hornbeam Building, School of Pharmacy, Keele University, Keele, Staffordshire, ST5 5BG.
Tele: 01782 734133; E-mail: m.d.allinson@keele.ac.uk

Please tick box if you agree with the statement

- | | |
|---|--------------------------|
| 1. I confirm that I have read and understood the information sheet dated 05/12/14 (version no. 1) for the above study and have had the opportunity to ask questions | <input type="checkbox"/> |
| 2. I understand that my participation is voluntary and that I am free to withdraw at any time | <input type="checkbox"/> |
| 3. I agree to take part in this study. | <input type="checkbox"/> |
| 4. I understand that data collected about me during this study will be anonymised before it is submitted for publication. | <input type="checkbox"/> |
| 5. I agree to allow the dataset collected to be used for future research projects | <input type="checkbox"/> |
| 6. I agree to be contacted about possible participation in a future research project | <input type="checkbox"/> |

Name of participant

Date

Signature

Researcher

Date

Signature

APPENDIX 9: Consent form for interviews

CONSENT FORM

Title of Project: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Name and contact details of Principal Investigator: Maria Allinson, 1.24 Hornbeam Building, School of Pharmacy, Keele University, Keele, Staffordshire, ST5 5BG.
Tele: 01782 734133; E-mail: m.d.allinson@keele.ac.uk

Please tick box if you agree with the statement

1. I confirm that I have read and understood the information sheet dated 27/01/15 (version no. 2) for the above study and have had the opportunity to ask questions ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time ☐
3. I agree to take part in this study. ☐
4. I understand that data collected about me during this study will be anonymised before it is submitted for publication. ☐
5. I agree to the interview being audio recorded ☐
6. I agree to allow the dataset collected to be used for future research projects ☐
7. I agree to be contacted about possible participation in a future research project ☐

Name of participant

Date

Signature

Researcher

Date

Signature

APPENDIX 10: Consent form for use of quotes

CONSENT FORM (for use of quotes)

Title of Project: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Name and contact details of Principal Investigator: Maria Allinson, 1.24 Hornbeam Building, School of Pharmacy, Keele University, Keele, Staffordshire, ST5 5BG.
Tele: 01782 734133; E-mail: m.d.allinson@keele.ac.uk

**Please tick box if you
agree with the statement**

1. I agree for my quotes to be used

☐

2. I do not agree for my quotes to be used

☐

Name of participant

Date

Signature

Researcher

Date

Signature

APPENDIX 11: PEP Test

Professional Ethics in Pharmacy (PEP) Questionnaire¹

INSTRUCTIONS: PLEASE READ CAREFULLY

The purpose of this questionnaire is to help me to understand how people think about social and professional problems. Different people have different opinions about questions of right and wrong. There are **no “right” answers**, although scores will be allocated depending on your responses, as a measure of the importance you have placed on various moral issues.

I would like you to tell me what you think about several problem stories. Please do not spend too much time on each item. In fact your first response, even if you are not completely sure, is sufficient. All of your answers will be kept strictly confidential.

Please read the story or dilemma, then mark your answers as follows:

First: you will be asked to indicate your recommendation for what a person should do. If you tend to favour one action or another (even if you are not completely sure) indicate which one. If you do not favour either action, mark the square by “can’t decide”.

Second: read each of the items numbered 1 to 12. These represent different issues that might be raised by the problem. You must rate them in terms of what is important to you, ranging from ‘great’ to ‘little’ or ‘no’ (i.e. none). For example, if you feel that an issue is **of great importance** in helping you to make your decision, then mark the box stating “**great**”. If however, you feel that issue is **not important at all** or does not make sense to you mark the “**No**” box.

You may mark several items as “great” or any other level of importance- there is **no fixed number** of items that must be marked at any one level.

Third: after you have rated each of the 12 items, at the bottom you will be asked to choose the item that you feel is the most important consideration out of all the items printed there. Pick from among the items provided even if you think that none of the items are of “great” importance. Then choose the second, third and fourth most important to you.

Please read the following scenarios carefully and fill the appropriate boxes with an **X** and circles with a number.

Thank you for taking the time to fill out this questionnaire.

I also hope you enjoy the challenge!

¹ This questionnaire was developed by Dr Betty Chaar, University of Sydney.

DILEMMA NO. 1

It was a cold winter's afternoon and business had been slow at the pharmacy all day. In fact business had been slow ever since the pharmacist took over the pharmacy 3 months ago from the previous owner. It had been difficult to keep finances under control at the time. The bank's notice for late payment instalments had arrived the day before.

It was a relief to be distracted from these worries by an incoming client asking to see the Pharmacist. An elderly lady requested something for her sinuses. She had tried many medications including paracetamol, antihistamines and nasal sprays, but nothing seemed to have helped. There were many OTC (over-the-counter) products on the shelf with huge bonuses and great promotions. One particularly expensive item looked suitable. Perhaps it might not provide her with much symptom relief, as there was no evidence to prove efficacy, but it wouldn't do much harm either.

Should the pharmacist sell the OTC product?

☐ Yes

☐ Can't Decide

☐ No

How important would each of the following be in deciding what to do?

Please rate the importance of each of the following by marking with an X:

Great Much Some Little No

					1. Whether you (the pharmacist) are under great financial pressure.
					2. Whether other pharmacists would approve of such a recommendation.
					3. Whether you need to offer the client symptom relief to retain her loyalty to the pharmacy.
					4. Whether the client is a grandmother and not likely to abuse a medication.
					5. Whether there is no criminal offence in selling OTC products in the pharmacy.
					6. Whether the Pharmacy Board recently sent out guidelines about Standards of Practice.
					7. Whether providing symptom relief to the client will help her feel less discomfort or pain.
					8. Whether it is acceptable to appropriate justice in forms amenable to the professional.
					9. Whether a recent article in a reputable journal queried the benefit of that particular OTC.
					10. Whether it is fair to persuade a pensioner to pay for an item of uncertain benefit to her.
					11. Whether you don't want to disappoint her and lose her respect for you.
					12. Whether you counsel and explain the options to her as per professional guidelines.

From the list of questions above, please rank the statements in order of importance:

Most
Important

Second
Most Important

Third
Most Important

Fourth
Most Important

DILEMMA NO.2

One late Saturday evening a client, well known to the pharmacist, presented at the pharmacy in much distress. Over the last few months she had been collecting her mother's regular medications for cancer treatment and pain relief. The pharmacist had no doubt the client's mother was suffering much pain.

The client approached the pharmacist imploring for an extra bottle of Morphine Mixture 100mg/5mL, as her mother had used up all her repeats and had just run out. The last dispensing of the mixture had been three days earlier. Lately, her mother had needed a lot more morphine than usual for breakthrough pain. The family doctor had left for the weekend. All neighbouring doctors had also left for the weekend and she couldn't go to the emergency department of the local hospital for this.

Should the pharmacist dispense the Morphine Mixture?

☐ Yes

☐ Can't Decide

☐ No

How important would each of the following statements be in deciding what to do?

Please rate the importance of each of the following by marking with an x:

Great Much Some Little No

					1. Whether you (the pharmacist) are willing to risk legal ramifications for illegal provision of an opioid to a sick patient.
					2. Whether viability of the business by complying with patients' needs is important.
					3. Whether the laws of the land are in place to actually protect the public.
					4. Whether it is a patient's right to choose to take medication even if you suspect self-harm.
					5. Whether there are strict professional regulations to abide by regardless of circumstances.
					6. Whether calling for legal advice is appropriate in this situation.
					7. Whether ideology of bioethics & civil liberties apply to resource dissemination in general.
					8. Whether it is a pharmacist's responsibility if a patient forgets to see the doctor in time.
					9. Whether pain may be controlled by other measures within legal boundaries.
					10. Whether your medical indemnity is up to date and renewed.
					11. Whether you should respond to the trust which the patient has afforded you.
					12. Whether the professional and clinical judgment of the pharmacist in this case is relevant.

From the list of questions above, please rank the statements in order of importance:

Most
Important
Important

Second
Most Important

Third
Most Important

Fourth
Most

DILEMMA NO.3

It has been a very busy Monday at the pharmacy. There have been a large number of prescriptions, many with problems, then the demanding clients who couldn't wait for their turn and even lost medications. It has been difficult to maintain order in the pharmacy. In the midst of all this, one client walked in quietly, and was waiting in a corner to be served. Eventually, an assistant brings forth a repeat prescription for his tricyclic antidepressant. The prescription is not due for dispensing for at least another fortnight. The pharmacist queries this and the client shrugs rather despondently, mumbling something about going on a holiday. The pharmacist vaguely remembers this patient...something about an attempted suicide years ago. The prescribing doctor, a psychiatrist, does not like the pharmacist calling during consultation hours as the distraction upsets his patients.

Should the pharmacist dispense the repeat?

☐ Yes

☐ Can't Decide

☐ No

How important would each of the following be in deciding what to do?

Please rate the importance of each of the following by marking with an X:

Great Much Some Little No

					1. Whether you (the pharmacist) are very busy and need to close shop in half an hour.
					2. Whether you consider it important to address clients' needs otherwise business is lost.
					3. If the patient has a logical reason for requesting supply there is no point in refusing.
					4. Whether it is a patient's right to choose how and when to take their medication.
					5. If the patient is adequately counselled there is no further responsibility for the pharmacist.
					6. Whether the client's neighbour is a friend and can be relied upon to report any problems.
					7. Whether a citizen is entitled to his or her medicine by law, if prescribed by a doctor.
					8. Whether the prescription is legal and "Immediate Supply" is justified and possible.
					9. Whether concerns for safety override need for medication.
					10. Whether it is a pharmacist's duty to abide by the requirements of the prescription.
					11. Whether it is a pharmacist's duty to exercise professional judgment in dispensing.
					12. Whether refusing to dispense, since it is not legally due, is the preferred option.

From the list of questions above, please rank the statements in order of importance:

Most
Important

Second
Most Important

Third
Most Important

Fourth
Most Important

YOUR DETAILS

Please be informed that all information collected in this survey is coded, ensuring confidentiality. The Information below is requested so that we have a cross-section of demographics that can be used to identify any trends in the scores obtained.

Please tick the one that applies to you in each category.

Main Current Role (please tick only one box):

☐ Stage 1 student ☐ Stage 4 student ☐ Pre-registration student

☐ Pharmacist: Main place of work for pharmacist or pre-registration student? (Please tick only one main workplace)

☐ Community
☐ Hospital
☐ Other

☐ Other, non-pharmacist role (please state) _____

Gender: ☐ Male ☐ Female ☐ Prefer not to state

Age range: ☐ < 20 ☐ 21-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41+
☐ Prefer not to state

Ethnicity:

☐ White British ☐ White European ☐ White other ☐ British Asian
☐ Asian ☐ Black British ☐ Black Afro-Caribbean
☐ Other (please state) _____
☐ Prefer not to state

Religion:

☐ Christianity ☐ Islam ☐ Judaism ☐ Hinduism
☐ Seikhism ☐ other ☐ no religious beliefs ☐ Prefer not to state

English is first language? ☐ Yes ☐ No

Location of workplace (city/county) _____

THANK YOU VERY MUCH FOR PARTICIPATING IN MY STUDY

As a further strand of my research I would like to interview alumni to ascertain your views on how you felt teaching at Keele prepared you for professional practice, with a particular focus on your experience of using the Vx tool. This interview would last approximately 1 hour and be held at a time and place of your convenience.

Please indicate whether or not you are willing to be interviewed:

☐ Yes

☐ No

Contact details:

Address _____

Telephone _____

Email _____

APPENDIX 12: Information sheet for alumni (interview)

Information Sheet for Keele Alumni (Interview)

Study Title: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Aims of the Research

The overall aim of my study is to establish the effectiveness of an online ethical decision-making tool, Values Exchange (Vx), in facilitating Pharmacy students' learning and development in professional ethics and its potential use in practice. My specific objectives are:

- To ascertain pharmacists' views on their preparedness for exercising judgment in their professional practice as a result of having used the Vx tool
- To identify perceived advantages and disadvantages of using the Vx tool to facilitate learning and professional development
- To determine pharmacists' views on the potential future use of the Vx tool

Invitation

You are being invited to consider taking part in the research study *An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice*. This project is being undertaken by myself, Maria Allinson, as part of my research for a Professional Doctorate in Pharmacy (DPharm) degree.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with friends and relatives if you wish. Ask me if there is anything that is unclear or if you would like more information.

Why have I been invited?

You have been invited to participate in this project because you have graduated from Keele School of Pharmacy within the past three years and are based in the UK.

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons. Choosing not to take part will not in any way affect your relationship with the University.

What will happen if I take part?

If you decide to take part I will invite you to participate in an approximately one hour long semi-structured interview. This would involve me asking questions about your experience of ethical dilemmas in practice and your opinion of ethics teaching at Keele School of Pharmacy, with particular reference to the Values Exchange online ethical decision-making tool. You will be given the opportunity to ask questions about the study, then asked to complete a written consent form prior to the interview commencing. The discussion will be digitally recorded, transcribed and used for analysis. You will be asked to provide written consent for the use of quotes at the end of the interview. If you consent to participate in this study, it should be drawn to your attention that the researcher has a professional obligation to act upon any aspects of poor practice and/or unprofessional behaviour that may be disclosed during the research activity.

Please be aware that I will have a professional obligation to act upon any aspects of poor practice and/or unprofessional behaviour that may be disclosed during the research activity, either at an organisational or at a personal professional level.

What are the benefits (if any) of taking part?

There are no immediate benefits to you of taking part in this study but your data will help inform future use of Values Exchange as a teaching tool for ethics at the School of Pharmacy, Keele University, and more widely through dissemination via publication.

What are the risks (if any) of taking part?

I am not aware of any disadvantages or risks to you in taking part in the evaluation.

How will information about me be used?

All the information that I collect about you during the course of the study will be kept confidential and your name will not be used, just codes. Small sections of text (i.e. direct quotes) may be used for illustration in presentations and publications. The information gathered may feed into future research. If so, further ethics approval will be sought at this stage.

Who will have access to information about me?

No one outside the project will be allowed access to the original data and no other use will be made of the data without your written permission.

I do however have to work within the confines of current legislation over such matters as privacy and confidentiality, data protection and human rights and so offers of confidentiality may sometimes be overridden by law. For example in circumstances whereby I am concerned over any actual or potential harm to yourself or others I must pass this information to the relevant authorities.

Electronic data will be stored securely on password-protected media that only my supervisory team (Prof Patricia Black and Dr Lizzie Mills) and I will have access to. Hardcopies of the transcripts will be kept secure in a locked cupboard. Data will be retained by the principle investigator (Maria Allinson) for five years, after which time they will be destroyed.

Who is funding and organising the research?

This research is funded by the School of Pharmacy, Keele University as part of a DPharm (Professional Doctorate in Pharmacy).

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher who will do her best to answer your questions. You should contact Maria Allinson on 01782 734133 or email m.d.allinson@keele.ac.uk. Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black on 01782 734132 or email p.e.black@keele.ac.uk.

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address:-

Nicola Leighton
Research Governance Officer
Research & Enterprise Services
11.6 Innovation Centre 1
Keele University
ST5 5BG
E-mail: n.leighton@keele.ac.uk
Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me (Mrs Maria Allinson) at m.d.allinson@keele.ac.uk or on telephone number 01782 734133.

Thank you for taking the time to read this information!

APPENDIX 13: Cover letter

18.02.15

Dear Keele Alumnus,

Re: Invitation to participate in a research project on the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

I am writing to you as you are a former Keele MPharm student who graduated within the last three years. I am hoping that you will agree to take part in the research project that I am completing as part of my Professional Doctorate in Pharmacy (DPharm) degree. My project will focus on the Values Exchange tool that Keele MPharm students use throughout their four years of undergraduate study. I would be very grateful if you would take part in my study.

About the project

I would like to establish the effectiveness of the Values Exchange (Vx) tool in facilitating Pharmacy students' learning and development in professional ethics and its potential use in practice. The General Pharmaceutical Council, our regulatory body, requires that a pharmacy professional is able to recognise ethical dilemmas and respond in accordance with relevant codes of conduct. Evidence from current professional practice however suggests that undergraduate teaching of professional ethics may not be preparing students well for practice and raises the question of how ethics should be taught to address this.

What I would like you to do

If you are happy to take part, please complete the enclosed questionnaire and then return it to me in the prepaid envelope provided. The questionnaire should take no more than 20 minutes to complete. You will be asked to rate and rank comments relating to three scenarios involving ethical dilemmas. The aim of the questionnaire is to assess your moral reasoning skills. I would like to analyse the data from your questionnaire and compare scores across groups (i.e. Stage 1 and Stage 4 students and alumni from Keele School of Pharmacy).

I would also like to interview alumni to ascertain your views on how you felt teaching at Keele prepared you for professional practice, with a particular focus on your experience of using Vx. If you are willing to be interviewed, please let me know via the questionnaire so that I can contact you with further information regarding this. If you do not wish to be interviewed, please do still complete and return the questionnaire.

The results of this study will be included in my thesis as part of my Professional Doctorate which I am undertaking at Keele University. All the information that I collect about you during the course of the research will be kept confidential. No individual person will be identifiable in any reports, papers, presentations or summaries.

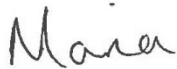
I have received Keele University ethical approval to conduct the study (approval code ERP322).

More information can be found in the attached participant information sheet which provides greater detail about the project. If you would like to proceed, please complete the questionnaire as fully and accurately as possible and return it to me by **11.03.15**.

Your participation would be greatly appreciated. Please do not hesitate to contact me on 01782 734133 or email at m.d.allinson@keele.ac.uk if you have any questions.

Thank you for taking the time to read this.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Maria'.

Mrs Maria Allinson

Lecturer in Pharmacy Practice

APPENDIX 14: Reminder letter

[Date]

Dear Keele Alumnus,

I wrote to you on 18th February 2015 to invite you to participate in my research project on the use of an ethical decision-making tool (Values Exchange) in preparing practitioners to deal with ethical dilemmas. I am undertaking this research as part of my Professional Doctorate in Pharmacy (DPharm) degree. As I have not received a response from you as yet I am sending this as a reminder.

By completing the questionnaire you would be helping me to evaluate how Keele School of Pharmacy prepares undergraduates to deal with ethical dilemmas in real life pharmacy practice. I would be grateful if you could complete and return the questionnaire by **31st March 2015**.

Apologies if you have already replied; it had not arrived by the time I sent this.

If you have any questions please do not hesitate to contact me on 01782 734133 or email at m.d.allinson@keele.ac.uk

Thank you in anticipation.

Yours sincerely,

Mrs Maria Allinson
Lecturer in Pharmacy Practice

APPENDIX 15: Assessing distribution of data

Figures 1 to 4 show the distribution of P scores for each cohort.

Figure 1. Distribution of P scores for Stage 1 students

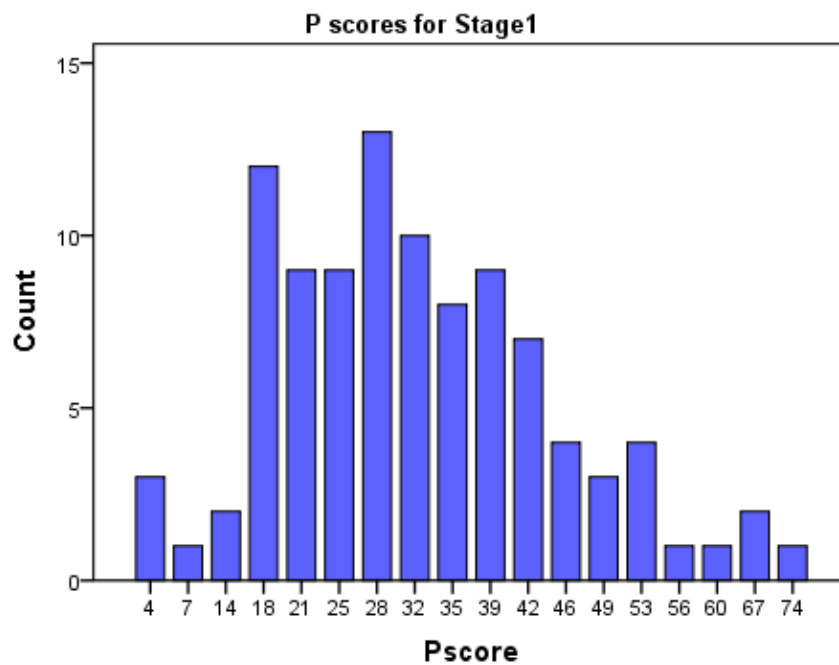


Figure 2. Distribution of P scores for Stage 4 students

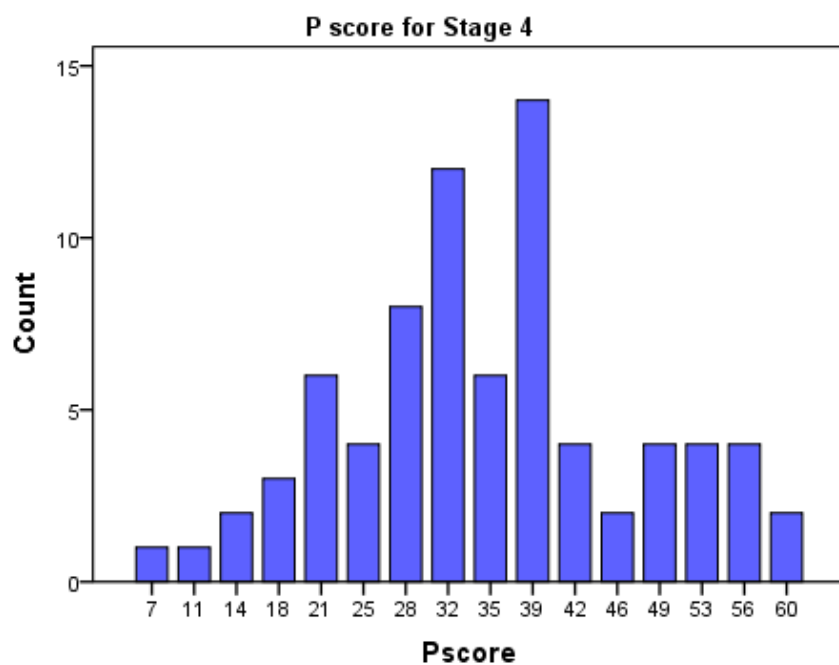


Figure 3. Distribution of P scores for pre-registration students

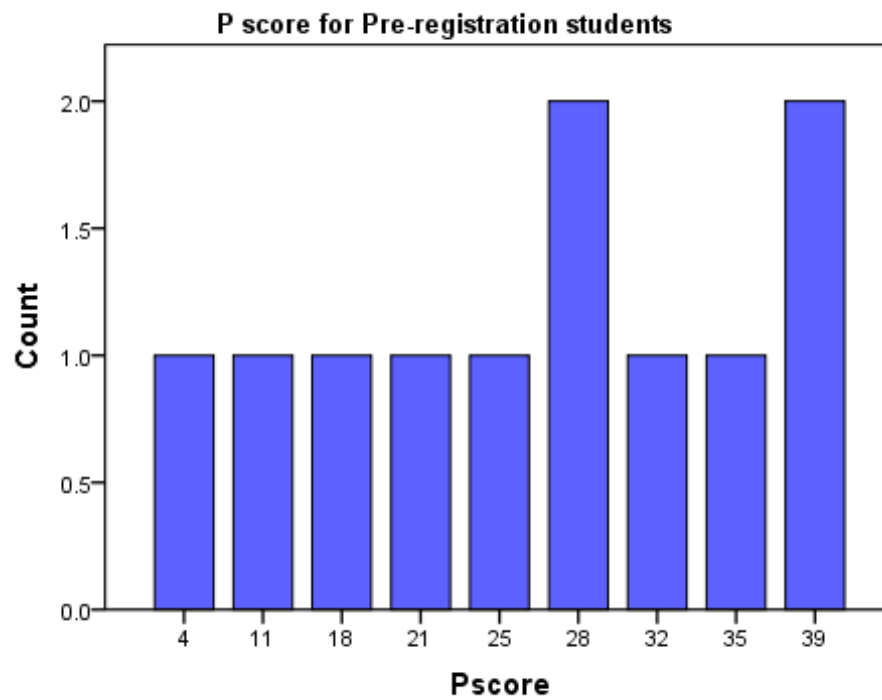


Figure 4. Distribution of P scores for pharmacists

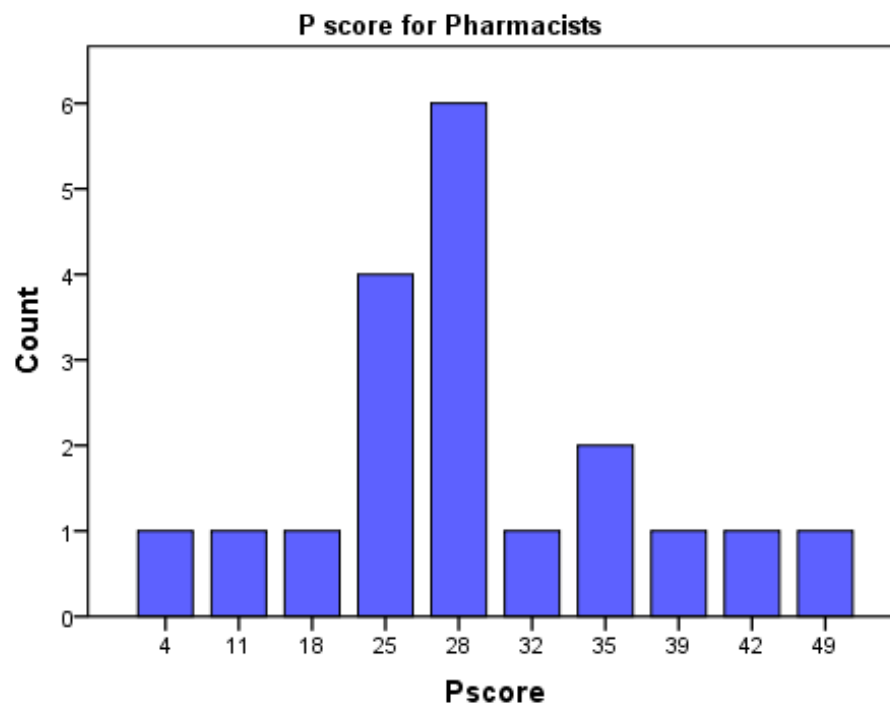


Figure 5 shows the distribution of P scores for all cohorts combined.

Figure 5. Distribution of P scores for total participants

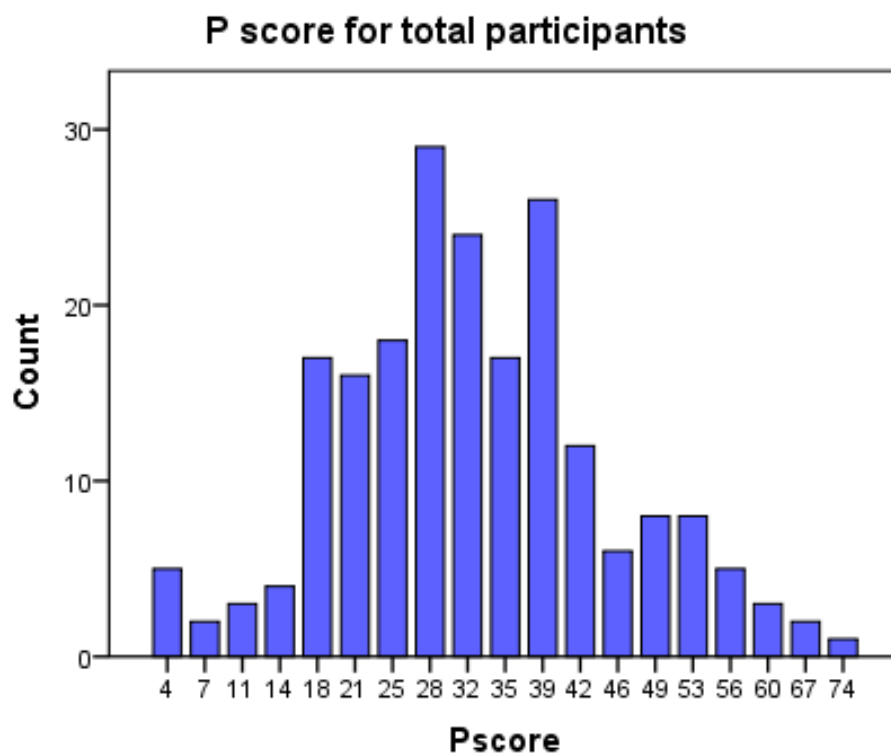
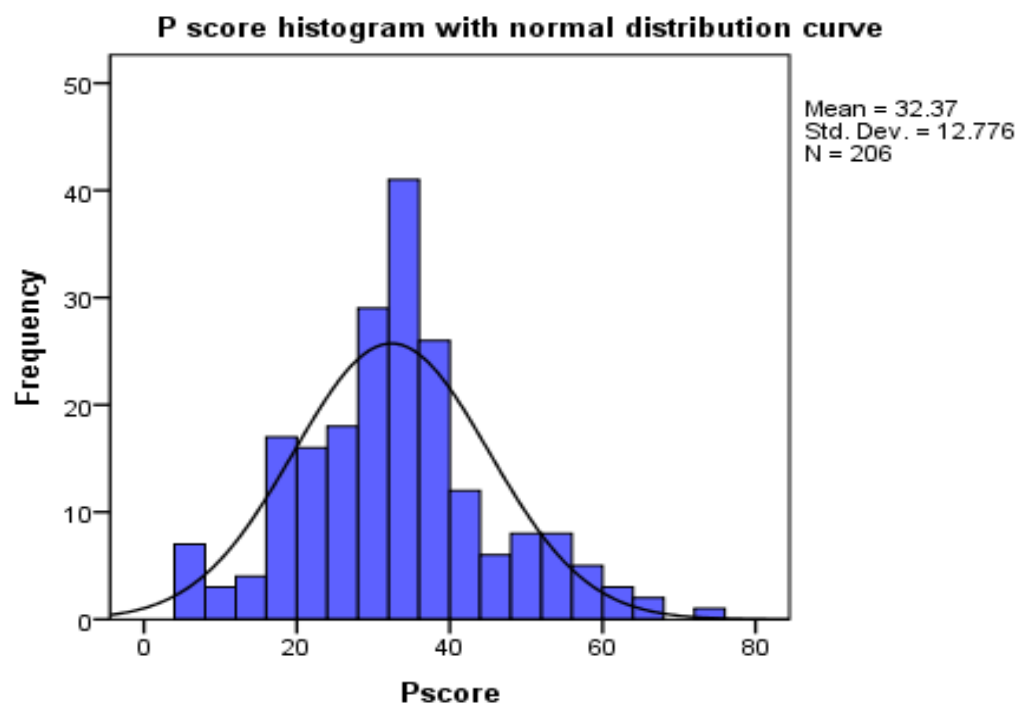


Figure 6 is a histogram of total P scores with a normal distribution curve applied. It can be seen that an approximate bell curve is achieved.

Figure 6. Histogram of total P scores with normal distribution curve



Skewness

The skewness of the data is presented in table 1 below.

Statistics

Pscore

N	Valid	206
	Missing	0
Skewness		.333
Std. Error of Skewness		.169

Table 1. Calculating skewness of P score distribution

Skew is calculated as shown below:

$$\text{Skewness/SE of skew} = 0.333/0.169 = 1.97$$

Strictly speaking, skew is statistically significant if it is >1.96. Although the skew value of my data is 1.97, a test result less than 2 is considered reasonably normal in distribution (Norman & Streiner 2008).

Kurtosis

Data relating to kurtosis is presented in table 2 below.

Statistics

Pscore

N	Valid	206
	Missing	0
Kurtosis		.314
Std. Error of Kurtosis		.337

Table 2. Calculating kurtosis of P score distribution

Kurtosis is calculated as shown:

$$\text{Kurtosis/SE of kurtosis} = 0.314/0.337 = 0.93$$

A kurtosis score of <1.96 indicates that kurtosis is not likely to be a problem and the data is normally distributed. As can be seen from the previous calculation therefore, there is no kurtosis observed in the P score data.

Tests for normal distribution

Specific tests can also be applied to data to assess whether or not they are normally distributed. The Kolmogorov-Smirnov test is no longer recommended but the Shapiro-Wilk test can be applied. This test measures the deviation from a normal distribution and a *p* level greater than 0.05 would suggest that the data is likely to be normally distributed. As can be seen from table 3, when applied to my data, the *p* value = 0.007 which is <0.05 therefore my data is statistically more likely to NOT be normally distributed.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pscore	.090	206	.000	.981	206	.007

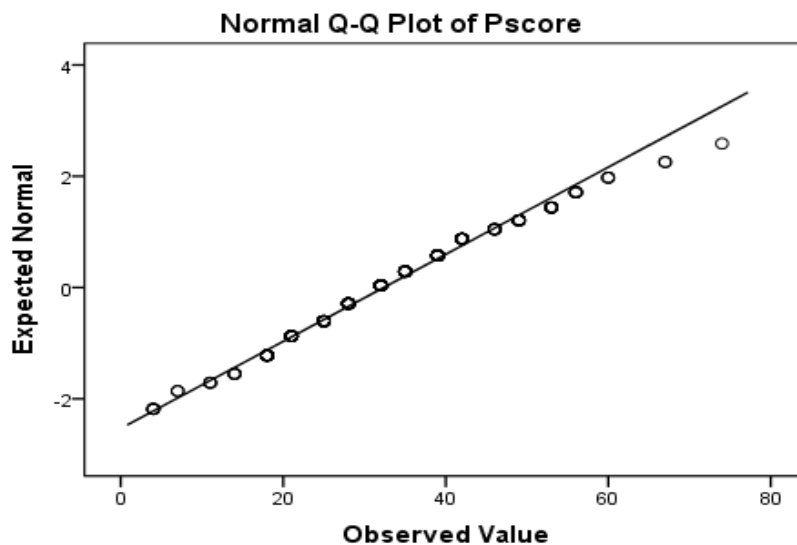
a. Lilliefors Significance Correction

Table 3. Tests for normal distribution applied to total P scores

This test should be interpreted with caution however as in large samples the test can be significant with only a slight deviation from a normal distribution (Field, 2013).

Another way of assessing the distribution of data is to undertake a Normal Q-Q Plot of my data (see Figure 7). As many of the observations are on or very close to the line this suggests a fairly normal distribution.

Figure 7. A Normal Q-Q Plot of P scores

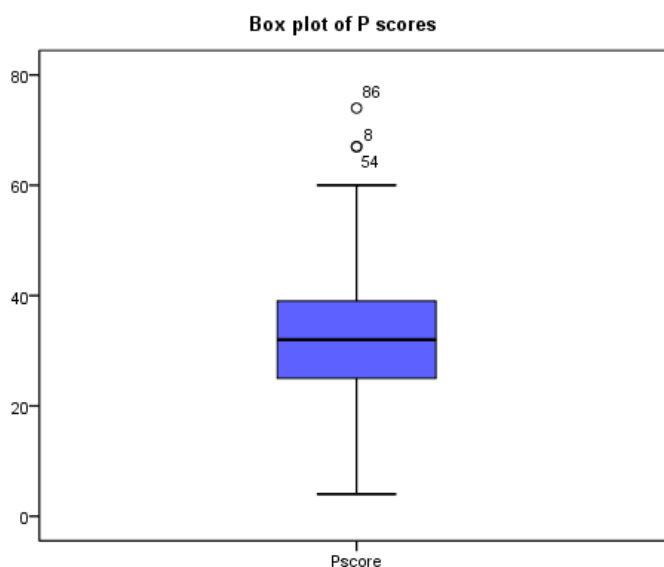


As the data looks fairly normally distributed, is not skewed or kurtosed to any great degree and the Normal Q-Q plot shows fairly close alignment of observations to the central line parametric tests can be applied, even though the Shapiro-Wilk test assesses my data not to be normally distributed.

Removing Outliers

The box plot highlights three possible outliers- participant numbers 54, 8 and 86 (see figure 8).

Figure 8 Box plot of P scores to identify outliers



Tables 4 and 5 below provide details of the weighted average P scores to identify the percentiles, and also the extreme P score values are at the tail ends of the data.

Percentiles

		Percentiles						
		5	10	25	50	75	90	95
Weighted Average	Pscore	12.05	18.00	25.00	32.00	39.00	49.00	56.00
(Definition 1)								
Tukey's Hinges	Pscore			25.00	32.00	39.00		

Table 4. P score percentiles

Extreme Values

		Case Number	Value
Pscore	Highest	1	86
		2	74
		8	67
		54	67
		43	60
		126	60 ^a
		204	4
		182	4
	Lowest	3	88
		4	83
		5	37
			4

a. Only a partial list of cases with the value 60 are shown in the table of upper extremes.

Table 5. Extreme values of P scores

The *Outlier labelling rule* is applied to this information so that true outliers can be identified:

$$(Q3 - Q1) \times 2.2 = (39-25) \times 2.2 = 14 \times 2.2 = 30.8$$

$$\text{Upper limit} = [\text{75 percentile fig.}] + 30.8 = 39 + 30.8 = 69.8$$

$$\text{Lower limit} = [\text{25 percentile fig.}] - 30.8 = 25 - 30.8 = -5.8$$

Any P scores greater than 69.8 or less than -5.8 are therefore true outliers and should be removed from the data before analysis. The only outlier therefore to be removed is case 86 (P score = 74), a respondent from year 1.

APPENDIX 16: Inferential statistical tests

Role

Independent t-tests can be used to compare a single categorical predictor variable (i.e. role, gender and English language) using the single continuous outcome of P scores, as there are two different entities in each predictor category e.g. male vs female (Field, 2013). Assumptions have been met in that the data was normally distributed and the observations were independent.

Table 1 compares P scores in Stage 1 students with those of Stage 4 students.

Levene's test is also included as this demonstrates that the two groups are homogenous enough to make valid comparisons against ($p = 0.549$ which is > 0.05 therefore the groups are homogenous enough to conduct the t-test).

The p-value for the independent t-test is shown to be 0.055 which is just slightly greater than 0.05 and therefore, a statistically significant difference in means between the two groups has not been demonstrated. It is however approaching statistical significance.

Group Statistics

	Role S1 or S4	N	Mean	Std. Deviation	Std. Error Mean
Pscore	1 Stage1	98	31.42	12.891	1.302
	2 Stage 4	77	35.09	11.998	1.367

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.361	.549	-1.928	173	.055	-3.673	1.905	-7.432	.087
Equal variances not assumed			-1.945	168.0 63	.053	-3.673	1.888	-7.400	.055

Table 1 Independent t-test comparing Stage 1 with Stage 4 students

Cohen's d formula can be applied to estimate the effect size of the difference in means. This is calculated as shown:

$$\text{Difference of mean} / \text{Average std. dev.} = 3.67 / 12.4445 = 0.295$$

An effect size of 0.295 is considered a small effect (0.2-0.3 is small, 0.5 is medium, 0.8+ is large).

Gender

Interrelationships were examined between P scores for the total population and all demographics. Table 2 below compares P scores in males with females across all respondents. Levene's test is also included as this demonstrates that the two groups are homogenous enough to make valid comparisons against ($p = 0.670$ which is > 0.05 therefore the groups are homogenous enough to conduct the t-test).

The p-value for the independent t-test is shown to be 0.118 which is greater than 0.05 and therefore, a statistically significant difference in means between the two groups has not been demonstrated.

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Pscore	1 Male	65	34.22	13.205	1.638
	2 Female	135	31.24	12.187	1.049

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pscore	Equal variances assumed	.182	.670	1.571	198	.118	2.971	1.891	-.758	6.700
	Equal variances not assumed			1.528	117.801	.129	2.971	1.945	-.881	6.822

Table 2 Independent t-test comparing gender in all participants

English as a first language

Table 3 below compares P scores in those whose first language is English with those whose is not, across all respondents. Levene's test is also included as this demonstrates that the two groups are homogenous enough to make valid comparisons

against ($p = 0.072$ which is > 0.05 therefore the groups are homogenous enough to conduct the t-test).

The p-value for the independent t-test is shown to be 0.474 which is greater than 0.05 and therefore, a statistically significant difference in means between the two groups has not been demonstrated.

Group Statistics

	English_lang	N	Mean	Std. Deviation	Std. Error Mean
Pscore	1 Yes	165	32.50	11.788	.918
	2	31	30.77	14.865	2.670

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pscore	Equal variances assumed	3.265	.072	.717	194	.474	1.729	2.411	-3.025	6.483
	Equal variances not assumed			.612	37.412	.544	1.729	2.823	-3.989	7.447

Table 3 Independent t-test comparing English as a first language in all participants

As there are more than two groups being compared within the independent variables of age-range, ethnicity and religion, one-way independent ANOVA-tests (Analysis of Variance) were conducted.

Age-range

Table 4 below shows the range of P scores achieved with standard deviations across all age ranges. The mean P scores for each age range are plotted in figure 1.

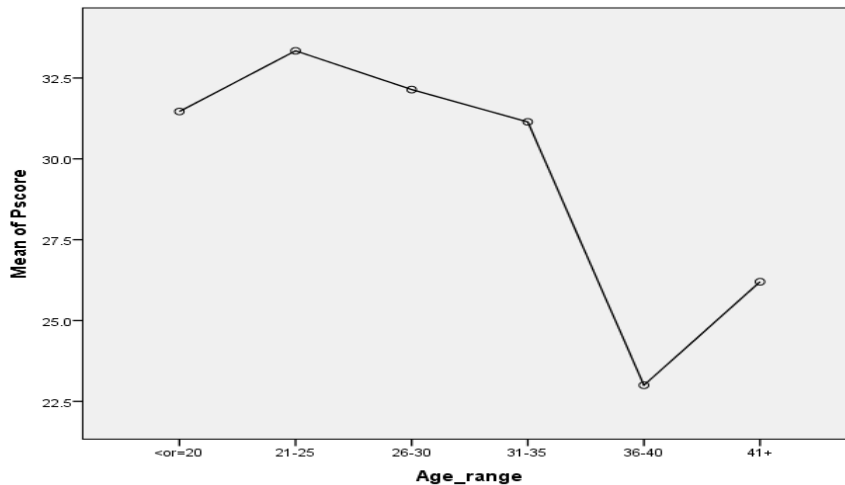
Descriptives

Pscore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 ≤20	86	31.47	12.419	1.339	28.80	34.13	4	67
2 21-25	88	33.34	13.097	1.396	30.57	36.12	4	67
3 26-30	14	32.14	11.621	3.106	25.43	38.85	18	56
4 31-35	7	31.14	13.171	4.978	18.96	43.32	14	56
5 36-40	2	23.00	12.728	9.000	-91.36	137.36	14	32
6 41+	5	26.20	6.140	2.746	18.58	33.82	18	35
Total	202	32.10	12.550	.883	30.36	33.85	4	67

Table 4 Descriptive statistics for P scores across age-ranges

Figure 1 Plot of P score means across age-ranges



Test of Homogeneity of Variances

Pscore

Levene Statistic	df1	df2	Sig.
.589	5	196	.709

ANOVA

Pscore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	516.277	5	103.255	.650	.662
Within Groups	31142.540	196	158.891		
Total	31658.817	201			

Robust Tests of Equality of Means

Pscore

	Statistic ^a	df1	df2	Sig.
Welch	.964	5	8.235	.491
Brown-Forsythe	.764	5	14.199	.590

a. Asymptotically F distributed.

Table 5 Tests of homogeneity, ANOVA and equality of means

As can be seen from table 5, the Levene statistic has a p value of 0.709 which is >0.05 and therefore signifies that the groups are homogenous enough to be compared with each other. The p value achieved from applying the ANOVA test is 0.662 which is also >0.05 . This indicates that there is no statistically significance difference in the means of P scores between age groups. This finding is backed up by the more robust tests of Welch and Brown-Forsythe which are both > 0.05 .

Ethnicity

Table 6 below shows the range of P scores achieved with standard deviations across all ethnic groups. The mean P scores for each ethnic group are plotted in figure 2 overleaf.

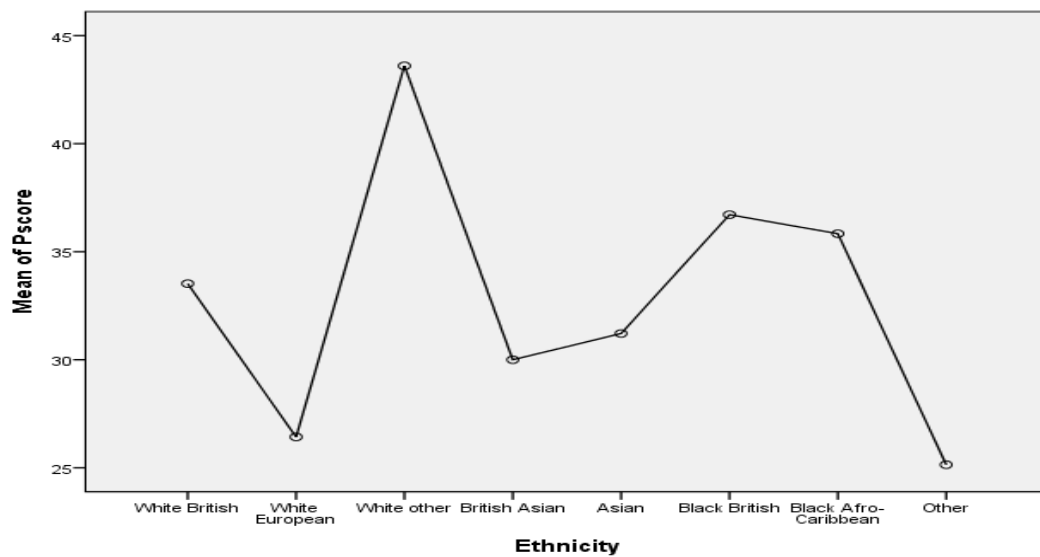
Descriptives

Pscore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 White British	84	33.52	10.823	1.181	31.18	35.87	4	60
2 White European	7	26.43	10.596	4.005	16.63	36.23	4	35
3 White other	5	43.60	17.387	7.776	22.01	65.19	28	67
4 British Asian	48	30.00	13.465	1.944	26.09	33.91	4	67
5 Asian	28	31.21	14.474	2.735	25.60	36.83	11	60
6 Black British	7	36.71	13.913	5.259	23.85	49.58	14	60
7 Black Afro-Caribbean	12	35.83	10.044	2.899	29.45	42.21	18	53
8 Other	7	25.14	9.063	3.426	16.76	33.52	14	42
Total	198	32.30	12.440	.884	30.56	34.05	4	67

Table 6 Descriptive statistics for P scores across ethnic groups

Figure 2 Plot of P score means across ethnic groups



Test of Homogeneity of Variances

Pscore

Levene Statistic	df1	df2	Sig.
1.544	7	190	.155

ANOVA

Pscore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1937.285	7	276.755	1.842	.081
Within Groups	28548.533	190	150.255		
Total	30485.818	197			

Robust Tests of Equality of Means

Pscore

	Statistic ^a	df1	df2	Sig.
Welch	1.659	7	25.403	.164
Brown-Forsythe	1.687	7	39.975	.140

a. Asymptotically F distributed.

Table 7 Tests of homogeneity, ANOVA and equality of means

As can be seen from table 7, the Levene statistic has a p value of 0.155 which is >0.05 and therefore signifies that the groups are homogenous enough to be compared with each other. The p value achieved from applying the ANOVA test is 0.081 which is also >0.05 . This indicates that there is no statistically significance difference in the means of P scores between ethnic groups. This finding is backed up by the more robust tests of Welch and Brown-Forsythe which are both > 0.05 .

Religion

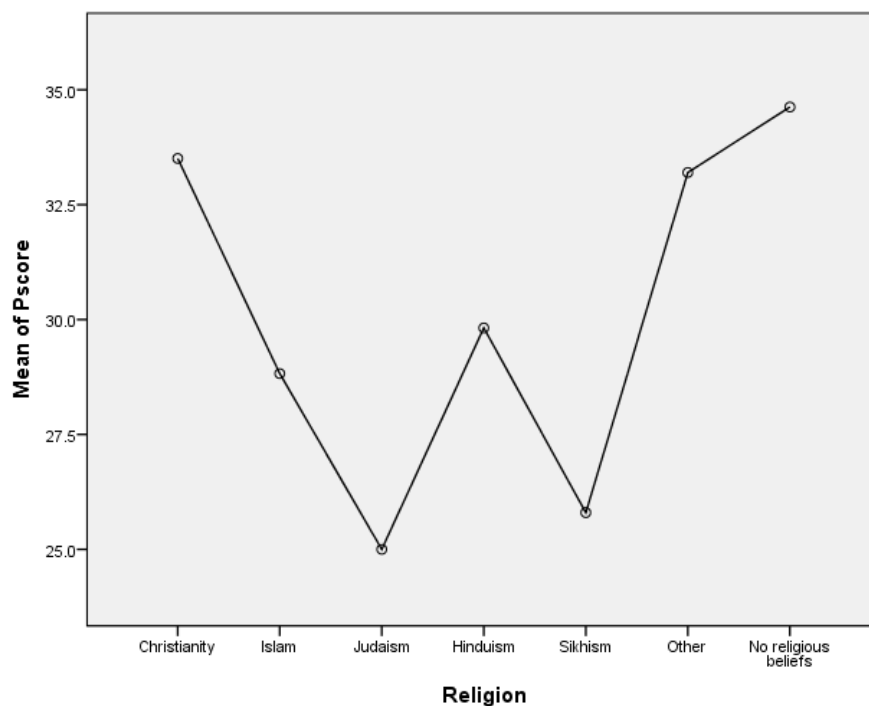
Table 8 shows the range of P scores achieved with standard deviations across all religious groups. The mean P scores for each religious group are plotted in figure 3.

Pscore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Christianity	77	33.51	11.359	1.294	30.93	36.08	4	60
2 Islam	40	28.83	11.953	1.890	25.00	32.65	4	53
3 Judaism	1	25.00	25	25
4 Hinduism	11	29.82	9.837	2.966	23.21	36.43	18	49
5 Sikhism	10	25.80	16.558	5.236	13.95	37.65	7	67
6 Other	5	33.20	11.649	5.210	18.74	47.66	18	49
7 No religious beliefs	48	34.63	11.070	1.598	31.41	37.84	4	60
Total	192	32.15	11.782	.850	30.47	33.82	4	67

Table 8 Descriptive statistics for P scores across religious groups

Figure 3 Plot of P score means across religious group



Test of Homogeneity of Variances

Pscore

Levene Statistic	df1	df2	Sig.
.208 ^a	5	185	.959

a. Groups with only one case are ignored in computing the test of homogeneity of variance for Pscore.

ANOVA

Pscore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1397.609	6	232.935	1.716	.119
Within Groups	25114.308	185	135.753		
Total	26511.917	191			

Table 9 Tests of homogeneity and ANOVA

As can be seen from table 9, the Levene statistic has a p value of 0.959 which is >0.05 and therefore signifies that the groups are homogenous enough to be compared with each other. The p value achieved from applying the ANOVA test is 0.119 which is also >0.05 . This indicates that there is no statistically significance difference in the means of P scores between religious groups. Note that the more robust tests of Welch and Brown-Forsythe cannot be applied to this data as one of the religious groups has only one respondent.

When all religious groups were combined and compared with non-religious participants, a statistically significant difference was observed with non-religious participants achieving a small but statistically significantly higher mean than those professing a religious allegiance.

Group Statistics

	Religious	N	Mean	Std. Deviation	Std. Error Mean
Pscore	1 Yes	144	31.32	11.932	.994
	2 No	49	35.43	12.314	1.759

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pscore	Equal variances assumed	0.026	.0873	-2.065	191	.040	-4.109	1.989	-8.033	-0.185
	Equal variances not assumed			-2.034	80.805	.045	-4.109	2.021	-8.130	-0.088

Table 10 Independent t-test comparing religious versus non-religious in all participants

Comparing decisiveness between start and end of year 1

As the percentage of students who could not decide what action to take in the scenarios increased from 18% to 24% from the beginning to the end of year 1, the chi-

square test was applied to calculate if this increase was statistically significant (see table 11).

	Can decide	Can't decide	Row totals
Start Y1	248	55	303
End Y1	220	69	289
Column totals	468	124	592

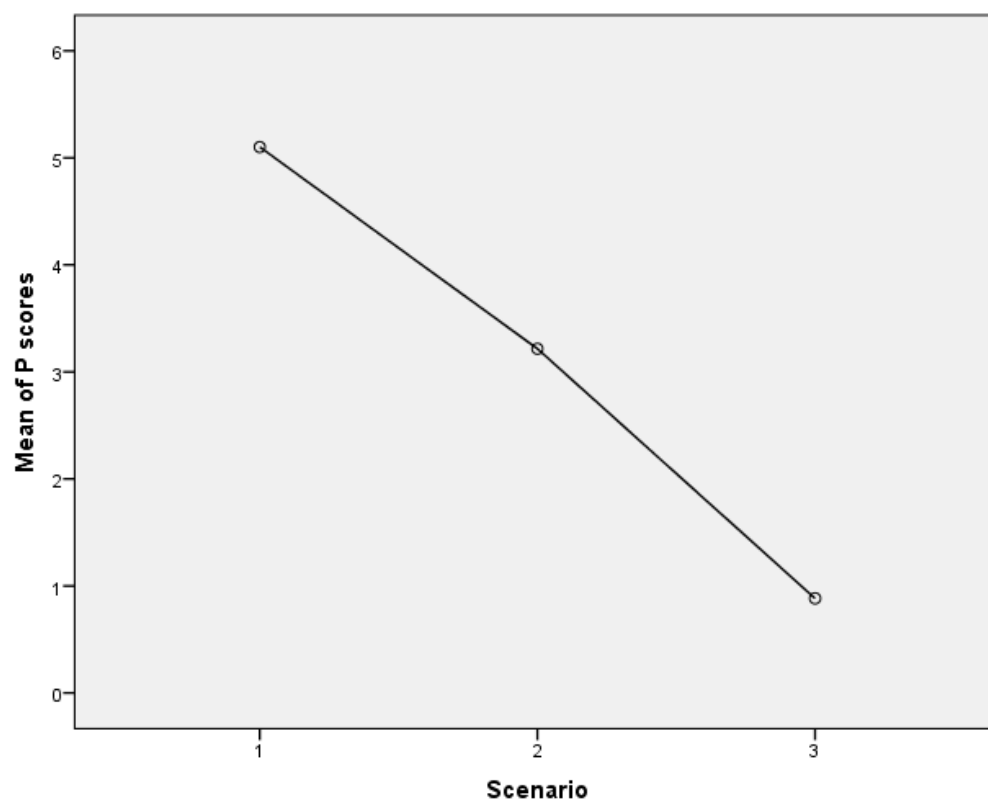
Table 11 Chi-square table for comparing levels of decisiveness between beginning and end of year 1 students

The chi-square statistic is 2.9264 and the p -value is 0.087, therefore the result is not significant at $p < 0.05$.

Comparing means across the three scenarios

The mean P scores for each scenario are plotted in figure 4 with descriptive statistics presented in table 12.

Figure 4 Plot of P score means across scenarios



Descriptive statistics

					95% CI for mean			
	N	Mean	Std Dev	Std Error	Lower	Upper	Min	Max
1	207	5.10	2.077	0.144	4.82	5.39	0	9
2	208	3.22	2.202	0.153	2.92	3.52	0	8
3	207	0.88	1.473	0.102	0.68	1.09	0	9
Total	622	3.07	2.597	0.104	2.86	3.27	0	9

Table 12 Descriptive statistics for P scores across the three scenarios

a. Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
19.819	2	619	.000

b. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1847.813	2	923.906	244.469	.000
Within Groups	2339.351	619	3.779		
Total	4187.164	621			

c. Robust Tests of Equality of Means

	Statistic ^a	df1	df2	Sig.
Brown-Forsythe	244.636	2	566.604	.000

a. Asymptotically F distributed.

Table 13 Tests of homogeneity, ANOVA and quality of means for the three scenarios

As can be seen from table 13, the Levene statistic had a p -value of 0.000 which is < 0.05 and therefore signified that the groups were not homogenous enough to be compared with each other. Because of this, the Brown-Forsythe test was applied as a more robust test of equality of means. The p -values achieved from applying the ANOVA test and the more robust Brown-Forsythe test were both 0.000 which indicated that there was a statistically significance difference in the means of P scores between the three scenarios.

1	2	1.885*	.210	.000	1.39	2.38
	3	4.217*	.177	.000	3.80	4.63
2	1	-1.885*	.210	.000	-2.38	-1.39
	3	2.332*	.184	.000	1.90	2.76
3	1	-4.217*	.177	.000	-4.63	-3.80
	2	-2.332*	.184	.000	-2.76	-1.90

*. The mean difference is significant at the 0.05 level.

Table14 Post-hoc Games-Howell test applied to the three scenarios

As equal variances could not be assumed, the Games Howell post-hoc test was applied to compare between the groups (Field 2009, Discovering stats using SPSS) and as can be seen from table 14, there is a significant difference between the mean scores of all three scenarios.

APPENDIX 17: Interview schedule

Iterations from original schedule in red.

Reiterate aim of study:

To establish the effectiveness of the Values Exchange system in facilitating Pharmacy students' learning and development in professional ethics

Assure them of confidentiality, transcriptions anonymised, all quotes anonymised. Recordings and transcripts stored securely, accessible only to supervisor and me (and transcriber).

Free to withdraw at any time. Please give honest opinions and don't hold back on your true views and feelings.

Any questions before beginning?

Ask to sign consent form.

Interview schedule

RQ1 How do pharmacy graduates feel the Vx prepares them in dealing with the ethical issues faced in professional practice?

1.1 Personal experience of ethical dilemmas

- We're going to talk about ethical dilemmas and I thought perhaps you could think of one or two dilemmas you have faced yourself? *(If struggling – 'or you know a colleague has faced?')*
 - **[Switch to 'professional judgment' if difficult to think of any]**

From CIT:

- *What preceded and contributed to the incident?*
- *What did the person or people do or not do that had an effect?*
- *What was the outcome or result?*
- *What made this action effective or ineffective?*
- *What could have made the action more effective?*

Consider the **four component model of morality**:

ethical sensitivity (On reflection, how effective did you think you were in being able to interpret the situation? Did you consider the reactions and feelings of others involved?)

Did you consider all alternatives and associated consequences?) [Awareness of the situation]

moral judgment (reasoning process - What did you take into consideration when deciding what to do? How did you judge which action was most justified)

[Weighing the pros and cons]

moral motivation (How did you prioritise the options open to you?) [Wanting to do it]

moral character (did you do what you thought was the right thing to do (or e.g. abide by the law instead?) If not, why not? [Feeling able to do it]

1.2 Their understanding of ethical dilemmas

- What made you decide that this was / these were ethical dilemmas?
(What do you understand an ethical dilemma to be?)
- Can you give any other examples of ethical dilemmas you could possibly be faced with within pharmacy?
- How often would you say you are faced with ethical dilemmas in your own practice? Approximately how many in the last month?
- What values and attitudes do you think a pharmacist should have, especially when dealing with dilemmas?
- What do you think influences the way you deal with dilemmas in practice?

e.g. colleagues, reading, personal values

1.3 Preparedness for practice

- How prepared do you currently feel to deal with ethical dilemmas in practice?
- How does this compare with how you felt when you graduated and started your pre-reg year?
- In hindsight, how well or not do you feel your undergraduate years prepared you for dealing with ethical dilemmas in practice?

If they feel it didn't prepare them well, but they now feel well prepared to deal with dilemmas, ask them how they got there since qualifying

- How did you get to feel as prepared as you do now?

1.4 Views on undergraduate teaching

- What are your views on the undergraduate teaching at Keele that you received to support ethical decision-making and how to deal with ethical dilemmas?

Tell me what you think about both the quantity and the quality of teaching/support provided by Keele to prepare you to deal with ethical dilemmas in practice

How do you think this has impacted (if at all) on your attitudes or the way you behave when dealing with ethical dilemmas?

- How has prior use of the Vx influenced (if at all) the way you deliberate on or respond to ethical dilemmas in practice?

Why do you think this is?

RQ2 What are the perceived advantages and disadvantages of learning with the Vx system?

2.1 What are your **general views** on the Vx system as a tool to facilitate learning and professional development in relation to ethics?

Did it help you to identify issues?

Did it support reasoning/ making judgments?

What did you think of the layout & technology?

Were the reports at end useful / waste of time / never looked at them? informative?

Easy or difficult to understand?

2.2 What do you think are the **advantages** of using the Vx to facilitate learning in ethics?

Findings from initial study:

- *Gains wider perspective - Prompts to consider more issues / see others' views*
- *Reflection –time to reflect, helps organise thoughts*
- *Inquiry – promotes informed decision-making / stimulates further research*
- *True representation of views*
- *Less pressurised environment than f-2-f setting*

2.3 What do you think are the **disadvantages** of using the Vx to facilitate learning in ethics?

- *Emotional detachment of online system*
- *Time for reflection vs real time dilemmas – does this prepare you for real life?*
- *No opportunity to develop face-to-face communication skills*
- *No hierarchy e.g. between pharmacy, nursing and medical student – does this prepare you for real life? (NB Only pre-reg year have undertaken IPE using Vx)*
- *Delayed responses to comments*
- *Technical problems with system*

RQ3 How do pharmacy graduates believe the Vx should be used in the future to maximise its potential in undergraduate pharmacy education and post-registration continuing professional development?

Future potential of Vx

In UG teaching

3.1 How do you think the Vx system could be **used to best effect in the UG course**?

Use more / less often?

Make cases more pharmacy specific?

Have a more blended approach – online case followed by f-2-f workshop discussions

3.2 What **further support in general** do you think could / should be provided in UG teaching to help prepare students for facing ethical dilemmas in practice?

Format / frequency / multidisciplinary?

Support for pre-regs and practising pharmacists

3.3 What (if any) **further support** would you like to see **now that you are in practice**, to help you to deal effectively with ethical dilemmas?

Who should provide this? How often? In what format?

CPD

3.4 How do you think the Vx system could be used (if at all) to support continuing professional development in dealing with ethical dilemmas in practice?

Within pharmacy organisations? Within an employing organisation? Practice cases? Looking at root cause analysis of problems encountered previously?

Use in practice

3.5 How do you think the Vx system could be used (if at all) in clinical practice?

To discuss difficult scenarios – seek support/advice?

To address problem cases (patients) within a MDT prior to meeting up?

With the push for Values-based recruitment and values-based practice, is there a role for the Vx enabling values transparency in the NHS?

Final questions:

Is there anything you would like to say regarding

- ethics in general
- specifically around teaching ethics
- the Vx system that hasn't already been covered?

Thank you very much

Ask to sign consent form for use of quotes

APPENDIX 18 – Ethics Committee letter of approval for extended data collection period.



Ref: ERP322

18th December 2015

Maria Allinson
School of Pharmacy
Hornbeam Building

Dear Maria,

Re: An evaluation of the use of an ethical decision-making tool in preparing practitioners to deal with ethical dilemmas in pharmacy practice

Thank you for submitting your application to amend study for review. I am pleased to inform you that your application has been approved by the Ethics Review Panel.

The following documents have been reviewed and approved by the panel as follows:

Document	Version	Date
Summary Document	4	15 th December 2015

If the fieldwork goes beyond the date stated in your application (30th June 2016), you must notify the Ethical Review Panel via the ERP administrator at uso.erps@keele.ac.uk stating ERP3 in the subject line of the e-mail.

If there are any other amendments to your study you must submit an 'application to amend study' form to the ERP administrator stating ERP3 in the subject line of the e-mail. This form is available via <http://www.keele.ac.uk/researchsupport/researchethics/>

If you have any queries, please do not hesitate to contact me via the ERP administrator on uso.erps@keele.ac.uk stating ERP3 in the subject line of the e-mail.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Dr Helena Priest'.

Dr Helena Priest
Chair – Ethical Review Panel

CC RI Manager

Research and Enterprise Services, Keele University, Staffordshire, ST5 5BG, UK
Telephone: + 44 (0)1782 734466 Fax: + 44 (0)1782 733740