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Strengthening maternity service user involvement in midwifery clinical skills education through co-design of a mobile app.

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Abstract

Fiona Gibb
Master of Research

Strengthening maternity service user involvement in midwifery clinical skills education through co-design of a mobile app.

Background: Service user involvement in education has become fundamental in professional, statutory and regulatory bodies responsible for the education of health and social care professionals. Where there are various examples of service user involvement across nursing, medicine and social work there appears to be less evidence on how to involve women in midwifery education and the impact of this.
Aim: The aim of this research was to create a design specification, co-designed in partnership with maternity service users to inform the content of a mobile app which could be used to support the involvement of women in midwifery clinical skills education.
Design: Qualitative, participatory research was undertaken using a user-centred co-design framework.
Methods: Qualitative data was collected using a World Café style approach with female employees of the university (n=7) who were currently pregnant or who had a baby within the preceding five years and thus had recent experience of maternity services.
Findings: This research suggested that there is motivation from maternity service users to be involved in midwifery education, however there are challenges that restrict the time that pregnant women and new mothers can contribute. The findings of the co-design World Café's centred around three themes namely; preparation for involvement, supporting and sustaining involvement and the acceptability and use of an app to overcome challenges faced by maternity service users. Through participants' involvement in the research, a design specification was co-designed which includes a diary function of upcoming teaching sessions, general information about the volunteer group, a news feed with testimonials and feedback and a profile to register personal details to be shared only with the volunteer group database.

Conclusion: The findings from this research could assist in the development of an app to support and sustain the involvement of women in midwifery education.

Keywords: qualitative research; participatory research; narrative pedagogy; midwifery education; service user involvement; clinical skills; co-design; user-centred; mobile app development

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Fiona Gibb
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Table of Contents

Abstract i

Acknowledgements iii

Figures vii

Tables vii

Chapter 1: Introduction 1

1.1 Terminology and language 1

1.2 Service user involvement in healthcare 2

1.3 Service user involvement in the education of healthcare professionals 5

1.3.1 Benefits and challenges of service user involvement in healthcare education 7

1.4 Mobile applications 9

1.5 Research focus and approach 10

1.6 Research aim and objectives. 12

1.7 Structure of thesis 13

Chapter 2: Literature Review 14

2.1 Literature search 14

2.2 Theories of service user involvement. 15

2.3 Approaches used to involve service users in health and social care education 20

2.3.1 Service users in clinical skills education 23

2.4 Challenges of involving service users in education 26

2.5 Preparing and supporting service users for involvement 29

2.6 Mobile apps for healthcare and higher education 33

2.6.1 The rise and popularity of apps 33

2.6.2 Apps in the education of healthcare workers and students 34

2.6.3 Apps for service user involvement in healthcare and education 35

2.7 Co-production and co-design concepts. 37

2.7.1 Terminology of co-production 37

2.7.2 Challenges of co-production and co-design 39

2.7.3 User-centred co-design in the development of mobile apps 41

2.8 Summary 44

Chapter 3: Research Methodology 46

3.1 Introduction 46

3.2 Research Objectives 46

3.3 Narrative pedagogy and midwifery education. 47

3.4 Qualitative methodology and study design....49
3.5 Theoretical framework....52
3.6 Data collection- Contextual inquiry....56
3.6.1 Participants, recruitment and setting....56
3.6.2 Methods....57
3.7 Data analysis – Value Specification....61
3.8 Ethics....62
3.9 Conclusion....63
Chapter 4 – Findings....64
4.1 Introduction....64
4.2 Preparation for Involvement....66
4.2.1 Information and clear expectations....66
4.2.2 Advertising and Social Media....69
4.3 Supporting and sustaining involvement....70
4.3.1 Informed choice....70
4.3.2 Flexibility....71
4.3.3 Feedback and recognition of their contribution....73
4.4 Acceptability and use of app....74
4.4.1 Design and functionality....75
4.4.2 Use of visuals....76
4.4.3 Confidentiality....77
4.5 App specification....78
4.6 Summary of findings....84
Chapter 5: Discussion and conclusion....86
5.1 Introduction....86
5.2 Information required to encourage and support women with experience of pregnancy, birth and maternity services to contribute to midwifery clinical skills education....87
5.2.1 Recruitment....87
5.2.2 Preparation and support....89
5.3 The factors that may enhance or hinder women's motivation, self-efficacy and competence to engage with midwifery skills education....90
5.3.1 The power of storytelling....90
5.3.2 Reciprocity....93
5.3.3 Challenges for maternity service users....94
5.4 Women's needs and perspectives on the use, content, functions and design features of a potential mobile application to support their involvement in midwifery clinical skills education....96
5.4.1 Use, content and functions of a service user volunteer app....96
5.4.2 User-centred co-design....98

5.5 Reflection of strengths and limitations of the research. 99
5.6 Conclusion 101
5.7 Recommendations 102
References. 103
Appendices 125
Appendix A: Recruitment poster 125
Appendix B: Semi structured World Café topic guide 126
Appendix C: Sample thematic analysis table 127
Appendix D: Sample requirements analysis table 129
Appendix E: Ethical approval 131
Appendix F: Information sheet and consent form 133

Figures

1. Continuum of service user involvement framework (Forrest et al 2000)
2. Ladder of Involvement (Tew et al 2004)
3. Spectrum of Involvement (Towle et al 2010)
4. The ceHRes Roadmap (Nijand 2011; van Germert-Pijen et al 2011)
5. The ISR Framework (Hevner 2007)
6. ceHRes Roadmap (Nijand 2011; van Germert-Pijen et al 2011) phases and activities
7. Seven design principles for facilitation a World Café (Brown and Issacs 2005)
8. World Café Guidelines (Brown and Issacs 2001)
9. Mind map summary of the overarching themes and sub-themes from thematic analysis
10. Photograph of flipchart findings
11. Design specification
12. Front page and booking icon wireframe
13. Newsfeed icon wireframe
14. General information wireframe
15. Personal Profile wireframe

Tables

1. Examples of co-production terms and definitions

Chapter 1: Introduction

This chapter provides the background to, and overview of, the research reported on in this thesis. The following chapter begins by outlining the terminology and language used and sets the scene for the nature of the research by exploring the background of service user involvement in healthcare and in the education of healthcare professionals. Next, the research focus and the qualitative, participatory approach that was undertaken will be discussed. The aim of the research was to co-design an app specification with maternity service users to inform the content of a mobile application (app) which could be used to support the involvement of women in midwifery clinical skills education. Finally, chapter one will conclude with an overview of the structure of this thesis.

1.1 Terminology and language

Within the literature there are confusing and conflicting terminologies used to describe the 'consumers' or 'users' of healthcare services in the UK and around the world (Towle et al 2010; McKeown et al 2011, 2012; Speed at al 2012). Sometimes user involvement can refer to people who use, or have used health services; or the carers or parents of service users; or in general reference to the public or non-professionals or as a combination of all the above (Chambers and Hickey 2012). Other terms used in the literature include 'patient', 'client', 'lay participant', 'patient instructor', 'consumer' which are often used interchangeably (Gray and Donaldson 2010; Speed et al 2012). Interestingly, Moss et al (2009) reported that their study participants preferred the term 'service user', while Tyler (2006) suggested that some may find such a term offensive and inappropriate.

UK midwifery models of care emphasise empowerment of women and partnership working (Department of Health (DH) 2007; Scottish Government 2011) and as such, authors within this field have suggested that the use of the term 'patient' paternalistic and disempowering (Clarke 2014). Walton (1995) argued the term 'patient' has connotations of illness, submissiveness and compliancy. This may be inappropriate depending upon the context to which the

involvement is pertaining to. For example, within the context of midwifery practice, as in the research reported on in this thesis, the majority of women in maternity care are healthy and experiencing the normal physiological process of pregnancy and childbirth and so the term 'patient' is inappropriate. Similarly, the term 'client' may insinuate the woman as a consumer of a product or procedure rather than attending to her own needs (Walton 1995). Carboon (1999) proposes that 'woman' is a neutral term more fitting with maternity care and reflects maturity and equity, avoiding assumptions of class or status.

For the purposes of this study, the term service user will be used due to its general acceptance in the UK and Europe (Spencer et al 2011). Due to the midwifery context of the project, 'woman' may also be used when referring to the participants in this research. The Healthcare Professions Council define service users as:

> *'those who typically use or are affected by the services of registrants once they qualify from programmes and become registered (e.g. patients, clients, carers, organisational clients, colleagues etc).'* (Chambers and Hickey 2012, p3.)

1.2 Service user involvement in healthcare

Over recent decades, the involvement of service users in the planning, delivery and evaluation of healthcare has become ubiquitous (Spencer et al 2011). The move towards a person-centred NHS in the 1990's (DH 1999) emphasized active participation of service users in healthcare and promoted subsequent government legislation (Crisp 2005; Scottish Government 2010). The aim of such policies is to promote change from a paternalistic health care system to a more person-centred approach providing care that is:

> "*responsive to individual personal preferences, needs and values and assuring that patient values guide all clinical decisions*" (Scottish Government 2010, p.22).

Scottish Government policy seeks to make healthcare more responsive to the needs of the public and to promote self-care, particularly among those with chronic conditions to contain costs (Towle et al 2010).

Within society, the rise of consumerism has empowered service users to become more involved in healthcare delivery, policy and research (Mckeown 2014). Furthermore, legal and ethical guidelines regarding consent for treatment are based on shared decision making between professionals and patient ensuring informed choice (Towle et al 2010; NICE 2017). Person- centred care, shared decision making are reported as being the foundations of contemporary healthcare (Scottish Government 2010). Furthermore, health professional educators and service users acknowledge that their professional working relationships should be reflected in health professional education ensuring professionals are fit for contemporary practice (Tew et al 2004; Tremayne et al 2014).

Internationally, there is recognition about the importance of service user involvement and there are examples of service user input from healthcare planning to delivery and evaluation (Crawford et al 2002; Mockford et al 2011). However, the level of engagement can range from consultation, with minimal shared decision making, to co-production and leadership where service users are key partners in decision making (Ocloo and Matthews 2016)

Although there is substantial literature exploring *how* service users are involved in healthcare, there appears to be fewer research studies about the *impact* of their involvement on healthcare services. A recent systematic review of literature recognised the achievements of service user involvement in healthcare, such as planning the location of community services, design of healthcare buildings, and the development of public/professional information and dissemination through peer support groups and training sessions (Mockford et al 2011). However, due to inconsistencies in the definition of patient and public involvement and inadequate reporting tools there have been challenges of collecting evidence to support this claim (Mockford et al 2011). Mockford et al (2011) suggest, however, that this lack of evidence does not mean that service user involvement has had limited impact on healthcare.

In recent years, the emphasis on patient and public involvement in healthcare has been driven by high profile investigations into clinical and service failings in the UK and internationally (Francis 2013; Kirkup 2015; Walshe and Shortell 2004). Service user involvement in healthcare planning and delivery is reported by policy makers as crucial to address previous failings and to promote quality within our healthcare services (Francis 2013). In addition, there are several organisations nationally and internationally advocating partnership with service users in healthcare and research, consultation and development of resources such as INVOLVE (2017), The European Patients' forum and The International Association for Public Participation. In fact, certain countries, such as in Scandinavia and in Scotland, public involvement in healthcare planning and delivery is a fundamental right of the population prescribed by legislation and guidelines (Rise et al 2011; NHS Scotland 2012). As stated in the NHS Scotland (2012) 'Charter of Patient Rights and Responsibilities':

> *"You have the right to be involved, directly or through representatives, in the planning, design and provision of services in your area."* (NHS Scotland 2012, p.12).

Despite the presence of this charter, it was not until 2015 following the publication of the Francis Report (2013) that service user involvement in the planning of healthcare services also became a legally binding fundamental right of the public in England (NHS England 2015)

In addition to the use of different terminology to describe 'service users', there are interchangeable terms used to describe service user involvement. In the context of healthcare design and planning, 'involvement' is used interchangeably with 'participation', 'consultation', 'engagement' and 'patient or public voice' and there are many ways to achieve involvement from surveys and citizen panels to elected representatives on committees (NHS England 2017). Consequently, NHS England (2017) advocate that any of these terms can be appropriate depending on the needs and context of the commissioning activity.

In the context of research, INVOLVE (2012) define the term 'involvement' where service users are actively involved in research or research organisations, for example, service users carrying out research or working with educationalists to develop and deliver education. 'Participation' refers to service users taking part

in research or education such as being recruited to a research study or attending a teaching session. 'Engagement' is when 'information and knowledge is provided and disseminated', for example, dissemination of findings of study to service users or an open day where the public are invited to find out about midwifery education (INVOLVE 2012).

In the higher education sector, the National Co-ordinating Centre for Public Engagement (NCCPE, 2018a) recognises that public engagement is multi-faceted and that there are many different terms used in education. They define public engagement as:

> *"the myriad of ways in which the activity and benefits of higher education and research can be shared with the public. Engagement is by definition a two-way process, involving interaction and listening, with the goal of generation mutual benefit" (*NCCPE 2018a, publicengagement.ac.uk).

In the current research study and in accordance with these definitions, service users were 'participants' who, through a participatory research approach, helped to co-design the context of a tool which could be used to support the future involvement of maternity service users in shaping midwifery education. The role of service users in shaping and directing the education of future healthcare professionals is more specifically addressed in the following section.

1.3 Service user involvement in the education of healthcare professionals

In response to the drive for person-centred care, service user involvement in the education of healthcare professionals has become imperative (Rhodes 2012). As similarly discussed within the context of healthcare, there is little existing evidence to suggest service user involvement within education will have a direct impact on frontline healthcare services (Towle et al 2010). Ng and Chu (2015) speculate, however, that ultimately service user involvement in education will have a long-lasting impact on clinical care as it encourages the development of technical and interpersonal skills, empathy and a person-centred approach to care. It should be acknowledged, however, that some researchers appear to assume that the benefits will eventually impact on patient outcomes without being based on current available evidence (Morgan and Jones 2009; Scammell et

al 2015). Further systematic evaluation is required to determine the long-lasting impact on clinical practice (Haycock-Stuart et al 2016).

Nevertheless, UK government policy (DH 2007; Scottish Government 2010) has advocated over the past decade, that service user and carer involvement in the education of health and social care professionals becomes standard practice (Happell et al 2014). Consequently, statutory bodies responsible for the accreditation of nursing and midwifery, health and social care and medicine have implemented service user and carer involvement in their educational frameworks (Nursing and Midwifery Council (NMC) 2009; 2010; Health and Care Professions Council 2017; General Medical Council 2016). For example, the NMC (2009) standards for pre-registration midwifery education reference that:

> "*midwifery education programmes must meet the needs of users of maternity services, as well as students. It is therefore important that women who use maternity services are involved in all stages of curriculum planning, development and programme evaluation*" (NMC 2009, p9).

This recommendation continues to be reinforced in the draft standards that are due for publication in spring 2018 (NMC 2017). However, although greater service user involvement has been advocated with the aforementioned policies and professionals' standards, there is no specific guidance on how this should be achieved or for what purpose.

Within the wider context of higher education institutes, there are several significant policy developments that shape university public engagement, for example the Teaching Excellence Framework (Department for Education 2016) and the Research Excellence Framework (Higher Education Funding Council for England (HEFCE) 2014). The purpose of the frameworks are to encourage universities to demonstrate how they incorporate public engagement into their research, teaching and social responsibility to maximise the benefits the institution can generate for the public (National Co-ordination Centre for Public Engagement, NCCPE, 2018b). The benefits of which can enrich university research, teaching and learning and strengthens the university brand and identity. Furthermore, it can motivate and develop staff and students, for instance in leadership, communication and partnership and can maximise the

flow of knowledge and learning between universities and society (NCCPE, 2010).

However, as will be explored further in Chapter 2, the nature of involvement of service users in education can vary. For example, nationally, in the chief nursing officer's review of Nursing and Midwifery education in Scotland; *'Setting the Direction'*, Moore et al (2014) commended Scottish Universities for service user engagement in teaching sessions but indicated that there is less involvement within curriculum design and development of teaching resources. Within the broader healthcare system, the National Person-Centred Health and Care Programme (Healthcare Improvement Scotland 2014) aims to enable people who use health and care services to engage purposefully with health and care providers to continuously improve and transform services in practice and education. But Moore et al (2014) also recognise that there needs to be consistent approaches for services users to be involved in every aspect of education and suggests that digital solutions in education may useful for greater collaboration and sustainability. However, a consistent approach to involve service users is open to interpretation and there is minimal guidance about how service user involvement can be achieved in a meaningful way (Casey and Clark 2014).

1.3.1 Benefits and challenges of service user involvement in healthcare education

Despite the limited evidence base about the impact of service user involvement on frontline clinical care, there are substantial documented benefits of involving service users in the education of health and social care professionals for students, service users and universities (Towle et al 2010; Rhodes 2012; 2014; Naylor et al 2015; Morgan and Jones 2009).

In relation to the reported benefits for students, there is higher satisfaction in their teaching and learning experience and they may become more sensitive to the needs of vulnerable groups (Towle et al 2010). Additionally, student assumptions and attitudes are challenged and evolve with respect to different physical, sociological, psychological needs (Naylor et al 2015). Towle et al (2014) revealed that learning clinical skills with service users reduced student anxiety and improved confidence because they received immediate feedback on their practice in a safe environment. A systematic review (Happell et al 2014) of

service user involvement in the education of mental health professionals demonstrated improved communication, development of empathy and cultural awareness (Rani and Byrne 2014; Rhodes et al 2016) and a motivation to improve services (Morgan and Jones 2009). Most of the examples of involvement included sharing their stories to students and participating in classroom teaching which was evaluated through surveys and interviews about students perceived impact on their learning (Rani and Byrne 2014; Rush 2008). Similar benefits are replicated in the findings of other research across health and social care disciplines and suggests the need for universities to promote partnership working across the curriculum (Hughes 2013; O'Donnell and Gormely 2013; Webber and Robinson 2011).

In relation to the reported benefits for service users, Stevens and Tanner (2006) and McKeown et al (2012) reported increased confidence and self-esteem and an opportunity to expand social networks and make friendships. Additionally, many service users have gained satisfaction that they were making an impact on student learning and giving back to healthcare services (Jones 2006; Hitchen 2016). Service users have also reported that they had a better understanding of the concerns and challenges for different healthcare professionals which provided additional motivation to sustain their involvement to change things for the better (Stevens and Tanner 2006). Furthermore, there are benefits for universities, such as improved relationships with local communities and enhancing reputation for quality education (McKeown et al 2012). The benefits for students, the public and universities that have been documented in the literature reinforce the overall aims and objectives of the university excellence frameworks that were highlighted in the previous section to involve service users in education (NCCPE 2018b; HEFCE 2014; Department of Education 2016).

Different approaches of involving service users in healthcare education have been described in the literature with the majority based within medical and nursing education, particularly within mental health programmes (Repper and Breeze 2007; Morgan and Jones 2009; Gray and Donaldson 2010; Casey and Clark 2014; Happell et al 2014). While it might be assumed that service users want to be involved and share their experiences (Rhodes 2012), there is little research regarding how users want to be involved in education and what barriers there are to their initial involvement (Speed et al 2012). Particularly within

midwifery, there appears to be little documented about participation and evaluation of maternity service users in midwifery education (Haycock-Stuart et al 2016).

Both Repper and Breeze (2007) and Speed et al (2012) agreed that a major challenge expressed by service users in education was that they did not know the context and reasons for their involvement due to lack of preparation and support and not receiving feedback. Speed et al (2012) caution that there must be involvement of users from the very beginning of education planning to secure interest and sustainable collaboration and furthermore, that their participation and ongoing commitment must not be taken for granted. The current spectrum of service user involvement in healthcare education, the challenges and requirements for preparation and support will be explored in more detail with the literature review in chapter 2.

One approach becoming increasingly used to empower service users to become more involved in their healthcare in its broadest sense, has been the use of mobile applications (apps). Mobile apps have been developed to provide information, professional support and education in the realms of healthcare (Gretton and Honeyman 2016). In the context of service user involvement in healthcare and for the specific purposes of this thesis, in healthcare education; given the increasingly ubiquitous nature of mobile technology and the potential benefits for information exchange and communication afforded by mobile apps, the use of mobile apps may potentially present a unique approach for helping to prepare, promote, support and sustain the involvement of service user in education. The use of mobile apps will be briefly considered in the following section and returned to in further detail to set the context for this research reported on in this thesis, in Chapter 2.

1.4 Mobile applications

National health and education policy has advocated e-enabled education and digital technologies such as e-learning and smart phones to provide great opportunities for learning, collaboration and sustainability (Moore et al 2014; Department of Health 2011). Mobile application technology or ‘apps’ as they are

referred to, are rapidly emerging as tools that can support communication and information exchange between service users and healthcare professionals and services (Guo et al 2015; Ventola 2014). The recent review of maternity and neonatal services in Scotland revealed the important role of technology, stating that women and their families expect to receive and exchange information online, or through technology such as mobile apps (Scottish Government 2017). Apps have many reported benefits, such as supporting education for patients and healthcare professionals and students and symptom monitoring and disease management in the diagnosis and delivery of healthcare services (Ramirez et al 2016). With this evidence in mind, it seems logical that an app may present an innovative approach to address many of the barriers that services users have reported in relation to communication, preparation and support to be involved in education.

Literature on the use of mobile apps in supporting the development of educational curricula will be explored in chapter 2, but at present there appears to be a particular gap in the evidence base on the use of apps in supporting the involvement of service users in education. Hence in addressing this gap, this research aims to explore the features and creation of a mobile app design specification co-designed in partnership with maternity service users.

1.5 Research focus and approach

The researcher is a senior midwifery lecturer in a higher education institute (HEI) in the north of Scotland and has a key role in the theoretical and clinical skills education of pre-registration midwifery students. Prior to this, she was a senior midwife based in a labour and birth environment with clinical teaching of obstetric emergencies, neonatal resuscitation and examination of the newborn. She has a professional interest in the areas of clinical skills teaching and simulation within the Bachelor of Midwifery programme and has knowledge of pedagogies and innovative teaching methods.

The midwifery curriculum in the HEI where this research is focused, invites maternity service users to share their stories and experiences of pregnancy, labour and birth and the transition to motherhood, however this is not extensive

or reflected in clinical skills teaching where practical skills are often demonstrated and then rehearsed. This appears to be similar approach used by other midwifery programmes who invite woman to participate in class by sharing stories (Davis and McIntosh 2005; Warren et al 2017). The researcher recognises that there are challenges in integrating theory and clinical skills in university settings and furthermore challenges of applying the knowledge and skills to the realities of clinical practice.

The HEI where this research was conducted currently has a Patient Volunteer Programme where service users are invited into the clinical skills laboratory. The aim is to provide realistic learning opportunities where students can develop confidence and competence using clinical skills with real people in a safe environment. Currently, there are 87 volunteers, mainly from the local retired population with only one woman of childbearing age. If service user involvement in clinical skills is to be improved within the context of midwifery education specifically, there needs to be greater representation of maternity service users within the volunteer programme within the HEI of this research. Therefore, this gap provides the context for the proposed research in examining how maternity service users can be better prepared and supported to influence clinical skill education through their involvement in the Patient Volunteer Programme.

A greater degree of partnership working with maternity service users is also important not only to fulfil current standards of nursing and midwifery education (NMC 2009; NMC 2017), but also to explore different perspectives of care delivery and promote valuable interactions with maternity service users. Partnership working could also lead to greater satisfaction for service users and feelings of appreciation, increasing the likelihood of their future engagement in clinical skills education. This approach has been found to be successful in achieving such benefits in the context of mental health and social care service users (Stevens and Tanner 2006; Happell et al 2014; Hitchen 2016). Therefore, a qualitative, participatory approach will be used working in partnership with participants to explore their perspectives and co-design an app specification on which a mobile app could be designed to support their involvement. The methodology underpinning this research will be explored in more detail in Chapter 3.

The researcher understands and promotes learning and teaching approaches that align with the ontological perspective of relativism, in which there are multiple truths that evolve and change depending on experience and the context (Creswell and Creswell 2018). In other words, learning does not happen just by performing and rehearsing clinical skills but rather emphasizing the human element of effective communication and critical thinking depending on the environment of care. A relativist approach focuses on people and the uniqueness and transferability of their experiences which fits with the researcher's epistemological view of subjectivism that understandings are gained through social interaction and that the researcher is inherently part of this social world (Robson 2015). The methodological approach undertaken in the research reported on in this thesis is discussed in further detail in Chapter 3.

1.6 Research aim and objectives.

The aim of this research was to create an app specification, co-designed in partnership with maternity service users to inform the content of a mobile application (app) which could be used to support the involvement of women in midwifery clinical skills education. The objectives were:

1. To explore what information would encourage and support women with experience of pregnancy, birth and maternity services to contribute to midwifery clinical skills education.
2. To identify and explore the factors that may enhance or hinder women's motivation, self-efficacy and competence to engage with midwifery skills education.
3. To understand women's needs and perspectives on the use, content, functions and design features of a potential mobile application to support their involvement in midwifery clinical skills education.
4. To create an app specification co-designed with maternity service users, to inform the future development of a mobile app that could be used to help support the involvement of women in midwifery clinical skills education.

1.7 Structure of thesis

This chapter has presented an introduction to the involvement of service users in healthcare education, why it is important and what the potential benefits are of students, service users and universities. The ways that service users have and could be involved in healthcare education will be explored further in Chapter 2. Additionally, the use of mobile apps in healthcare and in higher education will be discussed and with exploration of how they can be designed using the principles of co-production and co-design.

Chapter 3 describes the underpinning pedagogy related to the research aims and objectives. Following which, the qualitative, participatory methodology and user-centred, co-design framework will be introduced. The data collection and analysis methods will also be discussed along with the ethical considerations.

Chapter 4 presents the findings of the research and the app specification co-designed with participants for a potential app prototype.

Finally, Chapter 5 discusses the relevance of these findings in the context of the current literature and presents the conclusions of the research.

Chapter 2: Literature Review

In this chapter, the first section will explore the theories and perspectives on service user involvement and service user recruitment with discussion about the challenges for their participation in healthcare education within the University setting. Next, the current evidence on preparation and support approaches for service users with a comparison of different methods undertaken across different universities will be synthesised. Since the aim of the research was to develop specification of a mobile app, the second half of the chapter will explore the use of mobile applications in facilitating communication and support in healthcare and education. This section will explore how the use of a mobile app could address some of the potential challenges experienced by service users in becoming involved in education. Finally, the chapter will explain how mobile app development using a user-centred design will demonstrate how early stakeholder participation can promote engaging and sustainable mobile apps.

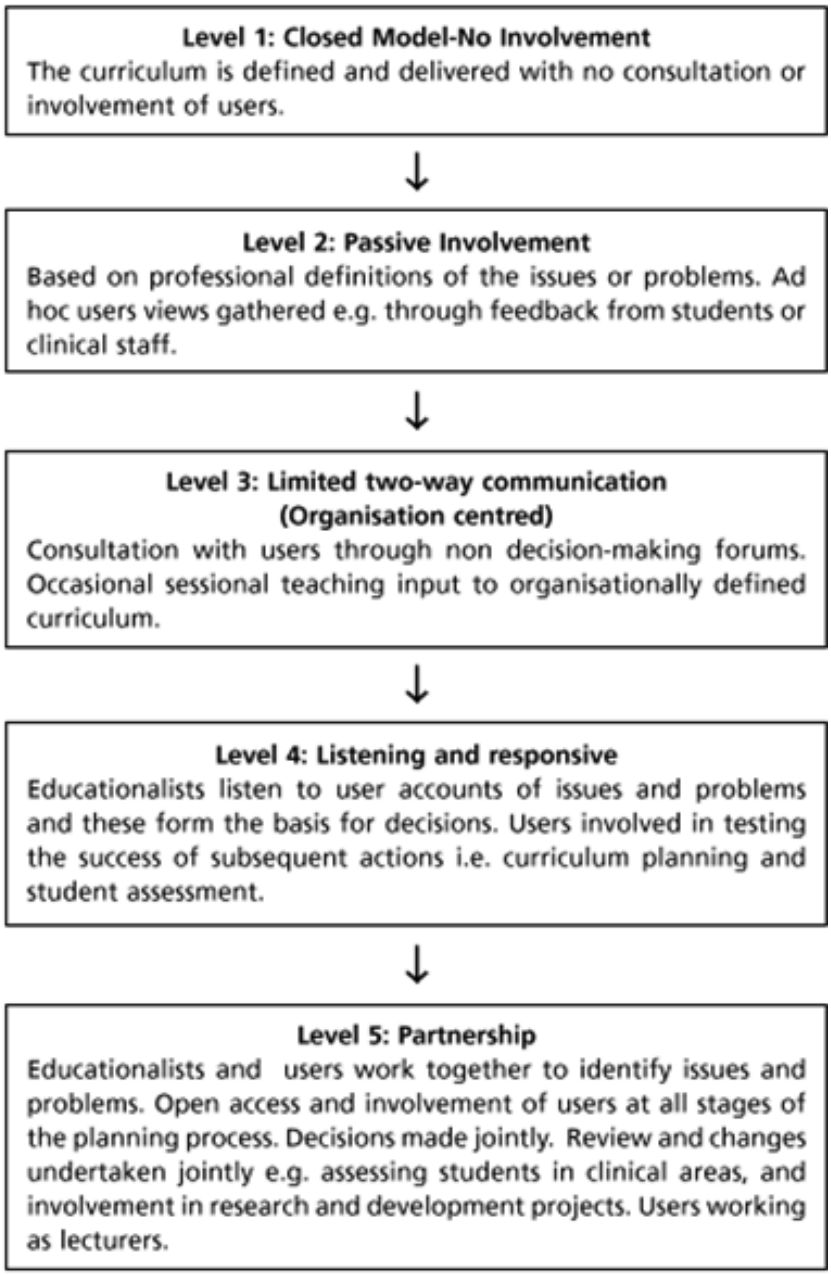
2.1 Literature search

To inform this primary research, a descriptive scoping review of the literature was undertaken using Onwuegbuzie and Frels (2016) taxonomy of objectives of summarizing, analysing, evaluating and synthesizing evidence with application to the research aims and objectives. The literature was searched using The Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, PubMed, Science Direct, Soc Index, Google Scholar. The following search terms were used individually and in combination: 'service user', 'patient volunteer', 'preparation', 'development' 'clinical skills', 'simulation', 'clinical simulation', 'mobile apps' 'mobile app development', 'mobile technology'. Due to the dynamic and evolving landscape within this field of study, literature published within the last ten years was included to ensure validity and relevance to contemporary practice. Where necessary, to provide a historical or theoretical context, older literature has been included. It should be acknowledged that within the literature there are limited research studies in relation to service user involvement. Much of what is written provides anecdotal accounts of different approaches used,

rather than research evidence of how service user involvement can be implemented in practice and of its impact.

2.2 Theories of service user involvement.

The ideology of involvement is based on two opposing positions of consumerist and democratic approaches. Within a consumerist approach the power and control remain with the educational provider and promotes efficiency, economy and effectiveness (Beresford 2002). A democratic approach shares power and control with service users and promotes inclusion, autonomy and independence with equal status with educators (Beresford 2002). Within this, however, involvement is viewed on a continuum or spectrum, appearing to be governed by 'level' or 'degree' of involvement. There are several frameworks suggested within healthcare to examine the quality and depth of involvement, for example, a 'continuum of service user involvement framework' by Forrest et al (2000, figure 1) and 'The ladder of Involvement' by Tew et al (2004, see figure 2) both adapted from Goss and Miller (1995).



Adapted from: Goss, S. and Miller, C. (1995) **From Margin to Mainstream: Developing User and Carer centred community care.** York. Joseph Rowntree Foundation.

Figure 1: Continuum of service user involvement framework (Forrest et al 2000)

LEVEL 1: NO INVOLVEMENT
The curriculum is planned, delivered and managed with no consultation or involvement of service users or carers.

LEVEL 2: LIMITED INVOLVEMENT
Service users are invited to 'tell their story' but no opportunity to shape the curriculum.

LEVEL 3: GROWING INVOLVEMENT
Service users / carers contributing regularly to at least two of the following in relation to a course or module: planning, delivery, student selection, assessment, management or evaluation. Payment for teaching activities at normal visiting lecturer rates. Some support available to contributors before and after sessions, but no consistent programme of training and supervision offered.

LEVEL 4: COLLABORATION
Service users / carers are involved as full team members in at least three of the following in relation to a course or module: planning, delivery, student selection, assessment, management or evaluation. Positive steps to encourage service users and carers to access programmes as students.

LEVEL 5: PARTNERSHIP
Service users, carers and teaching staff work together systematically and strategically across all areas. All key decisions made jointly. Service users and carers involved in the assessment of practice learning. Infrastructure funded and in place to provide induction, support and training to service users and carers.

Figure 2: Ladder of Involvement (Tew et al 2004)

Educationalists appear to favour Tew et al (2004) for healthcare education as it supports the integration of service user involvement and curriculum and planning (Rhodes 2012; McCutcheon and Gormely 2014). Furthermore, Tew et al (2004) propose that it is a more progressive model moving from away from service user being involved as a 'consulting' partner to a more collaborative, equitable partnership between stakeholders.

However, these theories are not without their critics. Tritter and McCallum (2006) point out that frameworks can be criticised for being too rigid with sole focus on the expertise of service users which does not consider the partnership of involvement with health professionals and educators and the health and social care landscape which evolves on the best available evidence. Tew et al (2004) considered the limitations and agreed that not every academic course would fit into any one level of a framework. Regardless, the 'Ladder of Involvement' (Tew et al 2004) has been used successfully to assess educator's perspectives of service users in healthcare education (Gutteridge and Dobbins 2010) and has underpinned a concept analysis of user involvement in higher education in the UK by Rhodes (2012).

What is clear from reviewing the literature is that there is wide interpretation of involvement ranging from 'tokenistic' consultation with service users through to working in a truly collaborative, co-productive partnership as classified by Tew et al (2004) levels 1-5 of involvement. While using a hierarchical framework may be useful for institutions to measure their level of commitment, consistent ways to achieve level 5 collaboration are yet unclear (Rhodes 2012). INVOLVE (2012) recognises that valuable involvement can occur on several levels and to move away from hierarchies, the term 'approaches' should be used, rather than levels. This was the advocated by Towle et al (2010) in proposing a taxonomy 'Spectrum of Involvement' which Spencer et al (2011) suggested was easier to classify the approaches to which the service user is actively involved in the learning encounter consistently. The Spectrum of Involvement (Towle et al 2010) identifies six main educational approaches (figure 3)

1. The service user is the focus of a paper based or electronic case study or scenario.
2. Standardized or volunteer patient in a clinical setting which is scripted as an example of care.
3. Service user shares their experience with students within a faculty directed curriculum
4. Service users are involved in teaching or evaluating students
5. Service users are equal partners in student education, evaluation and curriculum development
6. Service users are involved at an institutional level in addition to sustained involvement in teaching, evaluation and curriculum development. (As 5, but with involvement in decision making bodies and policies.)

Figure 3: Spectrum of Involvement (Towle et al 2010)

While Tew et al (2004) offer a hierarchical approach to involvement, Towle et al (2010) address the concerns held by Tritter and McCallum (2006) by developing the 'Spectrum of Involvement'. Towle et al's (2010) taxonomy recognises that partnership of service users and educators can be achieved using different approaches to education and provides flexibility for different academic courses. Much of the literature regarding service user involvement is descriptive of different approaches used, therefore for the purposes of this literature review, the degree of involvement was considered using both the hierarchal 'Ladder of Involvement' (Tew et al 2004) and the 'Spectrum of Involvement' to compare the approaches described in the literature (Towle et al 2010).

2.3 Approaches used to involve service users in health and social care education

The evidence base reveals various approaches which have been used to involve service users in pre and post registration health professional education (Repper and Breeze 2007). The fields of medicine, mental health nursing and social work education appear to dominate the literature. Rhodes (2012) suggests that this may be because service user involvement has been an educational requirement in these disciplines for longer. There are examples of service users participating in health and social care education that aligns with the areas identified in the 'Spectrum of Involvement' (Towle et al 2010). For example, recruitment (Rhodes and Nyawata 2011; Rooney et al 2016), delivery of education (Towle et al 2014; Turnbull and Weely 2013; Strudwick and Harvey-Lloyd 2016), assessment (Naylor et al 2015) and providing student feedback (Webster et al 2012). However, the examples of service user involvement in the literature vary from level 2 (limited involvement) to level 5 (true partnership working) (Tew et al 2004).

An example of level 2 involvement (Tew et al 2004) was evaluated by Strudwick and Harvey Lloyd (2016) in their involvement of service users in Radiography education in Suffolk. They invited four different service users to four teaching sessions to share their experience of living with complex conditions. Following the sessions, 43 students completed an evaluation survey and findings suggested a positive experience for students and education staff, but unfortunately the perspectives of service users involved was not explored, further suggesting a limited involvement model.

The collaborative work undertaken with service users in another study conducted at Anglia Ruskin University, UK (Turnbull and Weely 2013) is a good example of level 4 and 5 partnership working (Tew et al 2004). The aim of service user involvement was to move beyond tokenistic approaches to a more collaborative approach. Volunteers were recruited through local adverts, radio broadcast, job centres, university open days and word of mouth. Adopting approaches from across the 'Spectrum of Involvement' (Towle et al 2010) they invited service users to speak to students in classroom settings and via podcasts about their personal health and social care experiences and participate in clinical skills

simulations. A service user lead for the faculty was appointed and service user policies were designed with service users including a payment policy as recognition for their time which supports partnership working as recommended by Tew et al (2004). Descriptive evaluations of service user involvement were completed by 284 students, of which 278 reported that service user input had enhanced their learning about communication and multidisciplinary support from a patient perspective. However, there was no exploration of the perspectives of the service users of partnership working in education (Turnbull and Weely 2013).

Another example of achieving level 5 partnership on the 'Ladder of Involvement' (Tew et al 2004) is the engagement of service users in education as co-researchers (e.g Rooney et al 2016). Rooney et al (2016) co-produced a qualitative research study with the service user and carer group 'IMPACT' at the University of Worcester with the aim of exploring the group's perceptions of inclusivity in higher education. The IMPACT group was established in 2008 and at that time had 21 members who had experience of services relating to physical disability and were involved in teaching and learning, recruitment and selection, quality assurance and research within social work. The fact the research was conducted by two IMPACT members (supported by an academic) with their peers as the participants means it could be argued that the findings are more rich and candid than if undertaken by the educators (INVOLVE 2012). Moss et al (2009) adds that involving service users as co-researchers may have greater influence on practice. Data was collected from 79% of the group through semi structured interviews with many benefits for service users identified, such as finding a new support network, increased self-development and greater confidence to manage their own care (Rooney et al 2016).

Within midwifery education literature there appears to be less evidence of service user involvement, which is striking as midwifery philosophy is based on a premise of woman centred care, where women are actively involved in establishing and driving many of the priorities of their care (Royal College of Midwives 2016). However, despite this 'premise', it cannot be ignored that the recent Scottish Government (2017) review of maternity services revealed that there are major challenges in providing consistent, woman-centred, high quality care across Scotland. The main challenge being the general health and wellbeing

of the population leading to an increased demand on maternity services along with the complexity of a diminishing workforce (Scottish Government 2017; RCM 2016). There is recognition that maternity services must be improved and the Scottish Government (2017) recommend involvement of service users in designing maternity care policy as one approach to doing so. This suggests that the drive for maternity service user involvement in the education of professionals originates from policy directives in a 'top-down' approach, rather than from the philosophical underpinning of the midwifery profession ('bottom-up'), which true partnership working would espouse.

Only one paper in the literature described maternity service user involvement in an undergraduate midwifery programme in New Zealand (Davis and McIntosh 2005). Reflecting level 5 partnership working on the 'ladder of involvement' (Tew et al 2004), maternity service users from a variety of stakeholder groups were involved in programme monitoring and developing and strategic planning of midwifery education as well as teaching and assessment. One particular example discussed is within the context of clinical skill education whereby students were asked to undertake clinical examinations with women, such as blood pressure, administering medications and basic antenatal and postnatal assessment. Students were assessed, not just on the proficiency and competency to undertake the skill, but the performance of the skill in the context of communicating and working in partnership with the woman. Davis and McIntosh (2005) employed maternity service users to role-play set scenarios, rather than women using their own maternity narratives which presents the argument, that any woman of childbearing age could act out a role and give feedback rather than seek service user input.

Nevertheless, service users then gave their perspective of how the skills were performed as part of the student feedback which Davis and McIntosh (2005) concluded was an extremely positive experience with profound effect on students. There were challenges however, such as access to appropriate service users with the particular teaching objective experiences and clear communication to ensure service users understand their role and what is expected of the student. They acknowledge that due to different educational contexts their methods and processes may not be transferable to other universities, but they

have contributed to the lack of descriptive or evaluative research within midwifery. Relating back to the context of health services and policy, they suggest that service user involvement is often implemented within education as a directive of professional regulators, rather than evolving educational strategies which embody the philosophical underpinnings of midwifery putting women at the centre of care (Davis and McIntosh 2005). Although Davis and McIntosh (2005) was the only example of maternity service users in midwifery clinical skills education, using service users in the context of clinical skill education is a common approach used across other health and social care disciplines and this will be discussed in the next section.

2.3.1 Service users in clinical skills education

Inviting service users as teachers of clinical skills was first documented in the literature in the United States by Barrows and Abrahamson (1964) in their concept of the 'programmed patient' to address the challenges of teaching physical examinations and communication skills. These were healthy people who were trained to assume and present the history of a patient with a disease. Known latterly as 'standardized patients', and as identified within the 'Spectrum of Involvement' (Towle et al 2010), it was a consistent and cost effective approach and became a popular method of educating medical students over the next decade, particularly in the US (Stillman et al 1980). Since the 1980's, other than the teaching of intimate and musculoskeletal examinations, the number of real patient volunteers began to decline, possibly due to concerns about the validity and reliability of standardized patients and their integration into the teaching and evaluation of clinical skills (Van der Vleuten and Swanson 1990; Miller 1990). This was until the late 1990's when the drive for person-centred healthcare became prominent in health care delivery, policy, education and research (Towle et al 2010) and subsequently led many Schools of Nursing and Medicine in the UK to develop devoted teaching areas for standardized patients (Hargie et al 1998). More recently 'standardized patients' have been used in the education and assessment of practical skills, and specifically in the integration of technical and communication skills in performing specific clinical procedures (Kneebone et al 2002) and was the approach used by Davis and McIntosh (2005) described in the previous section.

Unlike other areas of education, where service users have used their 'stories', or narratives, and experience to inform the teaching and learning experience, within clinical skills, standardized patients are described as individuals' who have been *"carefully trained to present an illness or scenario in a systematic, unvarying manner"* (Keiser and Turkelson 2017). This appears to be regardless of whether they have experience of it, which Speed et al (2012) suggested led to anxiety for service users and they preferred to be open and honest in sharing their healthcare experiences and understanding of issues and situations. In addition, there is conflicting feedback from students regarding role play with some acknowledging it as a strength of preparation for practice teaching, while other stating the artificial nature of role play as a weakness (Wilson and Kelly 2010). Despite the conflicted feedback above, the use of standardized patients, now sometimes referred to as 'simulated participant' (Lewis 2017), is still used within current clinical skills teaching and Moss et al (2009) concluded there was greater realism in clinical skills laboratories when service users role played an agreed set of scenarios.

However, using real people in clinical skills teaching is now often overlooked in literature (Cant and Cooper 2016). Perhaps this is due to many higher education institutes using more contemporary approaches and advances in technology to add realism and provide learning opportunities that are not always available within clinical placements (Jones 2006; Cooper et al 2012). It is not unusual to find high fidelity simulators and manikins in clinical skills facilities with more schools investing in complex teaching equipment. While these techniques have their advantages, they should be used to complement existing teaching strategies (Wark 2016). Jones (2006) confirms that using a collaborative approach with human interaction is best for teaching some clinical skills, for example history taking and clinical examinations. Likewise, Crofts et al (2006) demonstrated that professionals' safety and communication skills were of a higher standard after training with patient actors compared with training with manikins. Despite both Jones and Crofts et al's work being published in 2006, a decade later, a systematic review of nursing clinical skills education reiterated that working with real people continues to be a neglected approach within clinical skills teaching (Cant and Cooper 2016).

While there is some continued research examining the use of standardized patients in contemporary clinical skills education (Cant and Cooper 2016), there is even less where service users are involved in educating students through their own stories, narratives and experiences rather than acting a scenario. In fact, only one descriptive example of involving service users' narratives in clinical skills was found in social work education within a Scottish University (Hitchen 2016). When co-developing a workshop for students, service users decided to design scenarios that drew on their own experiences that led them to seeking assistance from social work service (Hitchen 2016). Service users expressed concern about having insufficient understanding of certain experiences to portray them accurately, and they would find it easier to draw upon their own story making it more authentic for students. A key recommendation from this approach was to ensure dedicated time following the teaching session to ensure service users resume the role of educator for them to benefit from their involvement. Hitchen (2016) also recommended service users be involved in planning teaching sessions with detailed guidance on how to give feedback to students.

However, there are authors who challenge using service user's personal narratives, particularly highlighting the potential emotional impact in re-enacting one's own experience (Skilton 2011; Duffy et al 2013). Duffy et al (2013) expressed concerns that it may cause distress and harm, especially if returning to a personal or traumatic experience. Acknowledging these ethical concerns, Hitchin (2016) stated they can be negated by supporting service users to recognise the demands and potential impact on themselves using this method of teaching and ultimately it is for them to choose whether or not they are comfortable to be involved. Investing time for planning and preparing from the beginning and debriefing over a cup of tea is crucial to ensure wellbeing (Hitchen 2016). Hitchen's study highlights that service users feel valued and empowered to be involved and emphasizing reciprocity improves their confidence and self-esteem. While the benefits must not be taken for granted, Hitchin (2016) suggests that a greater challenge for educational staff may be to maintain balance of user's experiences and perspectives whilst achieving the educational objectives.

With this evidence in mind, it could be argued that the use of standardized patients in clinical skills education may not be conducive for effective service user involvement, where service users themselves benefit from their involvement as much as students and educationalists do. In addition, there are challenges to involve service users in education which must be considered.

2.4 Challenges of involving service users in education

While the benefits of service user involvement on student learning and experience are better understood (Repper and Breeze 2007; Happell et al 2015), there is less research on how service users are recruited, the preparation and support that they require to become involved, and to sustain their involvement, and the challenges in achieving this. Previously, within mental health education, it was suggested that power hierarchies within education was a barrier to achieving a service user friendly atmosphere. For example, using academic jargon or by promoting an individual rather than a team approach could lead to stigma and discrimination (Basset et al 2006). Similarly, within wider nursing education, Lathlean et al (2006) suggested four main barriers for service user involvement: the stress of involvement on service user's health and wellbeing; reluctance or lack of interest in participating perhaps due to age, gender, cultural background, diagnosis; previous health care experiences, educational background and personality traits, and not being financially rewarded for their participation. In addition, there is a frequently held perception amongst academic staff that service user involvement threatens their professional knowledge or autonomy (Lathlean et al 2006). At the time Lathlean's work was published, the most common form of involvement was inviting service users to share their story (Repper and Breeze 2007; Gregor and Smith 2009) and further work was called for that explored how to truly involve users in partnership working (Meehan and Glover 2007).

Speed et al (2012) later discovered that a key barrier to partnership working was service users not knowing the context of their involvement in education and tokenistic involvement in an ad-hoc or one-off basis was likely to prevent

continued active engagement. Such a premise was also reinforced by Rhodes et al (2016) who conducted a focus group with five service users and carers involved in their volunteer group. Findings suggested that prior to volunteering, service users did not really understand what 'getting involved' in a volunteer group meant and would have not thought they had anything to offer.

Although Turnbull and Weely's (2013) study was focused on the student experience of the service user led sessions, they consequently highlighted challenges for service users around recruitment, preparation and remuneration which led to the development of guidelines for academic staff to support and encourage future service user involvement. Fox (2016), an academic within the same higher education institute subsequently determined that to overcome challenges, education must increase opportunities to learn from authentic experience and ensure development is based on partnership working rather than previously used 'tokenism' approaches of the service user merely 'telling their story' (Gregor and Smith 2009).

In Rooney et al's (2016) study, four main perceived barriers to participation emerged: i) Accessibility; such as inappropriate work times that are challenging for those needing to arrange care; ii) Expectation that they are competent with technology, poor communication and excess distances to travel; iii) Organisational barriers; such as lack of awareness about the group and limited systems of work allocation leading to limited utilisation of some members and; iv) Personal barriers; such as personal health, lack of child care, lack of skills and knowledge and the need for a regular income, and finally, time constraints with busy lifestyles/family life and work/study commitments. These barriers also mirrored the reasons of those who could not participate in the research due to illness, or ill health in those they care for and lack of available time (Rooney et al 2016).

Interestingly, a major barrier highlighted was insufficient numbers and diversity of service users becoming involved (Rooney et al 2016). Diversity of service users is a similar challenge that was identified in Chapter 1 where service user involvement in the Volunteer Programme at the HEI where this research was undertaken was described. Rooney et al (2016) hypothesizes that universities

are under constant pressure to meet performance indicators and perform well in league tables and consequently, the key purpose of universities being part of and educating communities and widening participation to all members of society has become distorted. This is in spite of the fact that engagement with local, national and international communities is reflected as being a key component of many Universities' education strategies. Service users must be reassured that inclusivity and partnership working are 'realities rather than aspirations' (Rooney et al 2016) and that they are not simply being 'involved' in order to address governmental targets but to provide meaningful value to health and social care education.

In contrast to the findings of Lathlean et al's (2006) study, Rooney et al's (2016) more recent study made no suggestion that service users felt unwelcome, or reluctant to engage or that their involvement damaged their health. Perhaps this could be interpreted as an encouraging sign that service user involvement has evolved over the past decade, reducing hierarchies and promoting person-centred care. Alternatively, given the context of Rooney's work in social care education, it could be interpreted as further evidence to suggest service user involvement in social care education and research is more progressive than the involvement of service users in health care education.

Despite these challenges, there appears to be great motivation from service users themselves to be involved in education (Morgan and Jones 2009). A review of literature provided insight into the reasons for choosing to become involved, such as establishing inter-professional relationships, to improve or give back to the health service and to offer their real life experience (Morgan and Jones 2009). Likewise, Rhodes et al (2016) in a narrative inquiry reported similar drivers for involvement, however unlike previous authors, insisted that financial reward was not a key motivator and volunteers in their study were willing to participate in education without payment, but it is worth noting that the volunteers were paid for teaching in that study location. There is conflicting discussion around remuneration, for example, some volunteers view financial reward as a token of appreciation for their contribution and promotes equality in the relationship with lecturers (Rooney et al 2016). On the other hand, others see it as promoting hierarchy as an employee and a feeling of being subject to

supervision (Rhodes et al 2016). Mckeown et al (2012) report that a 'purity' of motivation is more important for some volunteers rather than monetary rewards. Consideration of payment for service users will not be ignored in the current study but the full ethical implications of this cannot be fully explored within the perimeters of this research.

In short, it appears that recruiting and promoting service user involvement is not straight forward with many complex issues including language, power, hierarchies, stigmas and logistics and perhaps, in part, explains why there is such variation in service user involvement across health and social care education. Feeling valued and an equal member of the team is a key motivation to involvement (Mckeown et al 2012; Rhodes et al 2016; Hitchen 2016) which may be achieved through collaboration, partnership and recognition of contributions which in turn is more likely to sustain involvement (Hitchen 2016). It is clear from this review of extant research that most of the literature is within the field of social work and mental health nursing with very little within midwifery. Furthermore, it can be suggested that there needs to be adequate preparation and support available to ensure a reciprocal partnership using personal narratives.

2.5 Preparing and supporting service users for involvement

As identified in the review of existing literature here, the need for preparation and support for service users remains a consistent theme (Lathlean et al 2006; Gutteridge and Dobbins 2010; Speed et al 2012; Webster et al 2012; Naylor et al 2015; Towle et al 2016). While there is agreement that preparation is vital to reduce feeling vulnerable and allay anxieties (Felton and Stickley 2004), there appears a need to investigate effective ways in which service users can be most effectively and appropriately prepared and supported to become involved in education and clinical skills teaching. Scammell et al (2015) recommended that due to high student numbers and multi educational sites in nursing education, logistical considerations require new and innovative solutions to support authentic and meaningful service user involvement.

As such, there have been more recent attempts within the research evidence base to investigate formal methods of preparation for the involvement of service users in education. Rooney et al (2016) indicated in their study that members of the IMPACT service user volunteer group were offered training sessions, for example, to become involved in research or recruitment and selection of students on an annual or biannual basis. Training was tailored to individual circumstances and supported using technology. They also established an individual appraisal system for service users to promote development which was perceived as beneficial by service users. It is not clear whether service user's perceptions of their training needs and potential barriers were identified before the development of training resources, or if they were assumed by the professionals. Regardless, Rooney et al (2016) concluded there was no evidence that service users felt unprepared and unsupported by staff. However, access to training/learning was identified as a theme in their research, specifically in relation to keeping up to date in health and social care, encouragement to undertake further training and having access to University facilities and learning.

Similarly, the University of Manchester developed EQUIP: Enhancing the Quality of User Involved care Planning - a train the trainers programme for service users and carers involved in training qualified mental health professionals (Fraser et al 2017). This programme was developed and funded by the National Institute for Health Research in response to policy initiatives and guidance aimed at improving person-centred care in mental health services. To move away from 'sharing personal stories' to more meaningful user and carer involvement, service users, carers and health professionals were consulted (Bee et al 2015) and the need for a 'train the trainers' programme for service users and carers was identified and developed. The trainers were recruited from the existing EQUIP Service User and Carer Advisory group following the advertisement of a paid training opportunity. After which, a four day course was delivered by two academics to six service users and three carers with the aim of enabling them to understand the principles of training with emphasis on small group teaching. A small evaluative study was undertaken thereafter by the academic team with all nine of the participants taking part. Findings revealed that while some participants felt comfortable taking a more central role, it led to anxiety in others who were more comfortable in just sharing their experiences. The researchers

reflected that a one size approach to training does not fit all and that roles should be negotiated and agreed prior to training to accommodate individual's preferences and reduce anxieties (Fraser et al 2017).

The points above appear to suggest parallels with healthcare service provision advocating an individualised person-centred approach to involvement in education. It is perhaps questionable, just as in the case of the delivery of person-centred care, whether these approaches are truly borne out in practice. There appears to be a fine balance between providing formal teaching preparation and allowing service users to remain true to them themselves to avoid turning them into lecturers which defeats the purpose (Ion et al 2010). Moss et al (2009) make the argument that training is not something that should be *done* to service users by educationalists but rather something that should be undertaken, and even co-produced, with service users. The former could be viewed as a patronising approach that moves further away from the true ethos of service user involvement and the aim of a collaborative relationship reaching level 5 partnership in Tew et al's (2004) ladder of involvement.

Aiming for a level 5 collaborative relationship (Tew et al 2004), an alternative approach at North Yorkshire universities by O'Neill (2008) provided an opportunity for service users to join a 'Patient Voice Group'. Members of the local community were recruited, either via an advertisement or by personal invitation from the university patient involvement manager and invited to a 'patient learning journey' workshop. It is not known whether their training needs were established before participating in the workshop, however volunteers were invited to tell their story and identify how their experience could contribute to health professional education. This suggests there was joint decision making about how they could become involved in education. Consequently, a later narrative study within the same Patient Voice Group was undertaken by Rhodes et al (2016) using focus groups of three to four group members facilitated by two university staff. Participants were given time to tell their story of involvement and guided by three principle questions: what made you get involved; what has helped or hindered; and what effect has involvement had on your health and wellbeing? The findings indicated that the workshops as initiated by O'Neill (2008) were the starting point in becoming involved and established

relationships with educators at the university and other members of the workshop which prepared them for becoming confident members of the service user group (Rhodes et al 2016). Social interaction and support networks are highlighted as a key benefit for service users and an important part of preparation and continued involvement. Peer support was identified as vital to overcome challenges reported by service users, such as bureaucracy (for example, university forms to be filled in), lack of support (not supported to 'come out of role' after simulation), knocking of confidence (when a teaching session did not go well) and negative or no feedback from students or educators.

In response to the similar challenges faced in her study, Hitchen (2016) advocated involving service users from the very beginning of planning a teaching session. Relationships with academics were strengthened and networking opportunities with peers arose with people getting to know each other over lunch which developed a clear sense of identity, shared role and purpose. For it to work well, everyone should feel they are 'getting something out of it'. It can be assumed that this approach to preparation and support is more time consuming for both educator and service user but it supports an emerging culture of learning from each other, where confidence can grow and develop the ability to contribute to more challenging learning opportunities to the benefit of student learning.

From the discussions in this section, it appears there is a need for a more tailored and individualised approach for communication that enables service users to give or receive feedback on the activities they have been involved in and provide them with peer support, social networks and access to training and learning (Rhodes et al 2016; Hitchen 2016). Different strategies could be used to address this need; however, use of technology and digital tools has recently been suggested in the national drivers for healthcare services (Scottish Government and NHS Scotland 2015) to enhance the availability of appropriate information related to health and social care. More recently, the development and use of mobile apps to promote communication and service user involvement in healthcare has been suggested a potential solution (Scottish Government and NHS Scotland 2017). The relevance of the rising use of, and benefits afforded by,

apps in the context of the current research are considered in the following sections.

2.6 Mobile apps for healthcare and higher education

2.6.1 The rise and popularity of apps

Mobile apps are a type of application software designed to run on a mobile device, such a smartphone or tablet and provide internet based services such as those used on computer desktops (Ventola 2014). Mobile apps have grown rapidly in popularity, mainly due to the convenience and flexibility of accessing information on apps on the go using their smartphone and the fact that mobile apps are easier and cheaper to create than desktop computer apps (Statista 2018). Worldwide, in March 2017, there were 5 million apps available for download, a rapid increase from the original 800 that were available a decade ago when they were first created (Statista 2018) illustrating that mobile technology has become a way of life (van Velsen et al 2013a).

Consequently, the past decade has seen an increased global use of mobile apps in healthcare and in higher education with recent literature describing app development for substance use recovery in the US (Lord et al 2016); breastfeeding education for fathers in Australia (White et al 2016); hypertension care in Sweden (Lundin and Makitalo 2017); cancer supportive care in Italy (Nasi et al 2015); clinical skills education for student nurses in the UK (O'Connors and Andrews 2016) and for medical students (Scott et al 2017) and a broad range of other areas. Following a review of the literature, Mosa et al (2012) concluded there is a distinction between apps for healthcare professionals (such as clinical decision making systems, drug references and communication and consulting), apps for medical and nursing students (including anatomy tools, electronic access to books and journals) and apps for service users (preventative care, health promotion, diagnosis, treatment and monitoring of chronic conditions). Overall, the literature regarding mobile apps in healthcare and education appears mainly descriptive rather than research based, however examples of apps aimed

at the education and support of healthcare professionals, students and service users will be explored in the following sections.

2.6.2 Apps in the education of healthcare workers and students

The draft vision for the new Digital and Social Care Strategy 2017-2022 (Scottish Government and NHS Scotland 2017) recognises the positive impact of mobile apps for health professionals as well as service users. The vision is based on many case studies demonstrating successful use of digital technology in health and social care, including mobile apps. For healthcare professionals, apps have proven to enhance clinical decision making skills reducing errors and promoting greater control of patient data management (Ventola 2014). For example, the recent development of an app to support clinical decision making for diagnosis and treatment of sepsis across Scotland (NHS Education Scotland 2014). An integrative literature review (Guo et al 2015) determined that there were positive outcomes of health professionals using mobile technologies in both education and clinical settings. There are a variety of apps aimed at communication and consulting, reference or literature gathering, drug references and patient management and monitoring (Free et al 2013; Guo et al 2016). Ventola (2014) reports many benefits such as convenience, better clinical decision making, increased efficiency and productivity and improved accuracy in diagnosis. However, Guo et al (2016) cautions that although the increasing use of this technology appears impressive, there is limited evidence of the impact on patient outcomes.

For medical and nursing students, apps present easier access to information or learning materials and clinical guidelines (Ventola 2014). Students have reported that being able to watch instructional videos before undertaking clinical tasks and being able to communicate with their tutor while on clinical placement was an advantage (Guo et al 2016). Furthermore, Scott et al (2017), proposes that mobile devices should be used to address the theory-practice gap by linking internet based information with the immediacy of clinical experiences. For example, several UK universities are using mobile devices to upload assessments and feedback and access information while on clinical placement (DH 2011).

There are many examples of apps which have been developed within the context of higher education that mostly focus on support and preparing students to integrate themselves into university life or facilitate students' own personal learning of clinical skills teaching. For example, in the form of quizzes on human anatomy and various skills lab scenarios using video and audio clips (Johnson et al 2012; O'Connor and Andrews 2016).

It is out with the scope of this thesis to review all available apps designed for health and social care education, but it appears that most evidence is within medicine and nursing education with a gap in the literature in midwifery, which is striking as there are more apps on pregnancy targeted at service users than any other medical topic (Tripp et al 2014). This will be discussed further in the following section exploring the benefits and use of apps in relation to the context of this study, i.e. their potential role in supporting and sustaining user involvement in healthcare and education, and their use in a midwifery care context.

2.6.3 Apps for service user involvement in healthcare and education

There are many reported benefits of apps for service users in healthcare with more dynamic and productive communication and support between healthcare providers and service users (Mosa et al 2012) and between service users themselves (White et al 2016) being a recurrent theme. Health promotion and self-management apps have been claimed to empower service users to become more involved in their own healthcare (Lundin and Makitalo 2017).

Recent examples of mobile apps aimed at maternity service users include the NHS Scotland (2014) 'Ready Steady Baby' app, 'Baby buddy' (Daly et al 2016) and, more recently 'Ask a Midwife', the UK's first online health service run by registered midwives (Ask the Midwife Ltd 2017). The review of maternity services in Scotland highlighted the importance of the role of technology, stating that women and their families expect to receive and exchange information online or through technology such as mobile apps (Scottish Government 2017). The fact that smartphones are widely used by women of childbearing age is changing how maternity care is provided and presents a unique platform in which to

communicate and provide information (Tripp et al 2014). van Velsen et al (2015) advised that the adoption rate of this form of technology will continue to rise and it will likely be the preferred platform of the majority of the population, moving away from websites that must be viewed on a desktop. However, previously van Velsen et al (2013a) warned that with the increasing number of apps, there is possibility of 'app overload' with difficulty in finding the right app and quality information/features diluted over too many apps. Nevertheless, as predicted, for the first time in 2016, mobile devices overtook desktop computers for web browsing in the UK (Gibbs 2016).

While there were examples of apps aimed to involve students in education, at the time of undertaking this study, there were no apps found that aimed to prepare and support service users in be involved in clinical skills, or the wider healthcare curriculum which this research study proposes. Acknowledging the challenges for service users that were discussed earlier in the chapter and the potential benefits that apps appear to offer, it seems appropriate to consider that an app could present a unique and innovative approach to prepare and support service user involvement in healthcare education and address some of the challenges previously discussed in this chapter. Such a gap in the literature informed the research aim and questions that underpin the current study about the need to co-design an app that would be feasible and effective for supporting and sustaining the involvement of maternity service users in clinical skills education.

Unfortunately, there is no one simple formula for designing effective mobile health apps (World Health Organisation 2011). It is a known fact that anyone can publish a mobile app and app stores do not regularly review the credibility of the content (Zhang et al 2014). Many apps are currently developed on the basis of existing healthcare or educational constructs which may not be as effective as those that involved the end user in the process (McCurdie et al 2012). Furthermore, McCurdie et al (2012) contend that designers may base their development on their assumptions and requirements without consultation with the end users, therefore may lack key information or features reducing engagement and sustainability of the app. User-centred design can be seen as a problem solving and needs driven process that requires both analysis and

prediction of how end users (in this case service users) are likely to use an app in practice (Nijand 2011) thus being more likely to improve an apps effectiveness. Therefore, it is important that the end users of an app (in this research maternity service users) are involved from the beginning of the design process to co-produce an app that aims to strengthen their involvement in education. The following section discusses some of the issues and their relevance to the context of the current study.

2.7 Co-production and co-design concepts.

2.7.1 Terminology of co-production

The concept of co-production was originally coined by Ostrum in the 1970's and defined as *"the process through which inputs used to produce a good or service are contributed by individuals who are not 'in' the same organisation"* (Ostrum 1996, p 1073). In recent years, and in response to changes in health and social care policy and practice, co-production has become a widely-used term within UK health and social care to describe the contribution of service users to the provision of services (Realpe and Wallace 2010). Within this context, however, it appears that there is no agreed definition between authors (See table 1).

Author (s)	Term	
Boyle and Harris (2009)	Co-production	"a means of delivering public services in an equal and reciprocal partnership between professionals and people using services…. where activities are co-produced in this way, services and neighbourhoods become far more effective agents of change" (p 11).
Realpe and Wallace (2010)	Co-production	co-production is based on shared information and decision making between service users and providers of healthcare services to develop a model of service delivery that will meet the needs of service users and the wider health and social care system.
Ramaswamy and Gouillart (2010)	Co-creation	The premise of is that by all stakeholders sharing experiences, a deeper understanding of a situation or problem can be explored enabling co-design of a new better experience for all parties.
Sanders and Strappers (2008)	Co-creation	"any act of collective creativity, i.e creativity that is shared by two or more people" (p.6).
Sanders and Strappers (2008)	Co-design	"collective creativity as it is applied across the whole span of a design process" (p.6).
Steen et al (2011)	Co-design	Creative co-operation with diverse experts during a design process, such as researchers, designers, and potential customers or users, "who are also experts of their experiences" (p.53).

Table 1: Examples of co-production terms and definitions.

As can be seen from table 1, the varying terms represent a range of partnership and engagement approaches but no agreement on one clear approach (Flinders et al 2016). Furthermore, there are a variety of associated terms (co-governance, co-management, and co-creation) which appear to be used interchangeably depending on the context. For example, private sectors prefer to use the term co-creation coined by Prahalad and Ramaswamy (2000) to describe the relationship between customers and companies. However, what these terms have in common is 'co'; collaborative working together to achieve a shared and meaningful goal to all stakeholders.

2.7.2 Challenges of co-production and co-design

In contemporary society, health and social care services are facing increased demands, rising expectations and in many cases reduced budgets, and 'co-production of public policy' has been presented as an innovative approach to address these challenges and make services more efficient, effective and sustainable (Boyle and Harris 2009; Scottish Government 2017). In addition, it may achieve other social goals, such as public empowerment and participation, i.e. a democratic approach to service design and delivery (Pestoff 2014). The key principle being that people who use services are hidden resources, not a drain on the system. It surpasses the idea of tokenistic 'service user involvement' to foster an equal partnership bringing together knowledge and skills based on the lived experience and professional learning to influence service design and delivery (Realpe and Wallace 2010).

However, recently Flinders et al (2016) argued that while co-production of public policy has been used for the design, implementation and evaluation of health services, it may pose dilemmas for the research process in the context of academic settings. It is time-consuming, ethically complex, subject to competing demands and expectations and other academics may not even recognize its worth within hierarchies of research (Flinders et al 2016). Nevertheless, despite potential risks and limitations, co-production presents a fresh and innovative approach to research that challenges dominant disciplinary norms (Flinders et al 2016).

Flinders et al (2016) proposes a distinction between 'co-production of public policy' and 'co-production of knowledge', whereby the latter focuses on the design, administration and dissemination of academic knowledge through collaboration. Within co-production of knowledge, the shift in power between professionals and service users is connected to a deeper epistemological position that values 'knowledge as experience' and encourages thinking differently about how academic knowledge can be generated. Hence, co-production of knowledge *"finds its origins within an epistemological and methodological concern that academics should move away from an 'ivory tower' approach to scholarship"* (Flinders et al 2016, p.265). It this concept of co-production of knowledge that is central to the methodological underpinnings of the current research reported on in this thesis and will be explored further in Chapter 3.

Another term associated with co-production is co-design (table 1). Co-design has been defined as a process of 'joint enquiry and imagination' and is based on a 'reflection in action' process in which participants can express and share their experiences, discuss and negotiate roles and interests to jointly bring about positive change (Steen 2011). Boyle and Harris (2009) state that co-design is not co-production but they acknowledge that co-design and other forms of asking service users for advice may help to lay the foundations of co-production (Boyle and Harris 2009). Conversely, Selloni (2017) stresses that co-design is a crucial precursor to co-production. He argues that the focus of co-production should be extended from not only 'doing' (co-producing) but also on 'thinking' (co-designing) to include a more design orientated perspective. Manzini (2016) presents co-design as person-centred approach, to empower people using collective and active reflection which is orientated to sense making rather than just problem-solving. Such an approach aligns well with the ethos of service user involvement.

It could be argued that an initial co-design process will create fair and transparent services 'ready to be co-produced', whereby a collaborative approach shares crucial information, co-designs a concept and agrees the most important values and features. Thus, it is should be easier to carry out a co-production process that has been conceived, discussed and tested with the end users (Selloni 2017).

2.7.3 User-centred co-design in the development of mobile apps

A co-design based approach used within engineering or software design is user-centred co-design (Robert 2013). The distinctive features are 1) direct face to face collaborative participation between the end users and the educators to co-design services and 2) the focus is on designing experiences rather than systems or processes (Robert 2013). It presents a unique, pragmatic way of 'making sense' of perceptions and experiences of the end user and attempts to find solutions which could be transferable into mobile app technology (McCurdie et al 2012). In the traditional design research process, the researcher was often seen as a translator between the 'users' and the designer, however in co-designed user-centred approaches, the researcher takes on the role of facilitator (Sanders and Strappers 2008).

User-centred co-design is an approach consistently recommended in recent research findings in relation to mobile technology (Millard 2009; Revenas 2015; O'Connor and Andrews 2015; Lundin and Makitalo 2017). User-centred co-design involves end user engagement throughout the design and development process *guided (*rather than 'led') by researchers and developers to design acceptable, feasible and sustainable solutions. In a recent example, Lundin and Makitalo (2017) conducted design meetings with 15 hypertensive patients with the aim of co-designing features of a hypertensive self-management app. They emphasised that service user input was necessary, not only to validate their experiences and ensure they have a say in the project, but also because there is variation among service users that is important to consider designing an app. A challenge of this approach was to negotiate a balance of all service users' perspectives, but Lundin and Makitalo (2017) argued that they had pre-empted problems that may have occurred later in the context of app use.

In another example, O'Connor and Andrews (2016) adopted a user-centred design in the development of an educational app for nursing students by conducting two in-depth one hour workshops with ten final year pre-registration student nurses adapting a co-design methodology. Using open ended questions, personal stories were shared and specific clinical scenarios were discussed followed by a workshop brainstorming session of how the educational app should

look and function. Using thematic analysis three themes were found: how the app should look and function, the type of educational content required and how the application would work in clinical settings. This first phase of co-design was deemed an effective approach in creating personalised learning solutions and the findings informed the next stage of refinement and implementation phases leading to a prototype app to be piloted. Therefore, a co-designed app may help to address the challenge of making service user preparation and support more personalised as was discussed in section 2.5.

Designing a similar app for social work students, Campbell and McColgan (2016) described their user-centred co-design approach and concluded that partnership working with the end user from the beginning of the development process was essential. Similar to Lundin and Makitalo (2017), conflicting ideas between stakeholders and end users about what should be included in the content of the app presented a challenge. Campbell and McColgan (2016) suggested this could be addressed through a democratic discussion between all stakeholders to produce the best content for the app; including every suggestion will likely make the app too large and unmanageable.

In addition to user-centred design, another health care app development method in the literature is to use interdisciplinary/collaborative team approaches. Interdisciplinary/collaborative team approaches consist of healthcare professionals/educators, technology experts as well as end users and other stakeholders in the development of the app (Matthew-Maich et al 2016), but not all studies involve the end user from initial development but rather evaluation at prototype testing stages (Athilingham et al 2016).

An interdisciplinary/collaborative design approach was used by Gaskell et al (2014) in the development and piloting of 'My Birthplace' – an app designed to support shared decision making between women and midwives about place of birth. An initial app was created by healthcare professionals and technologists with the aim of providing evidence based information and supported shared decision making to help women express their preference for place of birth. Using surveys and focus groups with women and midwives (n=236), feedback was collected at different stages of prototyping to refine the end product. The findings

demonstrated that the process of interdisciplinary/collaborative design with women and healthcare professionals in the study had developed an app which was deemed to be an acceptable method of providing easy and understandable information and enhanced communication with midwives. The app has now been rolled out across Plymouth hospital trust and recently has been bought and introduced in NHS Tayside (Clark 2016).

Although believed to be a valuable approach, one of the members of the development team, Walton (2015), reflected that by not asking the end user at the very beginning of the project, they had got the initial design wrong and that numerous focus groups with end users subsequently reshaped how the information was presented and simplified the design. She advised professionals embarking on a similar project not to assume that you know what the end user wants and admits that if they had asked women and midwives earlier the app would have been developed more efficiently (Walton 2015). This suggests that while interdisciplinary/collaborative approaches have advantages, it is important not to forget to involve the end users, who will ultimately determine the acceptability and effectiveness of the app from the very start of the design and development process.

It is with this in mind, that the current research reported on in this thesis aimed to involve service users from the very starting point of app development promoting a user-centred co-design. This was important to create a fit between service users (as the key stakeholder) and educators and technology. As such, the app could be developed around what the users want in, or need to use the app for.

2.8 Summary

A review of extant literature on service user involvement in education reveals that this is a complex yet relevant landscape within healthcare professional education. There is motivation from higher education institutes and service users to work together to enhance learning experiences in accordance with health professional standards of education. However, implementing service user involvement and achieving this in education is inconsistent in practice with many challenges and barriers to recruiting volunteers to represent a diverse population. This is particularly evident in the context of midwifery.

Preparation and support mechanisms are viewed as a crucial aspect to ensure meaningful and continued service user engagement, but there is no consensus in what this preparation and support comprises and how best this can be delivered in a range of formats to suit a range of individual needs and preferences. It is has been argued in the literature that more formal preparation techniques can have a detrimental impact on empowering service users to be themselves and use their own experiences to add realism to the learning and teaching.

There is limited literature on the recruitment, preparation and support for service users to be involved in education and a knowledge gap within midwifery is particularly evident. The research described in this thesis therefore, aligns with Haycock-Stuart et al's (2016) recommendation that further research is needed to examine how women can be empowered to be involved in midwifery education. The current study aimed to address this gap and aim to understand what information would encourage and support women with experience of pregnancy, childbirth and the maternity services to be involved and what factors may enhance or hinder their motivation, self-efficacy and competence to use their experiences in teaching.

Mobile apps have been used as a potential solution in healthcare and higher education to provide communication and support between professionals and service users, and educators and students, but a review of the literature has found no crossover app between educators and service users. There is a need to find out women centred perspectives on whether an app would support their

involvement and what the use, content, functions and design features that a potential mobile application would require to meet those needs. Hence the aim of this research was to create an app specification, co-designed in partnership with maternity service users to inform the content of a mobile app which could be used to support the involvement of women in midwifery clinical skills education. To achieve this aim, a user-centred research framework was used to capture the empirical data democratically and the methods used will be detailed in the next chapter.

Chapter 3: Research Methodology

3.1 Introduction

The aim of this research was to create an app specification, co-designed in partnership with maternity service users to inform the content of a mobile application (app) which could be used to support the involvement of women in midwifery clinical skills education. This chapter will set the scene for the research by discussing the theoretical underpinning of narrative pedagogy and how this aligns with the central focus of the research around supporting service user involvement in midwifery education. The chapter justifies the qualitative, participatory approach used and the user-centred co-design frameworks considered for the design of the study. Next the recruitment of participants and data collection methods will be discussed including the ethical considerations. Finally, an overview is provided of how the data was analysed and translated into an app specification that could be used to inform future app development.

3.2 Research Objectives

The research objectives were:

1. To explore what information would encourage and support women with experience of pregnancy, birth and maternity services to contribute to midwifery clinical skills education.
2. To identify and explore the factors that may enhance or hinder women's motivation, self-efficacy and competence to engage with midwifery skills education.
3. To understand women's needs and perspectives on the use, content, functions and design features of a potential mobile application to support their involvement in midwifery clinical skills education.
4. To create an app specification co-designed with maternity service users, to inform the future development of a mobile app that could be used to help support the involvement of women in midwifery clinical skills education.

3.3 Narrative pedagogy and midwifery education.

When designing effective methods of education, it is important to understand the pedagogical underpinnings which can enhance service user input in clinical skills teaching. Pedagogy is defined by the Oxford dictionary online (2017) as

> *"the method and practice of teaching, especially as an academic subject or theoretical concept".*

Clinical skill rehearsal or use of simulation is not a pedagogy itself but it can be used as a way of implementing different pedagogies (Erlam et al 2017). Drawing on the work on pedagogy, it might be assumed that the effectiveness of service users participating in clinical skills education will only improve clinical thinking and decision making if there is a sound pedagogy based on theoretical underpinnings.

The philosophy of behaviourism is the earliest theoretical underpinning in education first considered by Watson (1958). He believed that learning could be achieved by making an association between a stimulus and a response resulting in adaptation of behaviour (Quinn and Hughes 2013). In simple terms, this relates to the idea that the mind is a bank of knowledge and learning is passive with knowledge being transferred from educator to learner. Teaching methods may include lectures, repetition of skills and pre-briefing. In more recent literature, Erlam et al (2017) pointed out that behaviourism is less concerned about solving a problem but rather ensuring positive outcomes are achieved which can be repeated again and again. Within clinical skills teaching, this is demonstrated within the use of role play and standardised patients, (which was explored in Chapter 2), which may not promote critical thinking or analysis. Gilkison et al (2016) appreciated that knowledge and skills can be learned from lectures and repetition of skills, however they argue that the art of practice cannot be simply absorbed from information giving. While the emphasis of midwifery curricula has been on the science of knowledge and skills, it is the art of knowing how to use that knowledge and skills to individualise the delivery of care which is central to midwifery practice (Gilkinson et al 2016; Gilkison 2013). Gilkinson et al (2016) propose adopting a *narrative pedagogy* approach as it enhances the integration of learning knowledge and skills with the art of practice.

Narrative pedagogy (Diekelmann 2001, 2005; Diekelmann & Diekelmann 2009) is an interpretive learning and teaching approach which moves the emphasis of education from being not just the acquisition of knowledge and performing skills, but to understand situations and the experiences of teachers, students, clinicians and healthcare users (Ironside 2015).

Narrative pedagogy has roots within cognitivist design principles which moves the focus from knowledge absorption to incorporation of the learner's beliefs, thought processes and perceptions and insights (Erlam et al 2017). It promotes a collaborative learning environment which incorporates the educational philosophy of constructivism which is a learner centred approach whereby knowledge is constructed through experiences and interactions of others (Piaget 1973). In contrast to the passive behaviourist theories of education, Jean Piaget's (1973) work was based on constructivist theory that posits that individuals have an active role in constructing their own knowledge. Constructivists believe that learners have prior learning and experience and can find solutions using their knowledge to a particular problem. Erlam et al (2017) advocate that learners must be given freedom to develop their own knowledge and responses and find their own methods of problem solving. However, this philosophy can only be deemed meaningful if the learner has the pre-requisite knowledge required (Erlam et al 2017).

Contemporary midwifery practice aims to move from a paternal medical model to a woman focused model whereby she is integral to the decision-making process and care planning (Scottish Government 2017). Narrative pedagogy provides an alternative format from learning knowledge followed by skills to a blended approach and learning about the "values, insight and judgement" in order to make clinical decisions that adhere to the woman's wishes while recognising evidence based practice (Gilkison et al 2016; Barnfather 2013). When performing a clinical skill, such as assessing progress of labour, a midwife must critically evaluate evidence, support informed choice, make decisions within different environments and be able to modify the approach in response to the woman's needs and wishes (Gilkinson et al 2016). Therefore, narrative pedagogy can present a unique approach to clinical skill teaching by using the narrative of

maternity service users to integrate the science and art of clinical skill performance and individualised person-centred care.

Narrative pedagogy in nursing and midwifery education has been incorporated in curricula mainly by educators, students and service users sharing their experiences and stories followed with discussion (Gilkinson et al 2016; Brady and Asselin 2016; Ironside 2015), however its use in clinical skills acquisition is limited with only one study using a narrative approach (Hitchen 2016) as was discussed in Chapter 2.

3.4 Qualitative methodology and study design

In Chapter 2, the principles of user-centred co-design were explored and collaborative participation between end users and educators was highlighted as essential to promote success and sustainability of service user involvement in both clinical skills education as well as mobile app development. Thus, to achieve the research objectives, qualitative methodology using a participatory user-centred co-design was undertaken.

The researcher considered a positivist philosophical position that assumes that there is a stable reality whether or not we understand it but also finds meaning in a constructivist philosophical position where understandings of reality are gained and constructed through social interaction. Accommodating both positivism and constructivism, Cupchik (2001) proposed an alternative philosophical perspective, *constructivist realism*, which acknowledges the existence of the social world prior to and independent of either positivist or constructivist analysis and phenomena is understood across physical, social and personal worlds. In other words, in leaning towards the researcher's view of subjectivism, a positivist observer is never really independent of the phenomenon under investigation and the single reality is understood holistically and from the perspective of the participants (Cupchik 2001). With this in mind, research is seen ideally as a collaborative enterprise involving communities and a qualitative, participatory approach is logical to understand the social world under investigation. With this approach, often the starting point is a dialogue with the

community in question and knowledge is the outcome of a process of sharing, reflection and experience, rather than the expert inserting or extracting information (Green and Thorogood 2013).

Unlike quantitative approaches using large scale surveys and randomized controlled trials, qualitative research recognizes the importance of service user narratives and is less likely promote tokenistic involvement doing research on them rather than with them (INVOLVE 2012). Furthermore, it has been suggested that findings from quantitative approaches do not always lead to a change in the clinical or education setting or necessarily improve outcomes for service users (Robert 2013).

Using qualitative, participatory research methods means conducting the research with maternity service users whose perspectives are the focus of the study. Consequently, this approach brings together science and practice where the process of building knowledge mirrors the aim of the research which is to strengthen the involvement of service users in education. Likewise, with narrative pedagogy and co-production of knowledge, the researcher is encouraged to step back from traditional power relationships and rethink interpretations and strategies to ensure the maternity service user perspective is at the core of the research (Flinders et al 2016; Bergold and Thomas 2012). In addition, this is congruent with Piaget's (1973) philosophy of constructivism where knowledge is constructed through experiences and interactions of others which supports the researcher's ontological position.

Although participatory methodology acknowledges the significance and usefulness of involving research partners in the knowledge production process, this approach is not fundamentally distinct from other empirical research procedures. For example, there are numerous points of convergence between action research and participatory research. In fact, participatory methodology is referenced within several models of action research, for example participatory action research (Green and Thorogood 2013), co-operative inquiry (Reason 1994) and participatory learning and action (Kemmis et al 2013). However, where action research approaches aim to make a change to the social reality on the basis of participant's insights, participatory research aims to produce

knowledge collaboratively, not necessarily to bring about a change which makes it appropriate to achieve the objectives of this research (Bergold and Thomas 2012). Bergold and Thomas (2012) uphold that action and participatory approaches can be conducted separately or applied with different emphasis within research.

However, participatory methods are not without their critics. Staszowski et al (2014) argued that participatory design could further contribute to tokenistic approaches and promotion user dissatisfaction. He suggested a move from participatory design to a 'design for participation' which emphasises greater participation and collaboration with service users at different stages of research and opens up involvement in a more tangible and meaningful way. This argument resonates with user-centred co-design that was explored in Chapter 2 and presents a pragmatic way of 'making sense' of perceptions and experiences of the end user and attempts to find solutions that could be transferable into mobile app technology which is ultimately the overall aim of the research. It was important that the design of the current study mirrored the theoretical narrative pedagogy advocated in health and social care education and was underpinned by the concept of user-centred co-design, hence addressing such gaps.

3.5 Theoretical framework

The research was carried out using The Center for eHealth Research (ceHRes) Roadmap for the development of eHealth technologies (Nijand 2011; van Germert-Pijen et al 2011). The roadmap (see Figure 4) is modular and comprises of five concepts for co-design which are based on narrative review, user-centred design, business modelling and empirical research.

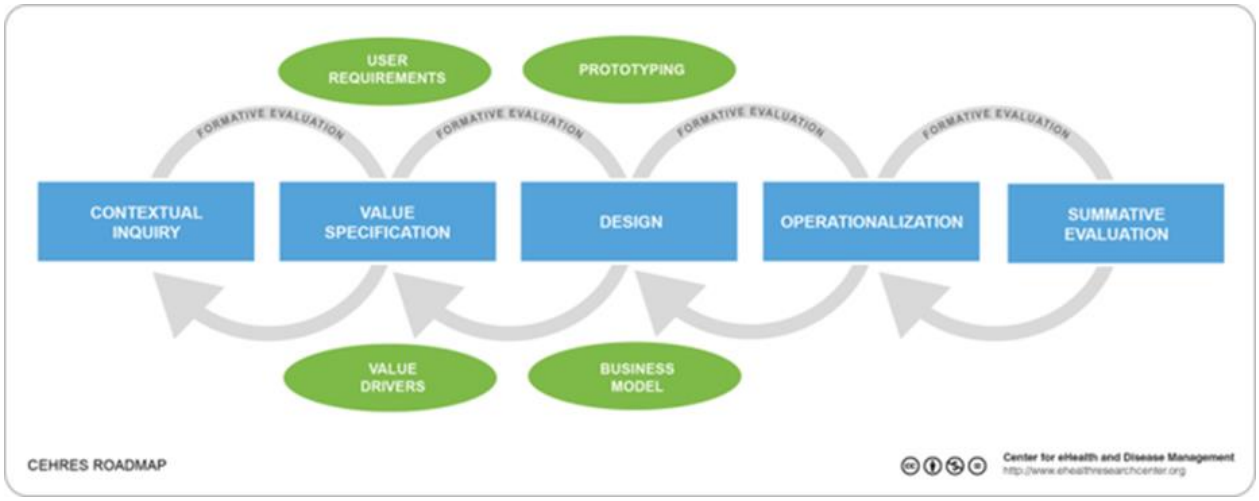


Figure 4: The ceHRes Roadmap (Nijand 2011; van Germert-Pijen et al 2011)

The five concepts consist of:
Contextual inquiry: focused on defining the context of end users, stakeholders and their environment and understanding the problem to be solved.
Value specification: the researcher then needs to analyse the data from the contextual inquiry to understand the values the end user considers as important and then translate the values into user requirements for the app.
Design: the requirements then guide the creation of the prototypical versions of the technology, which is evaluated continuously.
Operationalisation: the app is then launched and additional resources (user support) are mobilised.
Summative evaluation: Finally, the uptake and effect of the technology is evaluated.

Although a recently published framework, it has been used in studies by van Velsen et al (2015) for the development of a mobile app to support citizens in dealing with ticks and tick bites and Fico and Arredondo (2015) in designing a diabetes management app. Both studies suggest the evidence based roadmap (Nijand 2011; van Germert-Pijen et al 2011) is a systematic approach that is based on foundations of user-centred co-design which presented an ideal framework to achieve the aim of this study. However, being a thorough approach, the researcher considered that it would take substantial time and effort to progress through all the stages which may have presented a challenge to complete the research within the limited timeframe available for this research.

To address this, other alternative frameworks were considered. Agile design was considered as a faster alternative and advocates the development of technologies with a small team of experts and end users with rapid production of prototypes which are evaluated and redesigned (Beck et al 2001). However, Van Velsen et al (2013b) pointed out that these approaches do not consider an implementation plan or business model. Furthermore, within the context of this research in an education setting, the opportunity to consult service users repeatedly in a short time span could have proven to be impossible. Instead, a systematic approach was favoured to promote efficiency of the research process and preparedness to get the most out of each contact with the participants.

The Information Systems Research (ISR) framework (Hevner 2007; See figure 5) was another systematic approach considered. Like the ceHRes Roadmap, (Nijand 2011; van Germert-Pijen et al 2011) the ISR framework adopts user-centred design to identify the needs of the user, their mobile design preferences, and the facilitators and potential challenges that may enhance or hinder the uptake and sustained use of an app. It is composed of three research cycles: the relevance cycle, in which an understanding of the environment of the end user and their requirements are determined; the design cycle, in which the requirements are produced and evaluated; and the rigor cycle whereby theories and existing knowledge of the environment are applied and provide the foundations for the design, ensuring the research is innovative and contributes to the knowledge field which are key selling points to stakeholders (Hevner 2007).

The cycles are not intended to be a linear process and may be conducted in an iterative process as undertaken by Schnall et al (2016) in their development of a mobile health technology aimed at service users at high risk of HIV.
Hevner (2007) designed the ISR framework with the aim of understanding and communicating the design science research and to establish credibility of the larger body of science researchers in engineering, architecture, the arts and other design communities.

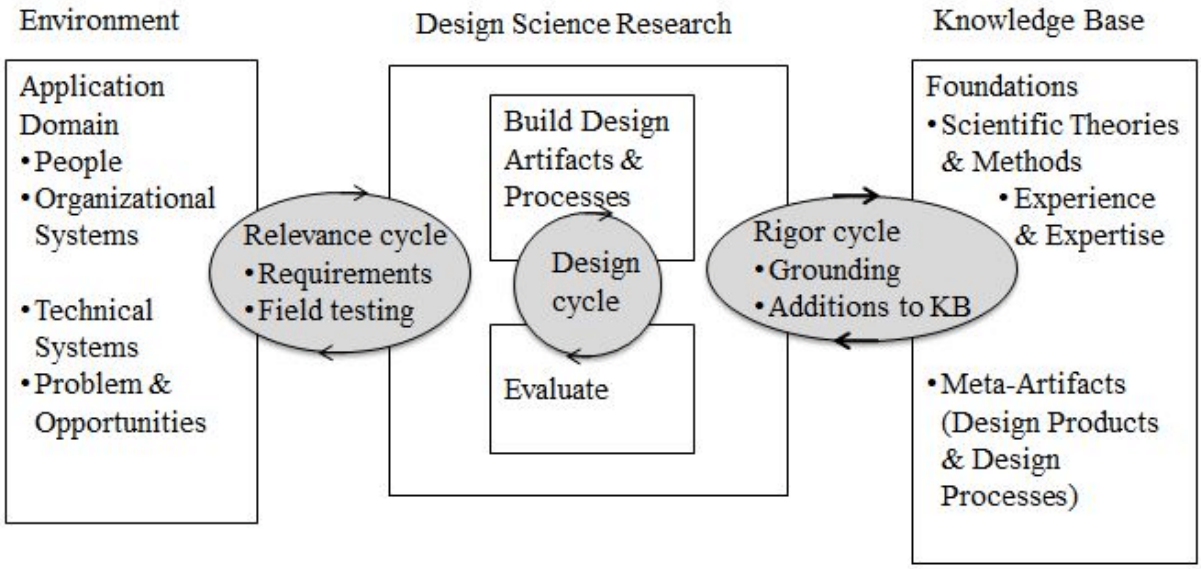


Figure 5: The ISR Framework (Hevner 2007)

However, the development of apps within the context of healthcare education involves much more than simply designing or engineering a good tool. Apps must be designed with a holistic approach in mind considering human characteristics, socio-economic and cultural environments, and technology (Nijand 2011). Furthermore, to promote sustainability of the app, an implementation plan or business model should be considered within the design process so the application be adaptable and transferable to other similar contexts (in this research other health disciplines or universities).

A strength of the ceHRes Roadmap (Nijand 2011; van Germert-Pijen et al 2011) lies in the fact it incorporates an implementation plan as part of the research process. It can be used in a linear process from idea to product but the modular nature of the different stages makes it adaptable for the researcher's specific needs and therefore suitable to achieve the aim of this research study that is

being undertaken within a limited timeframe (van Velsen et al 2015). For these reasons, the ceHRes Roadmap (Nijand 2011; Van Germert-Pijen et al 2011) was chosen to guide the design of the study. To achieve the objectives of the research and work within the principles of co-design, only the first three phases of the ceHRes roadmap were undertaken; contextual inquiry, value specification and design. Pragmatically, developing the implementation plan for the app developed in this study was out with the scope of the thesis. However, the flexibility of the roadmap provides an opportunity for a prototype app to be developed, implemented and evaluated in future post-masters research and this was an important consideration in its choice for framing and guiding the study. An outline of each phase of the current research study with the activities undertaken and key deliverables are outlined in Figure 6. The following sections discuss the data collection processes that were utilized within the phases of the roadmap.

CeHRes roadmap phase	**Requirements development Phase**	**Main activities**	**Outputs**
Contextual inquiry	Preparation	Deciding overall aims and objectives	
Contextual inquiry	End user identification	Recruitment strategy	
Contextual inquiry	Requirements elicitation	Conducting and facilitating world café with service users	Transcripts
Value Specification	Requirements analysis	Data analysis to determine values, attributes and requirements	Values, attributes and requirements
Design	Communicating requirements	Creating the app specification with service user participants	App specification

Figure 6: ceHRes Roadmap (Nijand 2011; van Germert-Pijen et al 2011) phases and activities

3.6 Data collection- Contextual inquiry

3.6.1 Participants, recruitment and setting

Eligible participants were women who were currently pregnant or who had had a baby in the preceding five years. Thus, it was assumed that participants would have recent and relevant experience of the maternity services and interactions with healthcare professionals within this context which would be valuable for this research. Recruitment of participants was undertaken through an open advert inviting female employees of the university where the research was based who met the eligibility criteria. This was for pragmatic reasons as it was assumed that there would be a large proportion of the workforce that would readily meet the eligibility criteria representing different age groups and socioeconomic backgrounds. The open invitation was advertised in the weekly university email bulletin, the university women's network Facebook page and the midwifery programme twitter page. In addition, posters were created (see Appendix A) and placed in buildings across the university including the onsite pre-school nursery where potentially eligible participants would easily see them.

The research took place in 2017 and data collection was undertaken during the months of June and July. Recognising the challenges of service user availability to participate in education, a convenience sampling strategy was adopted to capture eligible participants who happened to be available at the time and easily accessible with the limited timeframe of the research (Cohen, Manion and Morrison 2018). None of the participants were directly targeted by the research team and they were not known to the researcher. In total, 13 women responded to the advert, 7 of whom were eventually recruited to participate in the research. For the six women who indicated their interest in the study but who did not take part, this was because it was not possible to arrange a suitable time of data collection (given the world café format, as further discussed in the methods section below). The limitations arising from this are further considered in Chapter 5.

3.6.2 Methods

Qualitative data was collected using two World-Café style workshops. The world café, first developed by Brown and Issacs (2001;2005) is an innovative method of collaborative inquiry that is based on a set of seven integrated design principles (See Figure 7) using participant's knowledge and 'conversations' to explore ideas and possibility thinking. Ritch and Brennan (2010) state that World Cafes are a specialist form of focus group in a relaxed and informal environment to gather information.

- **Set the context by clarifying the purpose and broad parameters which dialogue with unfold**
- **Create a hospitable space that nurtures personal comfort and mutual respect**
- **Focus collective attention on questions that attract collaborative engagement**
- **Encourage everyone's contribution**
- **Cross pollinate and connect different perspectives**
- **listen together for patterns, insights and deeper questions**
- **Make the collective knowledge and insight visible and actionable**

Figure 7: Seven design principles for facilitating a World Café (Brown and Issacs 2005; reproduced with permission from http://www.theworldcafe.com/)

Interestingly, the design principles of the World Café approach are values that underpin midwifery practice and education; a woman centred approach that requires midwives to create a hospitable place where information can be shared, collaborative learning occur and mutual respect can be promoted. Furthermore, these principles bring together the key concepts of narrative pedagogy and user-centred co-design which underpin the methodology of this research.

The workshops lasted up to two hours each as recommended by Brown and Issacs (2001) and were held in the simulated 'home setting' within the clinical skills lab in the university. This was due to the ease of accessibility for participants and to show the context of the clinical skill environment which participants were being asked about their involvement in. This setting also provided a comfortable and welcoming environment to enliven collaborative conversation over a cup of tea. In addition to conversation, flipchart paper and markers were used to encourage the use of a 'shared space' where participants could build on each other's ideas and weave their thoughts together.

A world café method advocates using motivational questions to promote constructive responses (Halsall and Marks-Maran 2014) and encourages participants to have an active role in knowledge creation rather than passively receiving information (Fouche and Light 2011). A semi structured topic guide (see Appendix B) was designed to address the first three research objectives. Open ended questions were used to focus discussion on: i) what information and support participants felt they would need, ii) the factors that may enhance their motivation and competence to participate in midwifery clinical skills education, and iii) generating ideas of what a future app to support and sustain their involvement in clinical skills education may require regarding use, content, functions and design features. Semi-structured interviews and traditional focus groups have been used to elicit qualitative data in other studies using the CeHres Roadmap (van Velsen et al 2015; Fico and Arredondo 2015), but Estacio and Karic (2015) suggest that these methods could still reflect separation and promote hierarchy between researcher and the 'researched' whereby participants answer questions asked by a researcher. This could be viewed in alignment with level 2 (limited involvement) on the 'ladder of involvement (Tew et al 2004)

where views of participants are recorded without engaging them as part of the community being researched and respecting an equal partnership between the researcher and participants. On the other hand, the world café approach, employed in the current study, promotes a constructive dialogue around critical questions to build professional relationships and foster collaborative learning (Brown and Issacs 2005) that makes the World Cafe ideal to achieve the aim of this study. The emphasis of World Cafés is on shared listening – listening to wisdom or insight that no individual member of the group has access to themselves (Fouche and Light 2010).

Unlike other small group discussions such as brainstorming groups (Krueger and Casey 2014) and focus groups where group discussion is facilitated by a moderator, the World Café was designed to allow people to have a dialogue within a small group while remaining part of a single, larger conversation (Fouche and Light 2010). This is quite a different approach to the principles of a focus group discussion for example, where the nature of the 'group' itself may prompt discussion from other participants but where the moderator consistently plays a role in guiding the conversation across the group as a whole unit (Krueger and Casey 2014). It is acknowledged that with the limited sample size of the current study, a focus group methodology could have been employed. However, the World Café method provided a flexible and informal format that could adapt to different circumstances using the world café guidelines outlined below (Brown and Issacs 2001, see Figure 8). World café approaches also enhance the traditional focus group methods by building professional relationships and networks and promotes equitable contribution and participation to foster collaborative learning, which again aligned with the underpinnings of the current study.

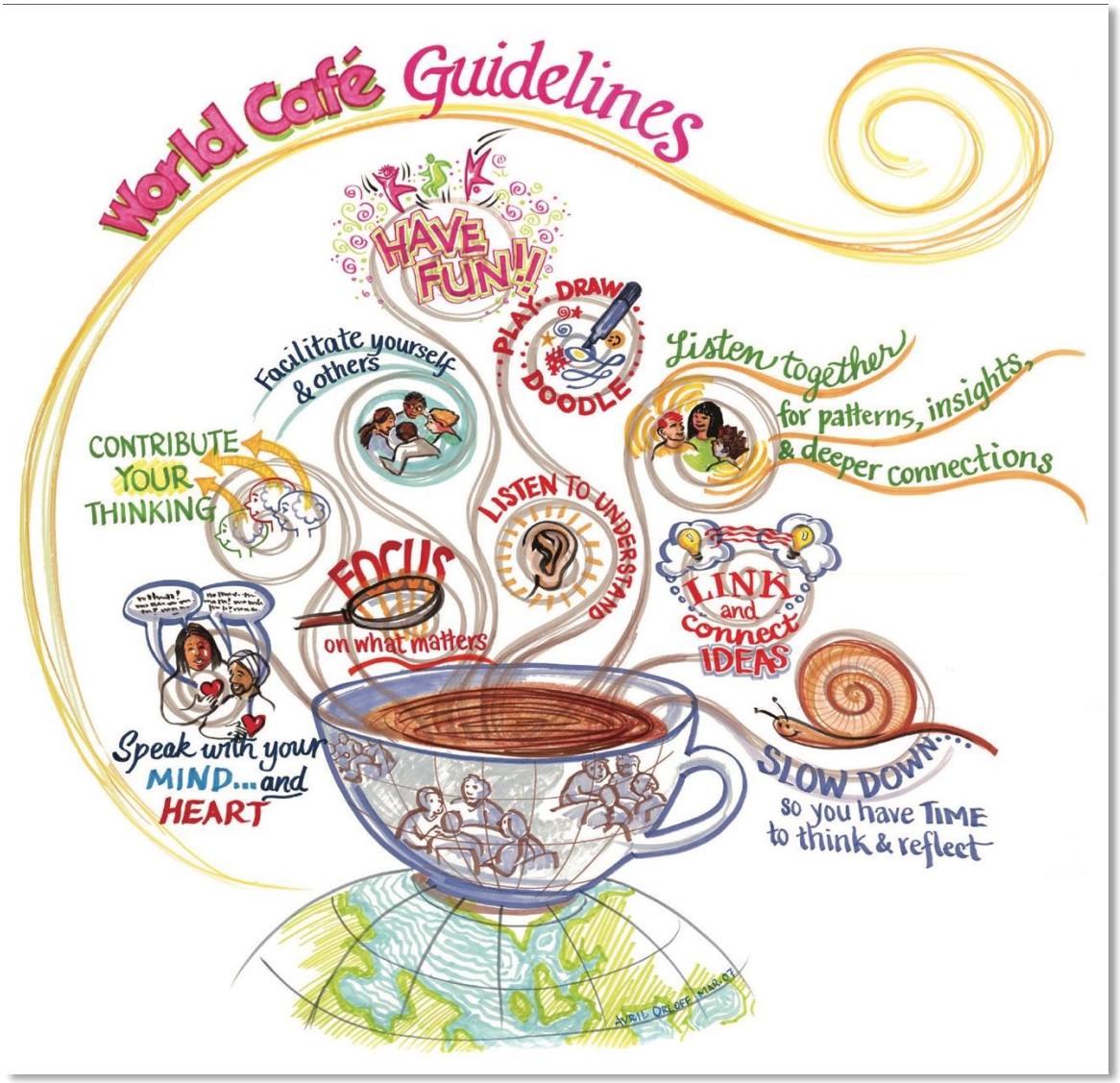


Figure 8: World Café Guidelines (reproduced with permission from http://www.theworldcafe.com/)

Data from the World Café workshops was digitally recorded and transcribed verbatim. The recording from the first workshop was transcribed verbatim by the researcher to become familiar with the data and develop an initial understanding and start of a coding framework (Braun and Clarke 2006). The second World Café was transcribed by an external transcription service to maintain time management. Notes, drawings or diagrams made on flip chart paper were collected and photographed to aid interpretation of the recorded data and these have been included where appropriate and relevant in the next chapter to

illustrate key findings. Both sets of data were securely stored and kept confidential either stored in a locked filing cabinet within the researcher's office or on a password protected folder on the researchers computer hard drive to comply with the Data Protection Act (1998).

3.7 Data analysis – Value Specification

To achieve the first three research objectives, the transcribed data was first analysed using thematic analysis (Braun and Clarke 2006). Initial codes were generated and then arranged into broader themes (sample analysis table, see Appendix C). The transcripts were reviewed regularly, and reviewed and discussed with the supervisory team to ensure nothing was omitted and the data has been understood correctly.

A second phase of analysis was then required to translate the themes into requirements for an app and form the basis for an app specification on which a prototype app could be created. Requirements Analysis (van Velsen et al 2013b) was used to translate themes into three derivatives: values, attributes and requirements:

- A value is an ideal or interest that the end user of the app aspires to or has.
- An attribute is a summary of the need or wish that is spoken out by the end user.
- A requirement is the technical translation of an attribute

Each derivative can be used to communicate the app to different groups of people that would be involved in the implementation, for example, educators may be interested in attributes, while technologists may find the requirements more useful in development. Using these derivatives also makes it easier to set priorities for the app content later in the ceHRes roadmap (Nijand 2011; van Germert-Pijen et al 2011).

One issue that had to be resolved was to determine what counts as 'something that should be translated in a requirement'. van Velsen et al (2013b) advised not to assume that the prevalence of a theme is linked to its importance and suggest that even if an issue is brought forth once that it may provide greater contribution to the app. Therefore, the researcher followed Braun and Clarke's (2006) recommendation of translating issues into a requirement if it captured participant's experiences or thoughts that were important to the aim of the app which was to support and prepare women to be involved in education. To aid a reliable and transparent translation process, a requirements analysis translation table was used (sample requirement table, see Appendix D).

3.8 Ethics

The ethics panel of the School of Nursing and Midwifery in the University provided ethical approval for the study in March 2017 (Appendix E). The researcher received scholarship funding from the Digital Health and Care Institute, however they had no influence in the research process.

An information sheet and consent form (see Appendix F), written in plain English avoiding jargon to promote understanding was provided to potential participants. Potential participants were advised that a working app would not be available immediately on completion of the project, however their input and the findings would be used to inform the future development of an app.

Participants were reminded that their participation was voluntary and that their decision to take part or not did not affect their employment at the university in any way. If they felt participating in the study impacted on them professionally or personally, it was made clear in information sheets and opening introductions to the World Café that they could withdraw at any time without giving a reason. As the participants worked within the university, there was no additional travelling costs for maternity services users to travel to participate in the research. However, complimentary lunch/refreshments were provided and paid by scholarship funding as a thank you for their time.

Protecting anonymity (to keep the participants unknown) and confidentiality (to protect participants by not divulging data which could identify them or cause them to be at risk of harm) were key issues in this research and several measures were taken to adhere to the principles of these. In protecting anonymity, all participants were issued with a unique identification number when they consented to the research, which meant that they could not be identified in any published reports about the project.
While the researcher remained confidential, confidentiality between participants could not be absolutely assured due to the nature of World Café methodology. To address this, participants were reminded that discussions should remain confidential and that personally identifiable information was not to be discussed outwith the workshop.

3.9 Conclusion

This chapter has discussed and justified the qualitative methodology chosen for this study, specifically defending the reason why a participatory user-centred co-design approach was fundamental to the research.

A discussion of potential frameworks for underpinning the study was presented with reasons why the ceHRes roadmap (Nijand 2011; Van Germert-Pijen et al 2011) was selected as the most appropriate framework for this research. The recruitment process was described with justification for the use of world café workshops and the ethical principles considered.

Finally, the chapter discussed the use of thematic analysis and requirements analysis used to achieve the research objectives and develop an app specification for future app development. The findings of this analysis will be presented in the next chapter.

Chapter 4 – Findings

4.1 Introduction

This chapter will present the findings of this study which emerged from thematic analysis from both World Café's. Three overarching themes emerged from the data: preparation for involvement, supporting and sustaining involvement and acceptability and use of an app, and these are used as the main headings for the organisation of the chapter. A summarised mind map of the findings as a visual aid is also presented in Figure 9. Each section introduces a description of what each theme comprises and anonymized quotes from the participants included as evidence of key points and issues raised. Examples include quotations but also segments of conversation between participants where relevant to illustrating the theme. Each participant is recognized by two numbers, the first referring to which world café they attended and the second, the participant number they were given to maintain anonymity, for example P1.1 refers to participant 1 who participated in World Café 1, P2.4 refers to participant 4 who participated in World Café 2.

Finally, the app specification is presented using a mind map (Figure 11) and demonstrated visually with a two-dimension illusion of an app screen interface called a wireframe (Bord 2017). The wireframe images present a visual outline the proposed functions, structure and content of a prototype app that was co-designed with the participants (see Figures 12-15).

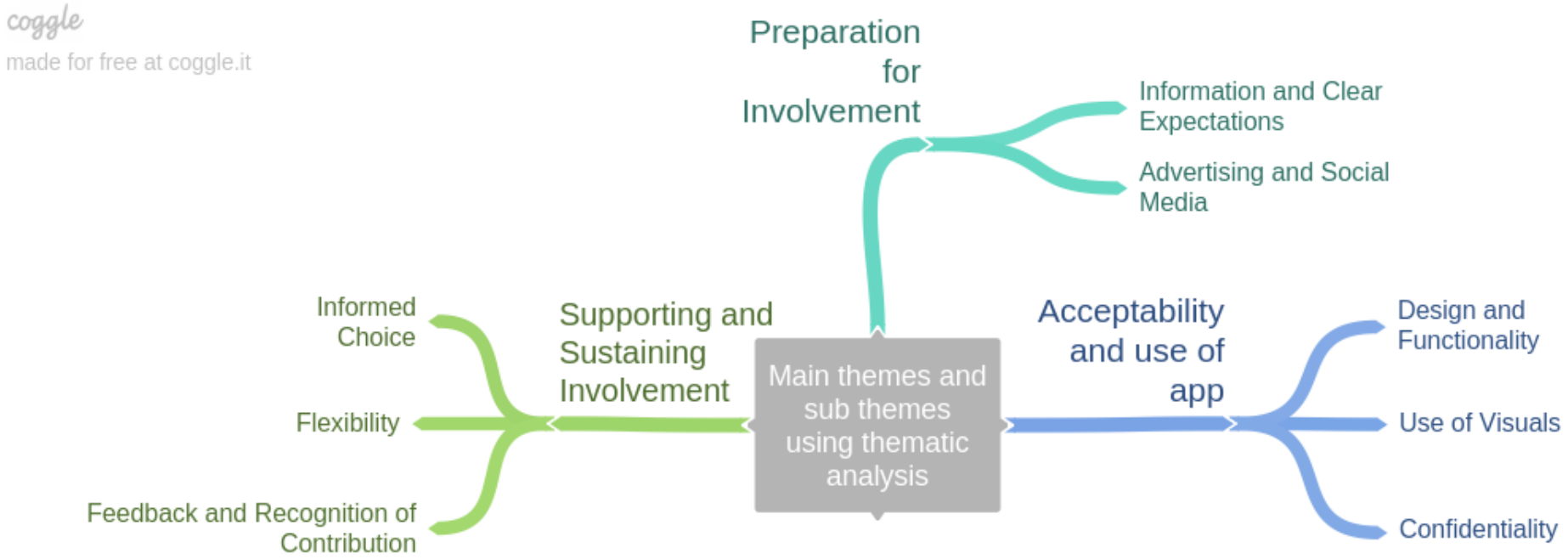


Figure 9: Mind map summary of the overarching themes and sub-themes from thematic analysis

4.2 Preparation for Involvement

In the theme of preparation for involvement, participants described the information and advertising that was required for them to have the knowledge of the service user volunteer group in the first place, i.e the first step to supporting their involvement in clinical skills education. Furthermore, there was discussion about what preparation was required for their participation in the volunteer group and whether the networking aspect of volunteering would support their involvement.

4.2.1 Information and clear expectations

Feedback from the participants across both World Cafés made it was clear that the service user volunteer group at the HEI was not well known, despite the participants being members of university staff. Some participants reported that they were aware of the group, but did not appear to know ways that service users had participated in education and the variety of service users that are welcomed. Furthermore, it was not known how the group was advertised, where to get information or how to volunteer.

> *"I had no idea you just sign up via the website, cause if I'd known that I probably would've helped out before, you know* (P2.4)
> *"Yeah, I didn't know that either...* (P2.3)

Therefore, more could be done to recruit and diversify service users and provide information about the volunteer group. In a solution-focused manner (Priest and Gass 1997), the participants recommended a variety of different ways to do this and related back to how they accessed information during their pregnancies and early parenthood experiences. Very soon in both world café groups, there was openness from the participants to share experiences of their pregnancy and 'birth story' and the women agreed that sharing and hearing experience from others was one way in which they gained knowledge and support during pregnancy and transition to parenthood. Many of the participants had attended volunteer groups before, such as private antenatal classes, breastfeeding support

and parent and toddler groups. Learning new information and having support from each other was highlighted as the main benefits of involvement generally in antenatal classes and support groups, as well as an opportunity for social interaction with other mothers and families. A couple of the participants also had experience of leading support groups and used their experiences to support parents in similar situations. They acknowledged the therapeutic benefits for themselves and the transferable benefits of sharing their own experiences could have for students.

> *"I think the therapeutic benefit for the mother of sharing that story with people who will then internalize it and use it to better their practice is maybe a bit unrated at the moment cause I think that's why I started getting involved in the (volunteer groups) because I didn't receive the support that I felt I needed to accomplish…."* (P1.1)

> *"Oh, I'd volunteer cause I quite like this type of thing. Yeah, I don't think I would mind, because we do it in (university) anyway I think I'd happily volunteer, erm, because I think it benefits the students really, really well."* (P2.4)

Whilst sharing their birth stories, many of the women expressed how they did not anticipate the loss of control during childbirth and parenthood and knowledge and support was needed to feel prepared. As one participant stated,

"*being forewarned is being forearmed*" (1.2).

It was evident that the same principles applied to providing information and support to be involved in midwifery education. It was even more evident that more information about the group would be required in order to feel they had something to contribute and to understand the context of their involvement within teaching sessions. Some participants, perhaps due to their experience in academia, suggested sharing the learning outcomes and materials with service users so they would understand what students should be demonstrating in the class.

> *"I'm wondering about maybe sharing some condensed learning materials with people, so like, here's what our students have been learning, here's the skills we are hoping they will demonstrate to you today, I would probably like that. That would equip me quite well with what I'm going go into."* (P1.1)

On the other hand, some participants suggested preparation should be kept simple, with visual pictures of the learning environment and examples of sessions so they could understand the context of their involvement and what they could expect.

> *"…I'm just thinking how you encourage people to come and tell their stories as well, and having a photo of a session, cause I think some people might think 'well, that's the university….'* (P2.1)
> *"and stand in lecture theatre."* (P2.4)
> *'…and stand in a lecture theatre, yeah, and if you had a comfy seated are that, er, even if you just set it up for the photo"* (P2.1)
> *"yeah,yeah"* (P2.4)
> *"and had people interacting and just, you know, where they imagine it's seated, that's relaxed, that there's a cup of tea on the go…"* (P2.1)

When discussing the theme of support, the participants in this study did not deem formal preparation training necessary to feel prepared to be involved. Instead they agreed that having a named contact person and telephone number for more information was essential.

> *"Even if you had a few minutes of you recording yourself for the promotional materials, just talking people through it because I think putting a fact to it rather than just having some text could really help….oh yeah….I could have a go of that."* (P1.2)
> *"When you're promoting it, having a named person and a telephone number I think is really important if you want to talk more about it."* (P1.1)

Participants suggested educators could meet the service user before the session to give an informal brief about what was expected of them and the students. Additionally, women could be invited to a trial session with students before choosing to sign up to a formal volunteer group. Supportive materials with explicit information of what membership of the service user group would entail was also advised. For example, the expected amount of participation, length of teaching sessions and testimonials from other service users or students. Having this information and named support was important in ensuring that service users in this study felt in control of their participation.

4.2.2 Advertising and Social Media

The internet and social media were reported as a common way of sharing knowledge and supporting others. Most of the women disclosed they were members of Facebook groups and subscribers to blogs and suggested it may be an ideal platform in which to advertise the university service user volunteer group and liaise with pregnancy and parent support networks. Furthermore, using social media may target an already proactive audience with insight and experience of pregnancy and childbirth and increase the diversity of service user experiences.

> *"… they are all very much on side for what it is you are trying to do, so you would get buy in straight away and actively promote it within those groups….there is probably already a willing and ready audience."* (P1.1)

Interestingly, one participant mentioned feelings of isolation as a new mum at home alone and that she used the web and social media to engage with others. As she lived in a rural area, it was sometimes the only way she got social engagement highlighting the importance of interaction with others. This suggested that in addition to the face to face support groups, the women in this research used online approaches including social media for networking with other pregnant women and their families and to share their own experiences and recommendations with others, suggesting that technology has become 'word of mouth' in a contemporary digital era.

This finding is of importance as it identifies a current gap in the current recruitment strategies and the alternative ways that women could be involved in midwifery education instead of traditional face to face approaches. Furthermore, that the use of an app may be a suitable technology to open communication channels with educators and women.

> *[regarding an app] " …..the newsfeed comes through and it's not all relevant to me but it's quite, it kind of gets me a bit motivated sometimes when I see what other people have done and I'm like 'oh, look, they've done that, that's a really good idea', you know, so it might inspire some people to access the app who have not signed up, if they're seeing maybe*

some of the volunteer sessions through the newsfeed to go, you know what, I might actually quite like to do that." (P2.4)

4.3 Supporting and sustaining involvement

This theme focused on the importance of involvement being individualised and personalised to participants rather that a one size fits all model. In this theme, the participants spoke about informed choice, flexibility, feedback and recognition.

4.3.1 Informed choice

Once the context of their involvement was established, participants revealed that it was essential for them to be able to *choose* how they participated in a teaching session. Many of the women mentioned that they would feel anxious about acting or role playing a scenario that they had no previous knowledge or experience of. The sharing of personal birth stories during both world cafés demonstrated that it was their own unique experience of pregnancy and birth that they felt comfortable sharing and the participants stated they would prefer to be involved in a teaching session related to their experience, such as breastfeeding or multiple birth.

"Cause I don't know that I would ever, personally, I don't think I would ever role play I think I would just be nervous about getting my story wrong or saying something that didn't fit with what I'd been told I need to say so I know I would gravitate toward one more than another…" (P2.3)

Interestingly, there appeared to be consensus amongst participants in this study that using personal narratives should not be discouraged. One participant highlighted it was richness of what people can share about their own lives that is valuable to student education. There was a need to ensure, however, that service users were informed beforehand and could make the choice to participate and share personal stories ahead of any teaching session rather than simply imposing an expectation that everyone would be happy to do this. The participants vocalised that although there was not a need for formal debrief sessions following each involvement opportunity, they would welcome an

opportunity to discuss with educators how effective and successful they perceived the teaching session had been. This was also important to ensure wellbeing of participants after their involvement and signpost further support for women if required, especially if exploring a sensitive topic. Although, the ethical considerations of women sharing their own personal stories was not discussed in detail, the participants did not view this as an issue.

> *"I think most people would be willing, or feel comfortable talking about something they've gone through when they understand that it's helping and that's within that room.* (P2.1)
> *"And I think if you're not forcing somebody to talk about it, so you're giving them the option to share the story, so, I think, because they're sharing it voluntarily I don't think there's any issues."* (P2.2)

4.3.2 Flexibility

Even though the participants presented as being motivated to be involved in student education, a major barrier discussed was time management and availability. All women in this study disclosed their challenges of managing the competing demands of childcare, family responsibilities and work commitments.

> *" I think timing and competing commitments are always going to be challenges especially when I think you're juggling, perhaps, you know, I've just come back to work so just return to work and then, erm, your childcare arrangements and then your travel to get to somewhere and I think there's all these different factors that you're having to..."* (P2.3)
> *"Time and logistics are kind of, you kind of get them to a certain point I suppose for returning to work and then it's adding some in that you want to do but you're like ok, what else needs to change for me to be able to accommodate that?"* (P2.3)

In order to manage different commitments, participants shared the importance of service users having the ability to view and choose from available dates and times of sessions in advance and feel that there is a degree of flexibility to stay in control of their diary. This was a key area of discussion where the participants felt that an app would be able to address some of the time management challenges, such as an interactive diary or overview of upcoming sessions.

> *"If I went on the app and I realised that there was something tomorrow and I'm available, then I would click it there and then. I think leave it open so that people can come on last minute or book in, but it's useful you putting the information up really early so that people can, if they're the type of person and they need time to get organized then that's cool but, erm, I'm quite good at doing things last minute."* (P2.1)

The women also advised that unforeseen circumstances may change their ability to attend sessions and it was suggested that there could be other ways of contributing to education without always being physically present. Relating back to previous discussion regarding online support and social media, there was a strong emphasis on using technology to support service user involvement in different ways. Using recorded video interviews or podcasts and skype or facetime were some of the methods suggested and meant that the location of service user volunteers can be flexible and perhaps more comfortable for service users to be in their own familiar environments which may relieve anxiety. The app could also highlight what sessions were flexible in terms of alternative ways of being involved.

The issue of childcare was discussed at length and whether there was an option to bring children with them. One participant who had previous volunteering experience with other mother and baby groups highlighted a major advantage of why people get involved is being able to take your baby to the group and you have an opportunity to talk to other mums. All participants stated that there would need to be clear information about whether a teaching session was child friendly and this could be signposted in an app with small icon against child friendly sessions. Participants agreed this may be viewed as a barrier for service user involvement if childcare was not readily available to allow them to attend. As previously suggested, however, alternative methods of involvement could overcome this challenge which also could be signposted within an app.

4.3.3 Feedback and recognition of their contribution

Feedback from students and educators was an important point raised at both World Cafes for service users to know the impact of their involvement on student learning and demonstrates the value of their time. Specifically, the participants recommended that personalised feedback should be given about the session they were involved in to boost motivation and confidence and make it more likely that volunteers would participate in future or recurring teaching sessions.

> "*…I think the motivation to do it will be to share their knowledge with the students isn't it, so you want to help their education so, erm, if they feel that they've been able to do that, certainly if I got some feedback from the session that I'd been involved in was really good and that the students had benefitted from it, right, well at least I've done that one session, I'll do that session next year, I must remember or I'll be motivated to do more so I think, yeah, closing the loop is quite nice with that feedback and kind of validation."* (P2.2)

> *"….and that would make them more inclined to keep participating. And then with student's permission, use those comments with other volunteers as well. You know, here's what we want you to do and here's what students say is really helpful to them and here's how us as lecturers see it coming into practice, then you're giving the whole picture of this will help women who are in a situation that you have been in."* (P1.1)

Service users knowing the impact that their time has had on student experience and the potential it has to improve midwifery care appeared to be the main motivation for involvement. It was for this reason that the participants in this study did not view financial payment as mandatory.

> "*Certainly, my knowledge of the mums and groups I've got to know, people don't do these things for those reasons [monetary reimbursement] Putting on a cup of coffee would be appreciated. Coffee and cake is appreciated at any group! I think once people have come through the other side…you can see the value of your time."* (P1.1)

On the other hand, the participants of the second world café recognised the value of complimentary supermarket vouchers as an incentive for signing up to the service user volunteer group or contributing to sessions and should be highlighted to potential volunteers if available.

"Yeah, maybe a just a little incentive, not that I want this but, you know, just for everyone maybe their £20 voucher for M&S or something would be……like to encourage people to take part and sign up." (P2.4)

4.4 Acceptability and use of app

The use of apps was raised by participants and was questioned whether a specially designed app would assist in overcoming some of the challenges that participants identified to their involvement in clinical skills education. The use of apps amongst the participants was fairly ubiquitous for a variety of tasks, such as online banking, library service, gym membership and a pre-school nursery app with many of them choosing an app over using the website due to the perceived ease of use. However, one participant had concerns that by using only an app to inform and support service users may restrict opportunities for those that do not have smartphones.

"I know a lot of people that tend to use them of late but I'm not sure if all the mothers…..would have phones or are not in a position to have a smart phone and wifi. There are still huge sections of the community relying on foodbanks and not have phones, so you may be getting the well to do." (1.2)

On the other hand, participants also advised that the use of apps supporting involvement in clinical skills education may help to diversify volunteers and attract more service users in a digital age. Consequently, it was suggested that the app could be one way of informing service users about the volunteer group but it would exist in parallel with other informational approaches, such as promotion and communication through antenatal classes, nurseries and health visitors.

"Yeah, I think it [the app] would target a whole different pool that you're not tapping into at the moment which is important." (P2.1)
"How would you advertise it though?" (P2.4)
"so you've got, obviously got certain surgeries that you work with so could those surgeries pass information to women of child-bearing age and could the information also be shared with women who are attending antenatal

groups in the local area as well so that there's just a general awareness." (P2.3)

The participants suggested that an app might provide an easier way for potential volunteers to maintain contact with university colleagues. Additionally, the app could include an online booking system or live information about forthcoming sessions to assist service users with their time management and to give them flexibility over choosing which sessions they felt best able to participate in.

4.4.1 Design and functionality

Some participants had smartphones with them and showed examples of their regularly used apps and 'favourite' features of each. One example included a local gym app, which facilitated information about gym classes, an online booking system for classes and a contact function for ease of communication. Successful and continued use of an app was perceived as being directly related to its design and functionality.

> *"….and my library service, I could do it all through the website, but I don't. I do it on the app just because it's easier and a bit better designed and more appropriate for your phone and you can access your account information without having to go through the additional log in steps, so I think there are benefits but they do have to be well designed."* (P1.1)

Participants gave other examples of apps which were quickly deleted by users due to poor design or the fact it did not work as it was supposed to. The women agreed that an app should provide simple information using plain, easy to understand language avoiding educational jargon and should not be overloaded with content.

> "*Simple is better than going all out. If it's simple and it functions, that's where it'll be better than being over ambitious and then it not working".* (P1.2)

4.4.2 Use of visuals

Using flipchart and pens, the participants and researcher drew the basic structure of app and translated their needs and requirements into the technical requirements of app (figure 10).

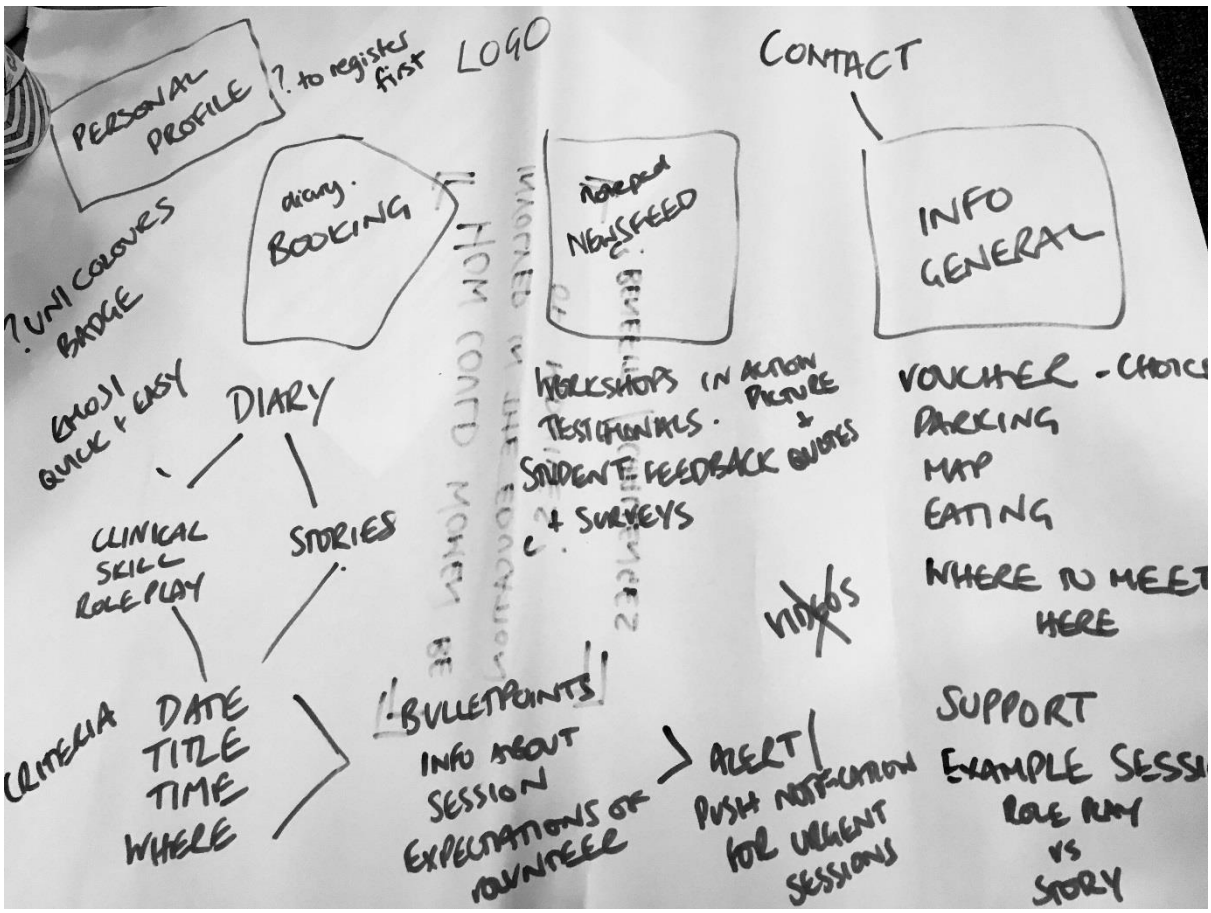


Figure 10: Photograph of flipchart findings.

Use of graphics, icons and pictures to navigate around the app was proposed by participants and may make the app more intuitive to use. Suggestions from participants included that each icon could be represented visually to make it easy and intuitive to navigate. Colours and university badges could be chosen to represent university identity if required. Complex videos or links to external website were not recommended by participants as it was perceived this may make it too clunky and more likely to crash.

"Picture and quote….short quotes." (P2.1)
"I don't, I don't think videos, I don't think you really need videos, I don't know what do you think? But I, I don't think I'd really expect a video if I'm just going on an app. I think I'd just want nothing that moved" (P2.4)
"Yeah" (All)
"Cause you click on the video and it doesn't load and then you're like, oh, and then the moments missed, you know." (P2.2)

4.4.3 Confidentiality

There was group discussion about personalised user profiles as adopted by some apps for communication and networking. Service users could create a personal profile to sign up to the group and indicate their interests and the type of sessions they would be interested in participating. However, concern about maintaining confidentiality led to a consensus among participants that a user profile should not be used to communicate personal information with other app users. In addition, the participants did not see communication and networking with other service users the purpose of the app, but rather to open communication channels with educators. Instead, participants suggested service users would have to 'register' with the service user volunteer group within the app to see more information about teaching sessions and give their availability. That information would only be shared with educators in a confidential university volunteer database.

"For things like that, you need to avoid collecting people's personal information cause that opens up a whole box…" (P1.2)

"Actually, now I think about it…..if you downloaded the app first of all and then you went to book something it would then ask you to register…….having that pop up of 'register now' and if they don't register, they can't book…..so that would be when you capture them, when they went to that" (P2.1)

The participants were then asked that if an app were to be developed specifically to support and sustain their involvement in clinical skills education, what the content, function and design of the app might look like. The foundations of a app specification were drawn up and are discussed further in the following section.

4.5 App specification

The findings suggest that using an app for providing information and support to promote the involvement of maternity service users in midwifery education is acceptable and may address some of the challenges for women. The second half of the World Café's focused the participants and the researcher to develop a an app design specification (Figure 11) to translate their potential needs and values into the use, content, function and design features of a co-designed potential mobile app. From this analysis, the researcher then designed app wireframe images (Figures 12-15) using 'adobe illustrator' which is a software platform that can create graphics for use in print and digital form. The wireframe is an easy illustration that presents what a potential prototype app could look like to future stakeholders, such as educators and app developers.

The participants agreed that the basis of a service user volunteer app would consist around four main icons: a booking diary, a user profile, newsfeed and general information. A booking icon (Figure 12) would include a diary system of upcoming sessions, type of session (whether it was clinical skills or classroom based and whether it was storytelling or role play), male or female volunteers required and whether children were welcome.
A newsfeed icon (Figure 13) that would present service user, educator or student testimonials and visual examples of teaching environments and sessions that have taken place with alerts of upcoming sessions requiring volunteers.
A general information icon (Figure 14) with map of the campus, parking and catering facilities, details of the name university contact and support available and information about any voucher rewards (if being promoted).
A personal profile icon (Figure 15) where users would register to gain access to the app and opportunity to highlight areas of interest for teaching topics. This information would only be shared with the university volunteer database and would adhere to Data Protection Act (1998). This will be discussed in more detail in Chapter 5.

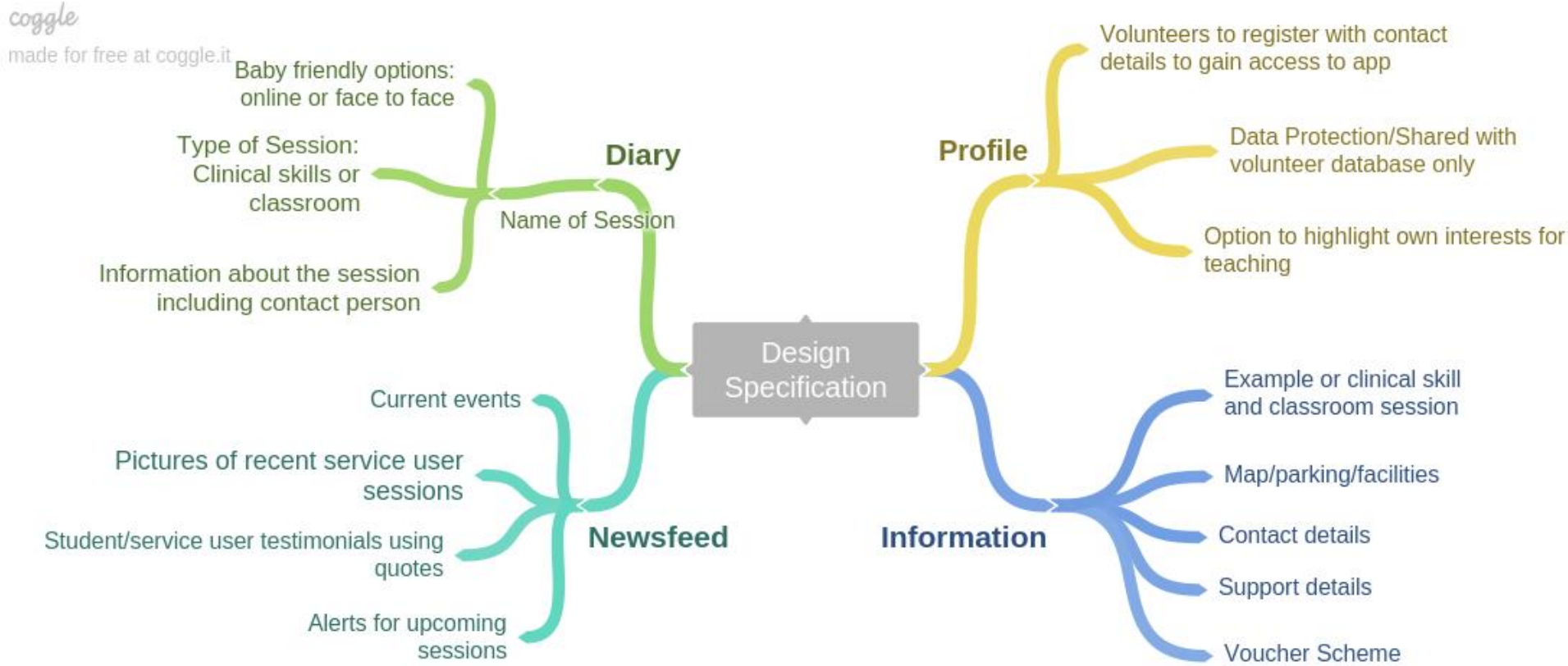


Figure 11: Design Specification

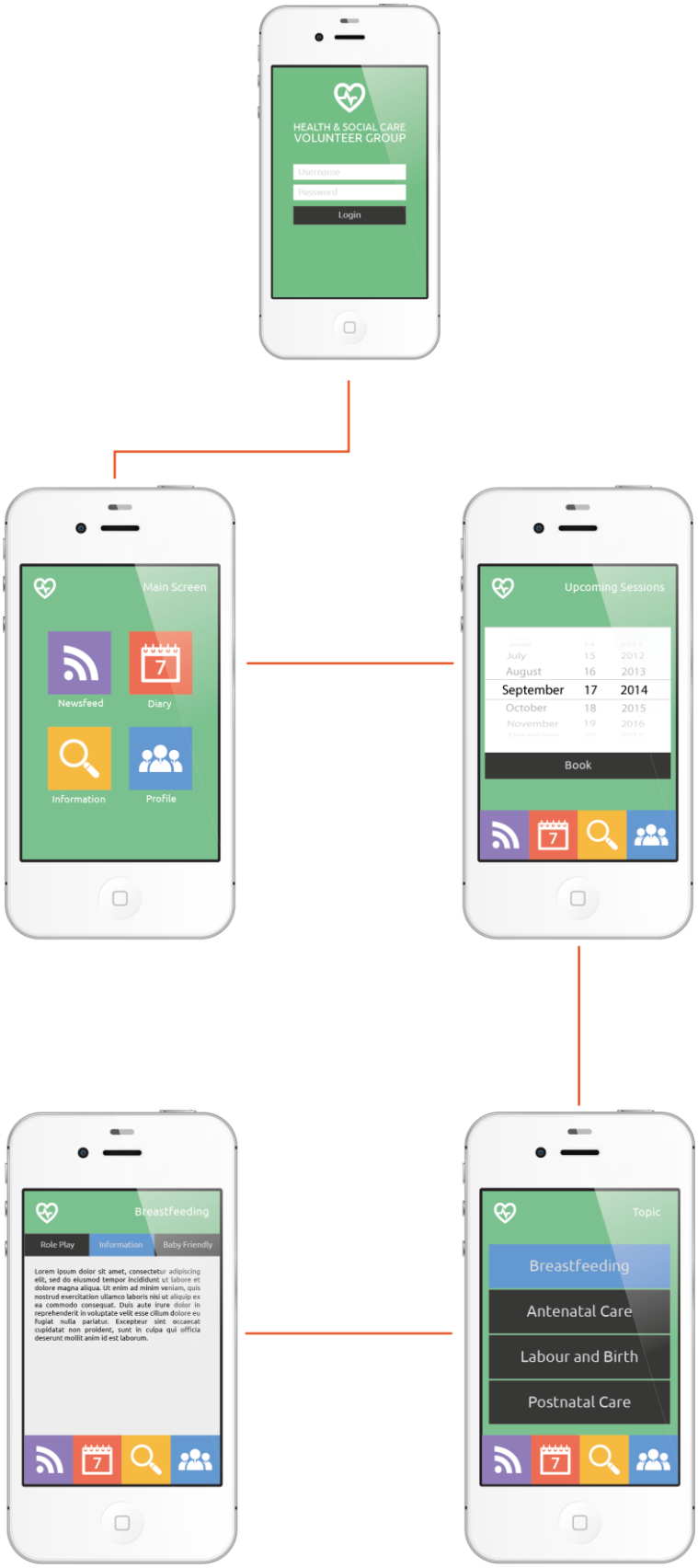


Figure 12: Front page and booking icon wireframe

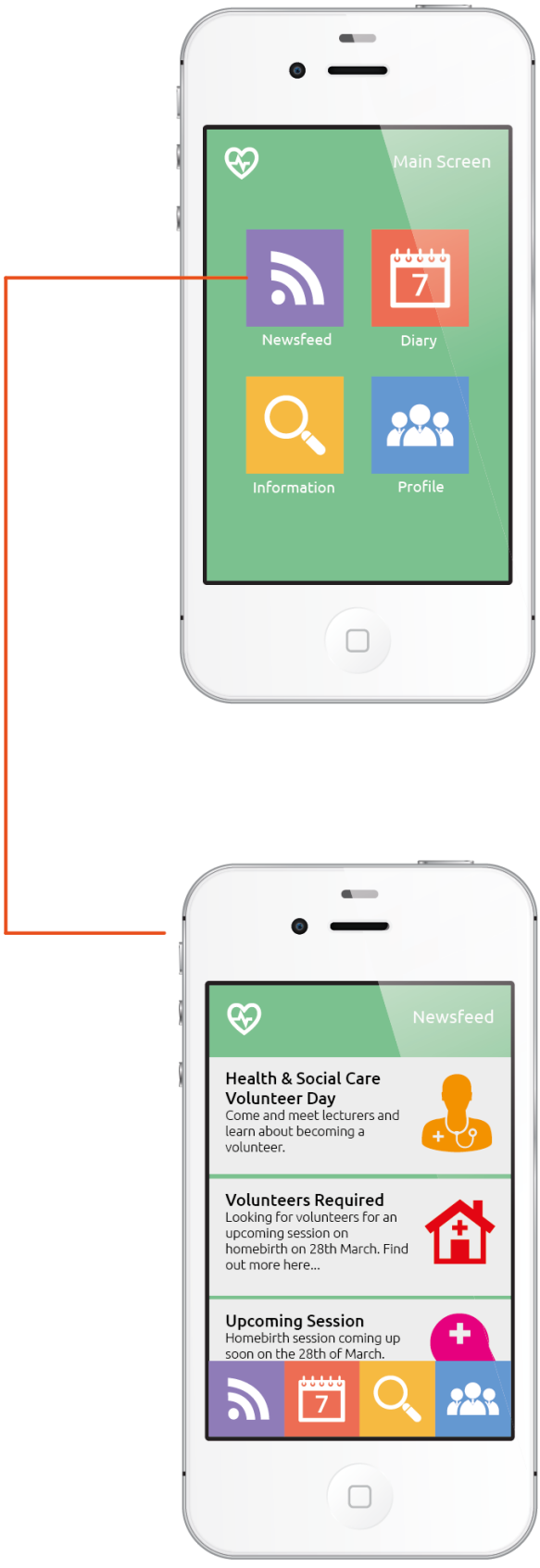


Figure 13: Newsfeed icon wireframe

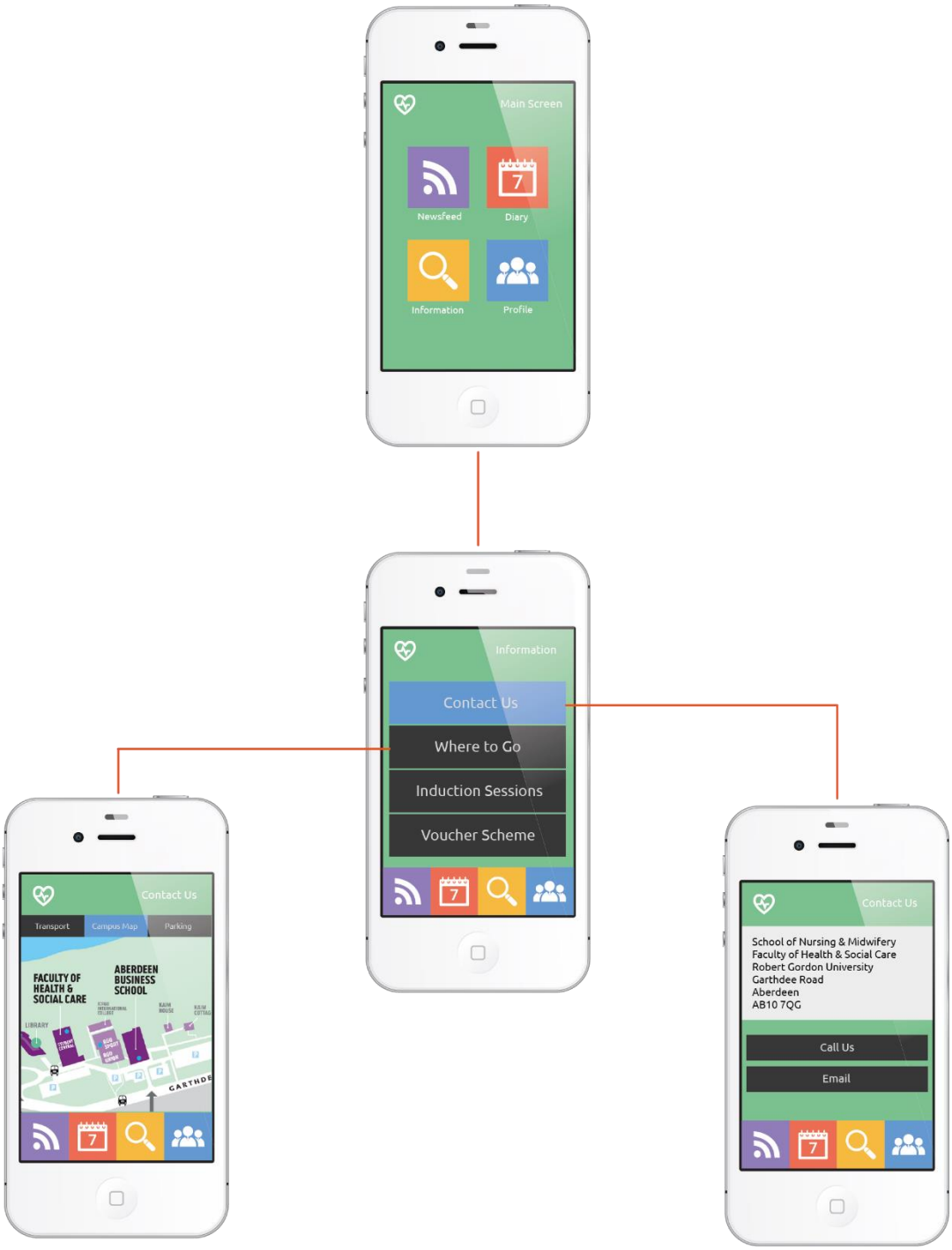


Figure 14: General information wireframe

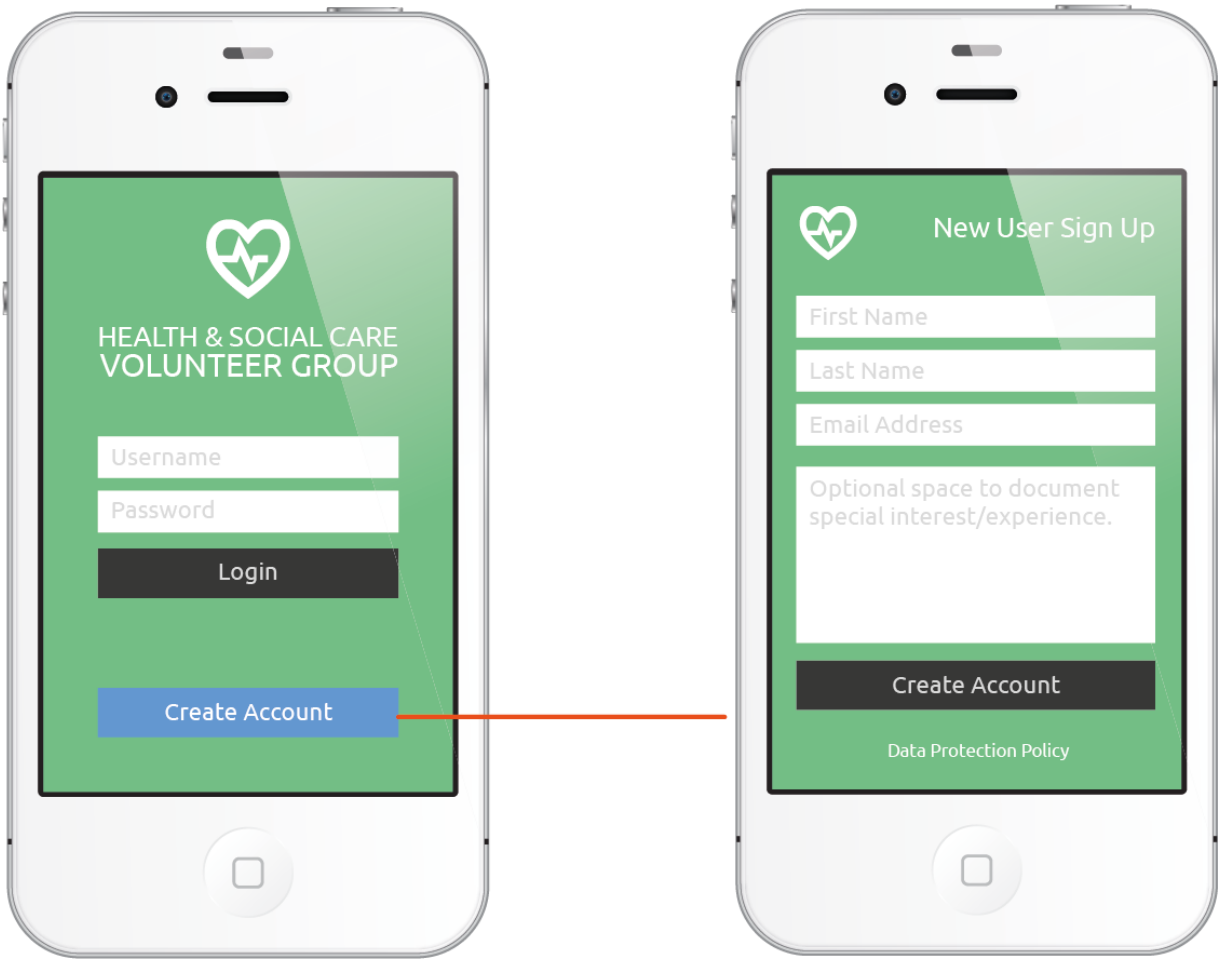


Figure 15: Personal profile wireframe

4.6 Summary of findings

This chapter has presented the three overarching themes of two world café discussions using thematic analysis: preparation for involvement, supporting and sustaining involvement and acceptability and use of an app. The participants reported that service user volunteer group at the HEI is not well known and information about service user involvement in education could be better promoted, possibly using social media and networking with existing pregnancy and parent craft volunteer groups. The women in this study reported that they gained knowledge and support in their own pregnancies through storytelling and sharing of experiences with others which is transferable for student learning.

Despite the motivation to contribute to student education, service users require information and knowledge about the context of their involvement and the commitment required. Using a newsfeed feature in an app could provide service user, educator and student testimonials as well as signpost further information sources for potential volunteers. In addition, more information about specific teaching sessions can be highlighted within an upcoming events section within a app. Support from a named educator is essential to feel they have choice to participate in a way they feel comfortable. Contact details of academics and clinical skills support staff could be included in app content, along with general information about the university location and services.

However, the women in this study voiced their perceived challenges in being involved in education, namely the competing demands of childcare, family responsibilities and work commitments. The women emphasised that service users must have the ability to self-manage their diary, choose the type of involvement (for example, using their own narrative or role playing) and feel they have a degree of flexibility in how they are involved using other methods such as skype, or podcasts to promote service user input into midwifery education. A live booking or diary system of upcoming teaching events within an app could facilitate service users to choose a time and a place to be involved that they are comfortable with and promote control of their time commitments.

Although app was agreed as an acceptable method of recruiting service users and overcoming some of the challenges, the participants recommended it should be used to compliment other approaches, such as websites, social media and dissemination through antenatal classes, midwives and health visitors. Successful and continued use of an app will only be encouraged with simple, easy to understand content, quality design and functionality. With this in mind, the app specification was co-designed by participants and the researcher and using a wire frame illustration (Bord 2017), this could be communicated with other stakeholders, such as technologists to assist in the development of a prototype app.

Chapter 5: Discussion and conclusion

5.1 Introduction

The final chapter of this thesis will discuss the relevance and meaning of the findings presented in Chapter 4 in more detail within the context of the research objectives and guided by the ceHRes Roadmap (Nijand 2011; Van Germert-Pijen et al 2011) discussed in Chapter 3. The research objectives were:

1. To explore what information would encourage and support women with experience of pregnancy, birth and maternity services to contribute to midwifery clinical skills education.
2. To identify and explore the factors that may enhance or hinder women's motivation, self-efficacy and competence to engage with midwifery skills education.
3. To understand women's needs and perspectives on the use, content, functions and design features of a potential mobile application to support their involvement in midwifery clinical skills education.
4. To create an app specification co-designed with maternity service users, to inform the future development of a mobile app that could be used to help support the involvement of women in midwifery clinical skills education.

The aim of this work was to create an app specification, co-designed in partnership with maternity service users to inform the content of a mobile app which could be used to support the involvement of women in midwifery clinical skills education. The findings reported that there is a need to advertise the service user volunteer group at the university further with clear information and expectations about what involvement entails. Furthermore, that service user involvement should be personalised to facilitate choice about how they would like to be involved and that support should be individualised to enable women to feel confident and competent to become a volunteer. The use of apps for the maternity service users in this study was ubiquitous and was generally accepted as an appropriate method of supporting women's involvement. However, the perceived success and continued use of an app is directly related to the quality and functionality. Although an app may encourage some women to become involved, it should be used in partnership with other supportive approaches

(such as websites, social media networking, communication through midwives and health visitors) to promote reoccurring participation.

The discussion will explore each of the research objectives in relation to the findings of this study and their contexts within the broader extant literature. First the discussion will explore the information and support maternity service users require to be involved and their preferences for how they wish to be involved. Next, the factors that enhance and hinder their motivation to be involved will be discussed before exploring the perceptions of mobile app technology and the co-design of a mobile app. Finally, limitations of this research will be discussed with implications for clinical education and recommendations for future study.

5.2 Information required to encourage and support women with experience of pregnancy, birth and maternity services to contribute to midwifery clinical skills education.

5.2.1 Recruitment

Methods of recruiting service users to become involved in volunteer groups in the first place have received little attention compared with other research exploring service user involvement in educational and clinical contexts (Repper and Breeze 2007; Happell et al 2015). The maternity service users in the current research agreed that service user involvement may enhance the education of healthcare professionals and improve the quality of healthcare delivery aligning with previous research in nursing and social work disciplines (Morgan and Jones 2009; Mckeown et al 2012; Rhodes et al 2016). However, this study has determined that locally there is a gap in recruitment strategies as the majority of the women did not know about the existence of the service user volunteer group at the university and what they did.

Previous recruitment strategies have used local newspapers, radio broadcasts and university open days (Turnbull and Weely 2013), but the findings from this study suggest that social media and other digital approaches may be another potential way to recruit and support services users in an increasingly online

society. In fact, using social media and online approaches was a key strength of the recruitment strategy used in this study. The majority of the women in this study said they had seen the recruitment poster online through the university women's Facebook network, Twitter and the university online bulletin. Consequently, 13 women enquired about participation within two months of the recruitment period, with several more inquiring after data collection had been completed demonstrating the advantages of social networking with existing interest groups and online advertising.

Within the wider healthcare education context, a formal recruitment and selection process has been suggested to recruit 'standardized patients or simulated participants' that were discussed in Chapter 2. Baxendale et al (2013, p.102) stated that volunteers should be representative of the 'patient' population they are being asked to embody and proposed a formal selection criteria for the:

> *"standardized patient to perform under varying conditions and contexts, and with different levels of responsibility for contributing actively to feedback"*.

The authors go onto to suggest that certain characteristics and attributes should be sought, including the ability to follow directions, commitment to the education of health professionals and lack of bias towards the healthcare system. However, there is no suggestion about how these attributes can be determined. In addition, this type of recruitment 'criteria' may be deemed as paternalistic and may promote power hierarchies between educators and service users which was a previously identified barrier to achieving a service user friendly atmosphere (Basset et al 2006). It also appears that the literature relating to standardized patients advocates public involvement becoming more professionalized, particularly within medical education as demonstrated by the recent development of Standards of Best Practice by the Association of Standarized Patient Educators (ASPE) (Lewis et al 2017). Baxendale et al (2013) proposed advantages for the professionalization of standardized patient's including improving employability and pay conditions and opportunities for accredited continued professional development which aligns with the pursuit of level 5 partnership as recommended by Tew et al (2004) ladder of involvement (Figure 2). The

findings of this research within the context of midwifery education suggest that women are managing the competing demands of work and family responsibilities which presents challenges in participating in the first place. Employing maternity service users in the same way as standardized patients may not be beneficial in recruiting women or widening the diversity of service users.

Instead, this research recommends providing women with information that will encourage them that they have something to offer to midwifery education and to see the ways that they can be involved. Similar to the findings of the *Best Start Review of Maternity Services* (Scottish Government 2017) women in this study preferred to have continuity of information and a named contact person and telephone number to experience personal level of support. Making explicit what membership of the service user group entailed, expected amount of participation time and having named contact was key information.

5.2.2 Preparation and support

Contradictory to previous research (Fraser et al 2017; Towle et al 2016), formal preparation training sessions were not reported as being necessary for the participants in this research to feel prepared to be involved. Instead, it was suggested an informal opportunity to meet the educators could be arranged beforehand and the option to observe a teaching sessions with students before formally signing up to volunteer appeared reasonable for the participants. However, it is worth considering if this may be due to the fact that all participants were employees within a university and so may have previous knowledge and experience of supporting teaching and learning. This issue is further discussed in section 5.4. Nevertheless, this finding demonstrates that service users should be consulted to agree training and support on individual basis which was previously recommended by Bee et al (2015) and facilitates individuals to remain true to themselves and avoid turning them into lecturers which defeats the purpose of their involvement (Ion et al 2010). It appears reasonable that by working in partnership with service users (Fox 2016) individuals should be empowered to seek support and development as required and the women in this study advocated the use of technology and online methods to suit their learning needs.

Previous research within the context of nursing and social work education determined that networking and membership of a social community was a key benefit of involvement for service users and essential for support and ongoing participation in education (Rhodes et al 2016; Hitchen 2016). However, this was contradicted by maternity service users in this study. Most of the participants were already involved in established social and support networks, such as antenatal classes, mother and toddler groups or specialist support groups such as breastfeeding. They clearly stated that they had limited time to dedicate to these groups due to a busy family life and would find it difficult to contribute to another social network. This suggests that maternity service users have different reasons or motivations to be involved in midwifery education.

5.3 The factors that may enhance or hinder women's motivation, self-efficacy and competence to engage with midwifery skills education.

5.3.1 The power of storytelling

During the World Café's, the women immediately related the education of midwifery students to their own learning experiences of pregnancy, childbirth and preparation for parenthood. The semi-structured questions asked were not directly related to their own birth experiences but many of the women chose to share personal experiences of pregnancy and their 'birth-story' openly with each other as part of the discussion. Although it was an unintentional focus of the world cafés, it suggested that the power of storytelling was necessary, not only to explore how maternity service user's experiences could be used to enhance education, but to understand why maternity service users might become involved at all: to share their story.

This finding agrees with Morgan and Jones' (2009) literature review across health disciplines that found that service users chose to get involved in education to offer their real-life experience and improve or give back to the health service. Therefore, in contrast to Baxendale et al's (2013) reported advantages of using standardized patients, it may be that the use of standardized patients do not

offer the freedom and flexibility of using participants' own life experiences. Many of the women in this study shared their unique experience of pregnancy and childbirth with examples of positive care and where they felt care could have been improved. Their experiences appeared to be the key motivation to get involved in community support groups, such as breastfeeding or multiple birth and suggested why they were interested in midwifery education and this research. Acknowledging their own learning experiences from others, the participants felt this was transferable to becoming involved in student education. Furthermore, they believed sharing that experience to educate future midwives has the potential to promote effective care for other women in the future.

It is the very nature of experiential storytelling inherent in narrative pedagogy (Diekelmann 2001; 2005; Diekelmann & Diekelmann 2009; Ironside 2015) and underpinning co-design methodology (Selloni 2017; Manzini 2016; Boyle and Harris 2009), discussed in chapter 2 and 3, which is at the heart of the study. The women in this research all spoke of examples where they sought out information to understand or inform their own pregnancy experiences. This was typically from other women and certainly in the wider literature there is evidence of midwives passing on knowledge and experience orally (rather than using empirical research) (Gould 2017). This sharing of intuitive, embodied and experiential knowledge is underpinned with feminist epistemology, which is focused knowledge from the standpoint of women and their experiences (Anderson 2005).

However, this is striking at a time when scientific 'ways of knowing' have come to dominate midwifery practice (Gould 2017) in a profession that historically has passed knowledge through an oral culture of narratives and storytelling (Davis 1995). Such as a storytelling circle between women and midwives is a good example of using narrative. As discussed in Chapter 3, narrative pedagogy is defined as teaching and learning that evolves from the lived experiences of teachers, clinicians and students (Ironside 2015) and is based on social constructivist, constructivist and feminist principles where knowledge of lived experiences are co-constructed by those involved (Gould 2017). Therefore, the limited literature on the use of narrative pedagogy in relation to midwifery is surprising. Although scientific knowledge is essential for high quality midwifery

practice, narrative pedagogy and inquiry can further develop and give equal value to the art and science of midwifery which is essential for woman centred care. This research has contributed to recommendations by Gould (2017) and Gilkison et al (2016) to exemplify the use of narrative as a strategy for developing midwifery education and research.

The vulnerability of the women sharing their stories was considered by the researcher, acknowledging the concerns raised by Skilton (2011) and Duffy et al (2013) about safeguarding service users sharing their own narratives, especially when sharing negative experiences. However, comparable to the findings of Hitchen (2016), the women in this research asserted that it was their choice to share their story. As long as maternity service users are aware of the context of their involvement then it is their decision to make and not for others to decide whether or not it is appropriate for their wellbeing. In addition to the perceived satisfaction that they were making an impact on student learning (Jones 2006; Hitchen 2016), this research adds that maternity service users are aware of the potential therapeutic effects for themselves of sharing their own experience knowing they are using their experiences to support students and women and families. This is comparable to previous studies that found that women sharing pregnancy and birth stories was beneficial to assimilate their own memories of a transformative life event (Kay et al 2017) and potentially cathartic and healing, particularly when a woman's experience has been traumatic or disappointing (MacLellan 2015).

In the context of education, maternity service users in this research advocated individual informed choice about how they are involved, whether that be simply sharing their story in a classroom, supporting clinical skills education, or role playing a scenario from clinical practice within a simulation. The participants reported that doing so would support the service user's perceived competence and confidence, but the dedication of women's time should not be taken for granted.

5.3.2 Reciprocity

Hitchen (2016) emphasised the importance of reciprocity for service users in education; ensuring that service users feel valued and empowered to be involved with time invested in debrief. However, unlike the participants in that study, the women in this research did not feel a formal debrief was necessary following a teaching session. Instead participants suggested that there should be feedback from educators and students within a few weeks of the session to demonstrate to the service user the impact their contribution has on the student experience and the potential it has to improve midwifery care.

The importance of feedback has been explored previously (Webster et al 2012), but typically, has been in the interest of students receiving feedback from service users, however the findings from the current research has identified that feedback for service users is just as valuable and should not be overlooked. Such feedback should be individualised and relevant to the service users' own contributions and sessions they were involved in ensuring a reciprocal loop of support. Knowing how their input has influenced student learning with feedback from students and educators appeared to be another motivator to be involved in clinical skills education. The women in this study said that would make them more likely to participate again in future, rather than an immediate post teaching debrief with limited contact thereafter.

This study was not concerned with the issue of remuneration for service users, however the topic was raised and congruent to the findings of Mckeown et al (2012), that monetary reward was generally not seen as essential for the participants in this study. This is a point of interest as payment of service users is reflected in each level of Tew et al's (2004) ladder of involvement criteria. The participants in this study agreed that acknowledgement of their time through feedback and a cup of tea and coffee was deemed appropriate, again highlighting the importance of reciprocity. However, there was further suggestion that if payment schemes, such as vouchers, are available, they should be advertised and this may attract a greater diversity of volunteers. This suggestion is perhaps reflective of the fact that the participants were members of university staff and may have had experience of the voucher scheme currently used by some courses

within the university. For members of the public involved in research, INVOLVE (2016) have a formal policy for payment and recognition so that volunteers know in advance what is being offered and can make an informed choice about getting involved. Although this is in the context of involvement in research, perhaps a formalized strategy is required from an educational perspective to promote a fair and consistent approach to remuneration for service users in education.

5.3.3 Challenges for maternity service users

Not being financially rewarded for their participation was one of the barriers to service user involvement reported by Lathlean et al (2006), in addition to stress associated with involvement and a reluctance to participate. Over a decade later, however, the current research suggests that in the context of maternity services users, these barriers may be less important. The findings from the current research revealed more prominent challenges to the context of this particular population, i.e women of childbearing age that specifically hinder their involvement. Such findings were comparable to the perceived barriers for service users with physical disabilities (Rooney et al 2016) who reported similar challenges with accessibility and personal barriers, such as lack of childcare and time constraints. Time is precious for pregnant women and new mothers. The women in this study all discussed the challenge of returning to work following maternity leave or managing the competing demands of childcare arrangements, family responsibilities and work commitments. These barriers could explain why there is minimal literature about service user involvement in midwifery compared to the wider health and social care agenda and even less that shares and evaluates ways of overcoming these challenges. Another point to consider is the transient nature of expectant and new parents and that ongoing recruitment may be required to ensure service user experiences are related to contemporary midwifery practice.

These barriers were also experienced with the limitations of the current research where it was difficult to arrange dates for the world cafés that would suit all 13 women who expressed an interest in the research. This will be explored further later in this chapter; however, it was evident that the flexibility required to conduct this research would also be required when arranging teaching sessions

with students. To overcome these challenges, findings from the study recommend that educators should be open to alternative methods of service user involvement, other than face to face in a classroom or skills lab. Using technology and online methods such as Skype, Facetime or recorded podcasts or interviews allows the location of service users to be flexible and may overcome the challenge of balancing childcare arrangements or work commitments.

Although published after data collection was completed in the current research study reported on in this thesis, Warren et al (2017) published a critical reflection confirming similar challenges to involving women in midwifery education in the University of Bournemouth. Like the service user volunteer group in this research, their Public Involvement in Education and Research (PIER) coordinates over 900 hours a year between students and service users but little of this time involves women in midwifery education. Parallel in many of the solutions suggested in this research study, Warren et al (2017) reflected on the use of three approaches: use of social media and consulting with community groups and organisations, direct involvement between women and families and academics and students, and development of digital resources to create real life case studies. Their findings suggested that the development of digital resources (such as short films and consulting with people online) provided an effective way of involvement with limited resources, if the same principles of support, planning and collaboration are coordinated when creating them. In addition, a major advantage of digital resources is that they can be shared across networks and healthcare disciplines to reach a wider audience. The current research mirrors many of the experiences and recommendations of Warren et al (2017) and additionally provides an app specification for a digital resource in the form of a mobile app designed in collaboration with service users to support and open communication for women to be involved in midwifery education in innovative, flexible ways.

5.4 Women's needs and perspectives on the use, content, functions and design features of a potential mobile application to support their involvement in midwifery clinical skills education.

5.4.1 Use, content and functions of a service user volunteer app.

All the participants in this research had access to, and used, smartphones and apps, and the women agreed that using an app may diversify volunteers and attract more users in a digital age. Related to the overall aims of this research, the maternity service users gave several examples of smartphone apps that they used on a regular basis to organise their time management and to communicate with other organisations, for example, to book exercise classes at a local gym, or to receive updates about their child while at nursery. This finding supports Tripp et al's (2014) statement that smartphones and apps are widely used by women of childbearing age and may present a unique platform in which to communicate and provide information.

On the other hand, one participant in this study voiced concerns that by only using an app to recruit, inform and support service users, it may restrict opportunities for those who do not have access to smartphones. This was a finding of Park and Lee (2015) who concluded that devices that require current technology can cause divides across generational, income and educational groups. On the contrary, Osma et al (2016) found that digital devices are the most used device among pregnant and postnatal women and they use it frequently to access health related content, including to download health-related apps, especially if they are free of charge. Furthermore, Guerra-Reyes et al (2016) revealed that smartphones were the main point of access to the internet for low income women, possibly due to the recent expansion of web enabled phones and increasing availability of the internet and many used mobile apps in pregnancy. Although both these studies were undertaken in US, recent statistics show that 96% of people aged 16-34 years and 88% of people aged 35-54 years owned a smartphone in the United Kingdom (Statista 2017), suggesting that Osma et al (2016) and Guerra-Reyes et al's (2016) findings would be transferable to the UK.

More recently published (and not available at the time the research reported on here was being undertaken), Keedle et al (2018) designed and developed a qualitative data collection app for pregnant women to increase opportunities for participation in research in Australia. The findings of Keedle et al's (2018) study support the findings from the current research suggesting that the use of online tools or apps has the benefit of accessing many hard-to-reach volunteers across a variety of locations and can be applied across many health and social care disciplines. This suggests that a mobile app may not only promote involvement of service users in clinical skills education, but across the educational portfolio, from classroom based learning to student recruitment processes. Although an app may be the first point of contact with educators, it could also support involvement in a variety of ways, not just face-to-face contact with students.

It is also worth considering other issues mobile technology may present, such as confidentiality and privacy (Keedle et al 2018); also highlighted by the participants in the current research. It is important that development of mobile apps comply with the Data Protection Act (1998) to protect individuals' privacy. The Information Commissioner's Office (ICO 2013) published guidelines for app developers which covers the areas of the Data Protection Act (1998) that developers need to consider. They recommend that that privacy is much easier to consider from the outset of a project rather than an afterthought. Users of the app would need to be fully informed about what would happen to their personal data should they choose to share and use the app to comply with principle 1 of the Data Protection Act (1998) which states that *"personal data should be processed fairly and lawfully"* (p.48). A vital aspect of app development would be to know where and how data will flow through the app and who is in control of the data. The participants in this study recommended potential volunteers should register their contact information with the app or volunteer group to gain full access to information available on the app. They did not recommend any other information to be shared with other users for networking purposes but rather as a communication tool between volunteer group coordinators and educators.

5.4.2 User-centred co-design

A strength of this research is the use of co-design which has been significant in the usability, effectiveness and viability of health service design (Steen et al 2011). As discussed in Chapter 2, co-design refers *"to the collective creativity as it is applied across the whole span of a design process"* (Sanders and Stappers 2008, p.6). Steen et al (2011) identified three types of benefits of co-design for service design projects. Benefits for the project itself, for example, improving the creative process and organizing the project more effectively and efficiently. Benefits for service users, such as creating a better fit between the service and the users' needs and benefits for the organization; a focus on users and cooperation between disciplines and capabilities. It could be argued within the current research, co-designing an app with maternity service users strengthened their involvement in midwifery education from the beginning of the research and started a dialogue between women and educators. In fact, since the World Cafés, one participant has already signed up for the service user volunteer group suggesting that involving service users in qualitative research may start the collaboration journey from the beginning of the research process (INVOLVE 2017). Furthermore, the longer-term benefits of co-design ensure that focus is maintained on the need of service users (which mirrors person-centred care in health and social care) and fosters creativity and cooperation between universities and the local communities to improve relationships and practices (Steen et al 2011).

Steen et al (2011) caution that there are costs associated with co-design, in terms of people, time and money. Furthermore, there are risks associated with possible diminished control over the project, because of the number of people, departments or organisations that can be involved. This also reflects the complexity of a co-design project as it can be difficult to manage and balance the needs and interests of such a diverse group of people and substantial co-ordination is required to ensure the innovation achieves the original aim (Hoyer et al 2010). Although the current research explored the early stage of a co-design process, it is important to acknowledge the future challenges that are likely ahead in creating a prototype app with further evaluative cycles. Even at this early stage of co-design, unavailability of the participants was difficult to

manage to ensure a suitable number of service users proposed for the world café's; a limitation which will be discussed in the next section.

Co-designing the requirements of a mobile app with maternity service users as the key end user is complex and involves an extensive shared decision making process. Accommodating and integrating different opinions into solutions and agreements can be difficult but will be essential for advancing progress of the project and this should be considered one of the key challenges of co-design. Nevertheless, the benefits of this methodology should reward the time and effort required. This research has touched upon some of challenges that would need to be carefully considered and prepared for should the next phase of the ceHRes roadmap (Nijand 2011; Van Germert-Pijen et al 2011) be undertaken following this master of research project.

5.5 Reflection of strengths and limitations of the research.

Due to the limited timeframe for this research, this was a small-scale study conducted within one university and convenience sampling was used to recruit female members of staff with experience of maternity services. A limitation of the research is that the findings only highlight the perceptions of those involved. A larger study repeating more world cafés with a greater diversity of women across a variety of contexts would have allowed more extensive data collection as well as including other stakeholders, such as educators and technologists. Furthermore, it may have been appropriate to gather socioeconomic and demographic data of the participants to enable detailed description of the participants and further in-depth analysis of the data.

Due to the challenges of participant availability, only seven women could participate, despite expressions of interest from a further six women. A date was identified in June 2017 with four to six weeks' notice to promote availability for all. However, due to unforeseen personal and work circumstances only two participants could attend. Another two dates were arranged in July 2017, but availability was again a challenge with several participants cancelling their attendance and these dates were postponed as no one could attend. Another

date was arranged over a shorter time frame and this was a much more successful approach with five participants attending. However, again, one participant had to leave half way through due to childcare arrangements. This challenge in securing participants was similar to the recruitment issues faced by Rooney et al (2016) and it can be presumed that the same personal barriers; such as illness, or illness of those they care for and lack of available time will mirror the challenges faced by women and educators in relation to the broader involvement in education. However, the literature reviewed in Chapter 3 confirms that these challenges are replicated in other midwifery contexts as well as across other health and social care disciplines.

The participants in this research demonstrated use and understanding of information from digital sources, possibly due to their background of working in a university. Although the researcher perceives herself as digital literate, it should be acknowledged that her professional role is as a midwife and lecturer. Therefore, due to the participants and researcher having minimal experience of mobile app design, it would be important to involve mobile app technologists at the next stage of app development to ensure feasibility of the app. It is acknowledged that service users may have different abilities of digital literacy and further research would be appropriate with a greater variety of service users and a prototype app to explore in more depth.

As discussed in chapter 4, women's pregnancy and birth stories were shared during data collection and initially the researcher captured these experiences from the perspective of a midwife. Reflecting on the research process between the first and second world café allowed the transition from midwife to researcher and it was an important discovery in achieving the research objectives. This was achieved by facilitating the conversation and realisation that the sharing of pregnancy and birth stories was an important part of the process for these women in exploring their strengths to be involved in midwifery education.

Despite the limitations, the research reported on in this thesis provides a unique insight into the challenges of involving women who have used maternity services in midwifery education, which had not been previously explored in the literature. It contributes to the evidence base of using co-design and world café' methods

with service users in research, particularly within midwifery. Furthermore, it is the first known research reported using the ceHRes roadmap within the profession of midwifery (Palokangas 2017).

5.6 Conclusion

As set out in the introduction, the aim of this research was to create an app specification, co-designed in partnership with maternity service users to inform the content of a mobile app which could be used to support the involvement of women in midwifery clinical skills education. An app specification, incorporating key features and suggestion as voiced by maternity service user participants was presented in Chapter 4 along with valuable findings on how service user involvement in education can be prepared, supported and sustained.

The specification for an app, as developed in the current research, could be used to build a prototype app that could be further developed and evaluated with a wider context of maternity service users and other stakeholders. Thus, with further research and development, the specification for an app for supporting the involvement of service users in education has the potential to be transferable to other contexts and institutions. The participatory approach taken in this research serves as a model for supporting and sustaining the future involvement of service users in the education of health and social care professionals.

Overall, this research concludes that the use of a mobile app may be an effective way to provide information and flexibility of service user involvement in midwifery education. Furthermore, it could be used alongside or to support additional digital ways of involving women, including social media and digital recordings, provided they are designed and developed in partnership with women.

5.7 Recommendations

Service user involvement in healthcare education programmes requires further research to evaluate models of involvement, particularly within midwifery education. Educators should consider collaborating with service users and their families in a variety of innovative ways to ensure flexibility and widen access for expectant mothers and new parents to be involved in midwifery education. Involvement should be based on collaboration and partnership working to service users feel prepared, supported and their time valued.

The ceHRes roadmap (Nijand 2011; Van Germert-Pijen et al 2011) facilitated a robust process for mobile app development, however this research conducted only the first three stages of contextual inquiry, value specification and design. Based on these findings, future research could move forward with the next stage of design to create a prototype app for ongoing formative evaluation with greater diversity of women and their families. This would include business modelling and operationalisation of the app with additional supportive resources and subjected to summative evaluation.

For ongoing service user involvement to be successful, there needs to be institutional and service user buy-in with an adequate infrastructure and funding. National guidance for institutions and service user groups should be developed to ensure consistent approaches that can be monitored and evaluated. The findings reported in this thesis have highlighted some benefits and challenges of service user involvement in research and in education and recommends that processes and policies could be drawn up together between HEI's and service user groups to address such issues as recruitment, preparation, ethical issues and remuneration.

Finally, there is a good evidence base that service user involvement in education is of benefit for users, students and universities, however further long-term research is required to evaluate the long-term effect on the practice and behaviour of health professionals and the impact on health outcomes for service users.

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Appendices

Appendix A: Recruitment poster

Appendix B: Semi structured World Café topic guide

Introduction from facilitator

Thank you for taking the time to participate in this workshop. It will last for approximately two hours.

Please note that this discussion will be audio recorded to ensure I adequately capture your ideas during the conversation. However, the comments from the workshop will remain confidential and your name will not be attached to any comments you make. You can leave the workshop at any time and do not have to give a reason. Do you have any questions before we begin?

Involving women and their families is an integral part of midwifery education with many reported benefits for students and the service users. Within RGU we have a patient volunteer programme which facilitates health care users to assist and contribute to the clinical skills education for healthcare students within a safe environment. At present, we do not have any maternity service users or women of childbearing age to assist in the education of undergraduate midwifery students.

The purpose of the workshop to explore your thoughts on how we might strengthen the involvement of women who have experience of pregnancy and birth to share their experiences and support midwifery education.

Q1 – (Giving examples of clinical skills and examples of how women may be involved)
As current or recent maternity service users, would you be interested to share your experiences of having a baby and help to educate midwives of the future?
Probe – From your own experiences of using maternity services, what clinical midwifery skills could be focussed on within the clinical skills centre? From your own experiences, how would like to be involved? What would you not like to be involved in doing?

Q2 – What information or support would encourage you to become a volunteer?
Probe – What information or support would you need to feel prepared be involved in a midwifery skills class?

Q3- Brainstorm (use whiteboards/flipcharts/tablecloths) If required split into groups of 4-5 people and encourage to draw, write ideas:

If an RGU patient volunteer app existed with the information you have suggested, what might the app look like in terms of content and function? What would make it easy to use? What would make it appealing to use? What would put you off?

Thank you very much for your participation.

Appendix C: Sample thematic analysis table

Data Extract	Initial Codes (Repetitive themes in bold)	Sub themes	Theme
P1.1 I think once people have come through the other side, similarly to what I was saying earlier, that once you've been through it and you can see the value of your time **P2.4 - Oh, I'd volunteer cause I quite like this type of thing. Yeah, I don't think I would mind, because we do it in pharmacy anyway I think I'd happily volunteer, erm, because I think it benefits the students really, really well.** **P2.1 - Is there a way of, erm, people suggesting things as well? You know like the, cause you might see, I'm just thinking, you might see a series of workshops that don't really apply to you but you may have something like, I would imagine anybody that's interested in it, or, like you say, wants to share, wants to try and make a difference, and so, they're coming at from quite a personal angle because it's, so is there a way of, erm,...** **P2.4 - ...we would know there's an app but, for example, I had no idea you just sign up via the website, cause if I'd known that I probably would've helped out before, you know, and said, you know,...**	Motivation to volunteer Lack of awareness about VP group	Information Networking Expectations Advertising	Preparation for involvement

P2.3 - Yeah, I didn't know that either... **P4 - I didn't so how...** **P1.2 And getting it shared by some of the blogs, you've got 'hurrah for gin' , the ' unmumsy mum'. People do read these blogs, and all these things I'm reading I'm like I didn't tell my birth story… I would like to get the opportunity. It is out there, I don't think it would be that hard to tap into.** **P2.4 - How would you advertise it though?** **I - Good question.** **P2.4 - How, so, so, you know, erm...** **P2.1 - You'd have to advertise on social media.** **P1.2: How long it might take is definitely, it an hour or you know of whatever it is, twice a year, this is what will happen. Rather than just say do you want to be a volunteer, that doesn't really…..that doesn't say what it is, so a briefing….** **P1.1: Yeah, of expectations…** **P2.4 - Yeah, I think you would need to give like a brief maybe to the volunteers before the session so maybe like this and just say 'look guys, today we're going to do this, this and this, you need to act out, here's, maybe your scenario' and just have points, you know, what you meant, briefly what you're meant to follow.**	**Use of support online resources/blogs/social media** **Expectations/type of teaching/environment**		

Appendix D: Sample requirements analysis table

User Expression	**Value**	**Attributes(s)**	**Requirements(s)**
P1.1: I don't know then if there would be the capacity for you to attach to the diary the learning outcomes for the module in what we were talking about, having information about what it is, so then if you click on an event, this is what we expect to do, it's a role play simulation one, role playing x, y, z. The student learning outcomes for this one are x, y and z and that's you got that context. *P1 - Yeah, yeah, so you need an information bit.* *I - Information with a map.* *P2 - Yeah, yeah.* *I - Parking.* *P1 - Where do you get food, where do you park, all that kind of stuff.* *P4 - I was just going to say, sorry, I keep relating it back to...* *P1 - Can you bring your baby?* *I - Yeah, can you bring a baby, yeah.* *P1 - Having that comfortable area, like and area, I'm just thinking how you encourage people to come*	Preparation for involvement	Simple language and layout Use of graphics Learning outcomes of session	Content requirement: General information section of location and services Diary section with date and details of teaching session

and tell their stories as well, and having a photo of a session, cause I think some people might think 'well, that's the university...

P4 - And stand in a lecture theatre.

P1 - ...and stand in a lecture theatre', yeah, and if you had like a comfy seated area that, er, even if you set it up just for the photo...

P4 - Yeah, yeah.

P1 - ...and had people interacting and just, you know, where they imagine that it's seated, that's relaxed, that there's a cup of tea on the go, or there's, you know...

I - And that kind of comes back to what you were saying about seeing a photograph, or getting in the newsfeed.

P2 - Yeah, yeah.

P4 - Just don't put too much information on it, that would really put me off

Appendix E: Ethical approval

Fiona Gibb
MRes student
School of Nursing and Midwifery

Date 6.3.17

Research proposal number: 17-07

Dear Fiona,

Research proposal name: **Strengthening maternity service user involvement in midwifery clinical skills education through co-design of a mobile app.**

The School of Nursing and Midwifery Ethics Review panel has now reviewed the above research proposal. Please find details of the outcome and recommended actions below.

Your proposal has been approved. You may go ahead with your research, providing approval from any relevant external committee/s has been obtained.

Comments

Thank you for submitting your project proposal with amendments to address the points which were raised in your former proposal. We are satisfied that you have addressed all points and we wish you well in your research.

Please communicate directly with the convenor named below in any process of proposal revision.

Yours sincerely

Liz Treasure

Panel member 1
Position held: Senior Lecturer Midwifery

Panel member 2
Position held: professor of midwifery

If you require further information please contact the Panel Convenor, Audrey Stephen, on 01224 263150.

When you have completed your project, please send a copy of your final report to:

Dr Audrey Stephen
School of Nursing and Midwifery
Robert Gordon University
Garthdee Road
Aberdeen
AB10 7QG

Email: a.i.stephen@rgu.ac.uk

Appendix F: Information sheet and consent form

Strengthening maternity service user involvement in midwifery clinical skills education through co-design of a mobile app.

Participant Information sheet

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information and feel free to ask any questions if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

The purpose of the study is to find out what information and support would encourage women with experience of pregnancy, birth and the maternity services to assist in the education of student midwives. Furthermore, how an app could be designed to recruit and support the involvement of women to educate midwives of the future.

Why have I been invited?

You have been invited to take part as you are pregnant or have recently had a baby and would be interested in supporting the education of midwifery students in RGU.

What will happen to me if I decide to take part?

If you decide to take part in the research, we will ask you to participate in a workshop. We will ask you about the information and the support you think you would need in order to feel prepared and supported to be involved in teaching and your ideas about how a mobile app could be designed to support women to contribute to midwifery education.

The workshop will last no longer than 2 hours and will be carried out in the clinical skills labs on level 2 in the Health and Social care building.

We will also ask you to complete a consent form and ask for your permission to:

keep a note of your email and telephone number so that we can contact you to arrange the workshop and send you a copy of the results from the research

tape record the workshop; this is done so we can concentrate on what you are telling us rather than writing notes which will help us when we come to analyse the results

Do I have to take part?

It is up to you to decide whether you want to take part in the research. If you prefer not to, then you do not have to do anything more and you will not be contacted again.

If you do decide that you would like to take part, then please contact Fiona Gibb on 01224 262654 or f.gibb@rgu.ac.uk (also written on the last page of this information sheet). I will describe the research and go through this information sheet with you again and answer any questions that you may have about it. We would then invite you to a workshop.

If you do decide to take part but later change your mind, then that's okay - you are free to withdraw at any time.

What will happen to the information?

You will be given a unique identification number when you decide to take part in the project. This number will be used on all of your data thereafter so that your name and contact details will not appear anywhere on information that may be publicized about the project. The study will comply with the Data Protection Act, and participants will be anonymized for publication. Only those directly involved in the project will have access to your interviews prior to this and they will not be able to identify you.

A working app will not be available immediately on completion of the project, however will inform the future development of an app.

The initial report of the project will be produced in the form of a Masters dissertation.

Will I be paid for taking part in the research?

You will not be paid for taking part in this research, however complimentary refreshments will be provided.

What are the possible benefits to taking part?

Participation in the research may be a beneficial experience and provide a positive opportunity to feedback about your experiences and become actively involved in enhancing Midwifery education at RGU.

What are the side effects or risks to taking part?
There are no side effects or risks associated with taking part in this research. Participation in this research will have no impact on your employment with the Robert Gordon University.

What happens when the research stops?

You will be sent a copy of the study findings once the research is completed.

Who has reviewed this research?

The study has been reviewed by the Robert Gordon University Ethics Review Panel and was approved on 6 March 2017.

This study is part of a Master of Research postgraduate degree and has received scholarship funding from the Digital Health and Care Institute, however this will have no influence in the research process.

What if there is a problem?

We do not envisage that you will suffer any harm from taking part in this research. However, if you are unhappy about any aspect of the research or wish to make a complaint, then please contact the researcher Fiona Gibb, or the principal supervisor for the study, Lisa Kidd who will do their best to answer your questions and alleviate any concerns that you have. Our contact details are below.

What to do next?
If you would like to take part in the research or wish further information, then please contact:

Fiona Gibb, MRes student
School of Nursing and Midwifery
Robert Gordon University
Garthdee Road
Aberdeen
AB10 7AQ
f.gibb@rgu.ac.uk
Tel: 01224 (26)2654

Dr Lisa Kidd, Principal Supervisor
School of Nursing and Midwifery
Robert Gordon University
Garthdee Road
Aberdeen
AB10 7AQ
Thank you for taking the time to read this information sheet

School of Nursing and Midwifery
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Strengthening maternity service user involvement in midwifery clinical skills education through co-design of a mobile app.

Consent form	Please initial here
I have read and understood the information sheet, and have had the opportunity to discuss the project with the researcher and to ask any questions.	☐
I agree to take part in the study, but understand that I can withdraw at any time without reason.	☐
I understand that all discussions during focus groups are confidential and not to be shared outwith the group.	☐
I understand that focus groups will be audio recorded and transcribed	☐

Name of participant	Date	Signature
_____	_____	_____

Researcher	Date	Signature
_____	_____	_____