"*Having Students is Entirely Necessary*": Tutors' feedback of experiential learning in an MPharm programme (TELL Project)

Sabrina Anne Jacob , Anne C. Boyter [*]

Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, 161 Cathedral St, Glasgow G4 0RE, Scotland, UK

A R T I C L E   I N F O

A B S T R A C T

There is an increased reliance on experiential learning tutors and placement sites, and as such there is a need to determine tutors' perceptions about experiential learning as well as identify their needs. A mixed-methods study was undertaken involving tutors in hospitals and community pharmacies. There were 58 responses to the online survey. Five focus groups consisting of 25 hospital tutors, and 11 one-on-one interviews with community tutors were conducted. Experience as a tutor was dependant on students' attitudes and engagement, with poor attitude highlighted as a challenge. Limited time and placement duration were also identified as challenges, while a benefit noted was opportunities for staff recruitment. There was good support for students being sent to primary care for placements. Programme improvement is needed, involving both tutors and students in the co-design of EL to address gaps and avoid future dissatisfaction as well as ignite a sense of ownership by all parties.

1. Introduction

Experiential learning (EL) has emerged as a key tool in undergraduate pharmacy education due to the growing demand and need for graduates who are practice-ready. During EL, students actively engage with their learning and environment (which includes both the practice setting, patients, and healthcare professionals) through direct observation and experience, and then transform the experience through reflection and active experimentation of the new skills and competencies gained (Kolb & Kolb, 2017). The reflective process is a key factor in the experiential learning cycle, developing students who are self-directed learners, critical thinkers, and problem-solvers – essential characteristics needed in future pharmacists who will be working with diverse patient and health professional groups, and in dynamic practice environments (Tsingos et al., 2014).

Central to the EL experience of student pharmacists are tutors - as they are known in the United Kingdom (UK) – who are registered, practising pharmacists who supervise student pharmacists during EL (Fejzic et al., 2013). Tutors not only take on the role of teacher during EL, but are also coach, role-model, and facilitator: each with its own roles and characteristics (O'Sullivan et al., 2015). Tutors act as a critical bridge between classroom and practice, guiding students to develop, hone, and apply the skills and knowledge attained in the classroom in the practice setting (Bond et al., 2013; Zeitoun, Sacre, Hallit, Zeenny, Sili

& Salameh, 2020). Indeed, both pharmacy graduates and undergraduates have expressed that their placement experience and the skills gained were highly contingent on placement tutors, highlighting the importance of tutors (Jacob & Boyter, 2020b, 2020c; Chaar, Brien, Hanrahan, McLachlan, Penm, Pont, 2011).

In the cycle of learning, which is a dynamic process elucidated in Kolb's EL Theory (ELT), both students and tutors are receivers and creators of information, causing a levelling of the imbalance in power. This allows students, who each have their own learning styles and perspectives, to question and challenge the perspectives of tutors which is an impetus for learning and developing new insight. Kolb's ELT also proposes matching tutor roles to the learning styles of different students to allow effective engagement with tutors (Kolb & Kolb, 2017). (Fig. 1) Most tutors, however, are more familiar with the traditional method of teaching, where learning is linear and conservative, and students are passive learners. This could then explain the poor experience of students during EL, from being used as an extra pair of hands and not having enough or indeed any engagement with patients and hands-on experience, to not being tutored enough (Jacob & Boyter, 2020b; General Pharmaceutical Council, 2015b; Owen & Stupans, 2009; Talley, 2006).

As part of the 4-year undergraduate Master of Pharmacy (MPharm) programme in the School of Pharmacy (SoP) of the University of Strathclyde, students undertake EL in all years of the programme (Table 1). At the time of this evaluation, EL was focused in the hospital
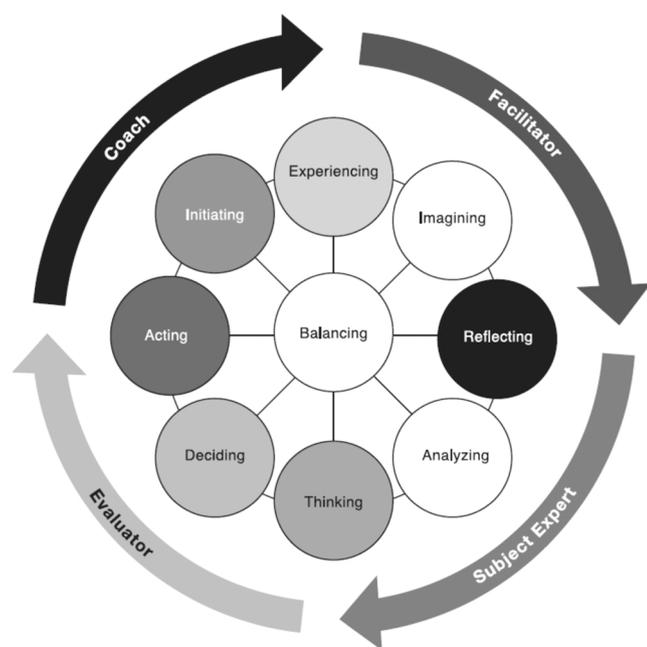

Fig. 1. Dynamic matching of tutor roles to student learning styles. Adapted from Kolb & Kolb (Kolb & Kolb, 2017).

Table 1
Placement allocation by year and site.

Year of study	Community practice	Hospital practice
1	2 x ½ days	1 x ½ day
2	6 x ½ days	1 x ½ day
3	8 x ½ days	1 x day
4	10 days in one or two areas of practice	

*In this SoP, students start the first year of the MPharm programme in Year 2.

and community settings, and tutors received no payment or placement visits from academic staff from the SoP. Both students and tutors were given handbooks which outline the learning outcomes and their respective responsibilities. At the end of the EL, both tutors and students were not expected to provide any formal feedback to the university. Students are expected to submit reflective diaries on their placement experience after EL. To assist with this, students are given questions to support their actions based on Driscoll's model of reflection – 'What?', 'So What?' and 'Now What?' (Driscoll & Teh, 2001).

The Standards for the Initial Education and Training of Pharmacists outlined by the General Pharmaceutical Council (GPhC), the pharmacy regulator in the UK, emphasise the need for more application of skills in the practice setting (General Pharmaceutical Council, 2021). Standard 5.6 also stipulates that students' EL experience should be 'progressive, increase in complexity and take account of best practice'(General Pharmaceutical Council, 2021). This again underlines the increasingly important role of tutors in EL due to the increased need for placements and tutors, as well as the increasing number of students (Jacob & Boyter, 2020a).

Eliciting feedback from tutors on the EL programme should be part of quality control of the programme as the information will assist the EL coordination team to identify gaps in the programme, as well as the resources needed by tutors to better support them (Chaar, Brien, Hanrahan, McLachlan, Penm, Pont, and, 2015 (2011); Fejzic et al., 2013). Studies involving tutors so far have reported tutors feeling overwhelmed with their role, citing the lack of time, lack of training as educators, and increased workload as factors (Chaar et al., 2015; Gibson et al. (2016); Hendry et al., 2016). Few studies in the UK, however, have investigated the perspective of tutors from both the hospital and community settings

– their experience and challenges, feedback on the programme, learning opportunities actually available in placement sites, and their requirements. Thus, the aim of this study was to determine the perception of tutors in both settings about EL and their needs.

2. Method

2.1. Study design

A mixed-methods explanatory design was adopted which comprised cross-sectional surveys, semi-structured interviews, and focus group discussions (FGDs) with EL tutors.

2.2. Data and participants

The TELL Project is an evaluation of the EL in the undergraduate MPharm programme in the University of Strathclyde involving students, graduates, tutors, and stakeholders. We report here findings from the study which involved practicing, registered pharmacists from the hospital and community setting who supervised students during EL. Only those supervising students from the SoP of the University of Strathclyde were included in this study.

2.3. Cross-sectional survey

The surveys and Participant Information Sheets were hosted on an online platform, Qualtrics, and an anonymous link was distributed to tutors via the following methods: 1) an email was sent out by the EL administrator to all EL tutors who supervised students for the SoP. The email addresses were from a database compiled by the EL administrator and contained 130 email addresses; and 2) a notice was placed on the website of Community Pharmacy Scotland, an organisation representing community pharmacy owners and their teams. No financial incentives were offered and a reminder email and notice was sent after two weeks.

The survey was a 16-item anonymous self-report consisting of five open-ended and 11 closed-ended questions. The survey contained questions assessing tutors' perception of EL including its effectiveness, organisation, and structure, and tutors' training and resource needs. For questions on effectiveness, certain questions differed for tutors from hospital and the community practice, and as such two different surveys were sent to hospital and community tutors. Respondents were allowed to omit responses to the open-ended question if desired. Demographic details such as qualifications and number of years as a tutor were also collected. The survey was developed by the research team based on the SoP EL handbook, nationwide surveys of tutors administered by the American Association of Colleges of Pharmacy (AACP) (American Association of Colleges of Pharmacy, 2014, 2016), the UK educational practice, the Standards set by the GPhC (General Pharmaceutical Council, 2021), the study objectives, and a review of the literature. Elements from the AACP survey were used for the section on 'programme/structure/content/coordination', while competencies listed in the Standards were used in the sections on 'Clinical', 'Communication and Professionalism' and 'Technical' skills. Where parts of surveys were adapted, the wordings and structure were altered so it would fit into Likert-style responses.

Instrument validity was secured through an expert review (N = 10) and pilot tested (N = 10). Responses from the pilot test were not included in the final analysis. Following the pilot test, suggestions were given on ways to improve the technical aspects of the survey, and these were amended accordingly. The survey was then sent for a second round of testing, after which no further changes were recommended. The survey took approximately 10–15 mins to complete.

2.4. Interviews and focus groups

A series of semi-structured interviews were conducted by SAJ at

times convenient to participants. Community pharmacists participated in one-on-one interviews either face to face at their practice site or over the phone. Due to logistics and time constraints, FGDs were conducted instead for hospital pharmacists in their respective hospitals. To ensure there was no group effect on the responses, the following steps were taken in the conduct of the FGDs: (1) the same interview guide used in the one-on-one interviews were used; (2) the interviewer played an active role vs the role of a facilitator as is the norm in FGDs, with constant probing and interaction with participants; and (3) no effort was made to encourage interaction between FGD participants. Prior to the start of the interviews and FGDs, participants were given a background of the study, and for the FGDs, given some basic ground rules such as allowing one another a turn to talk and not talking among themselves or interrupting the speaker. Purposive and snowball sampling were used to recruit study participants. An invitation was also placed at the end of the cross-sectional survey asking potential volunteers to contact the researcher (SAJ). Emails were also sent out to Directors of Pharmacy of hospitals, inviting their staff to participate. Written informed consent was obtained from all participants prior to the interview. Demographic details such as number of years as a registered pharmacist and age were also collected.

All sessions were audio-recorded, and field notes were taken by SAJ to capture key points. The interview guide was developed based on the study objectives as well as the findings from the cross-sectional survey, to explore topics deemed significant by the research team in more depth. The guide was validated by six experts in qualitative research and pharmacy education, and pilot tested on an academic currently working for the SoP who was previously an EL tutor. After the pilot test, changes were made to the interview guide with regard to how certain questions were framed. Findings from this pilot test were not included in the final analysis. No incentives were offered to participants. Data collection ceased when theoretical saturation was achieved, and no new themes emerged.

2.5. Data analysis

2.5.1. Cross-sectional survey

Baseline demographic data were presented using descriptive statistics. To create a composite picture of what respondents disagreed and agreed on for questions employing the five-point Likert scale, responses were collapsed to a 3-point scale (agree, neural, disagree) for ease of interpretation, where the scores for the first two columns ("strongly disagree" and "disagree") were added up to show what they disagreed on, while the scores for the last two columns ("agree" and "strongly agree") were totalled to show what they agreed on. Mean values of tutors' feedback were generated by tabulating their responses on the 5-point Likert scale, which were numbered as follows: 1 – Strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree. All analyses were performed using Microsoft Excel and SPSS 24.0 statistical software (SPSS Inc, Chicago, IL, USA).

2.5.2. Interviews, focus groups, and open-ended comments

Recorded interviews from both the one-on-one interviews and FGDs were transcribed verbatim by SAJ, and anonymised prior to analysis. Results were then imported into NVivo 12 Software (QSR International Pty Ltd., Version 12, 2018) (Richards, 2005). All audio recordings and interviewer field notes were also imported into NVivo for comparison and analysis. Three transcripts were independently coded by the researchers using a combination of inductive and deductive coding techniques to assess consistency (Braun & Clarke, 2006). Following discussions, a coding framework containing themes that captured tutors' experiences, feedback of EL, and training needs was developed. The remaining transcripts were coded with new codes added to the framework as and when they occurred. Thematic analysis was performed on the transcripts as well as open-ended comments, guided by Braun and Clarke's six phase approach to coding (Braun & Clarke, 2006). Although

conducted as FGDs, responses for individual participants in these FGDs were analysed/coded individually. Respondents to open-ended comments are referred to as 'respondents' while those who were interviewed are referred to as 'participants'.

The university ethics committee confirmed that ethical approval was not required for this evaluation as it was an anonymous evaluation of a learning and teaching innovation.

3. Results

3.1. Cross-sectional survey

There were 77 responses to the online survey (58 complete). 45 community tutors attempted the survey (response rate 35 %), however only 32 completed it, with 26 answering all questions and providing demographic information. Fifty-five hospital tutors attempted the survey, however only 45 completed it, with 32 answering all questions and providing demographic information (Table 2).

Tutors from both settings were overall neutral about having students on EL (M=3.01, SD=1.23), with community tutors (M=3.24, SD=1.13)

Table 2
Demographics of survey respondents (n = 58).

Characteristics	Community (n = 26)	Hospitals (n = 32)	Total (n = 58)
	n (%)		
Age			
20–29	4 (15.4)	9 (28.1)	13 (22.4)
30–39	6 (23.1)	11 (34.4)	17 (29.1)
40–49	4 (15.4)	5 (15.6)	9 (15.5)
50–59	5 (19.2)	3 (9.4)	8 (13.8)
≥60	4 (15.4)	1 (3.1)	5 (8.62)
Prefer not to say	3 (11.5)	3 (9.4)	6 (10.3)
Gender			
Male	14 (53.9)	4 (8.9)	18 (31.0)
Female	10 (38.5)	25 (55.6)	35 (60.3)
Prefer not to say	2 (7.69)	3 (9.4)	5 (8.62)
Number of years registered as a pharmacist			
< 5	2 (7.69)	7 (21.9)	9 (15.5)
5–9	3 (11.5)	2 (6.3)	5 (8.62)
10–14	4 (15.4)	8 (25.0)	12 (20.7)
15–19	3 (11.5)	6 (18.8)	9 (15.5)
20–24	4 (15.4)	2 (6.3)	6 (10.3)
25–29	1 (3.85)	2 (6.3)	3 (5.17)
≥30	7 (26.9)	3 (9.4)	10 (17.2)
Prefer not to say	2 (7.69)	2 (6.3)	4 (6.90)
Number of years tutoring students			
≤ 3	8 (30.8)	11 (34.4)	19 (32.8)
4–6	13 (50.0)	7 (21.9)	20 (34.5)
7–9	3 (11.5)	7 (21.9)	10 (17.2)
≥10	2 (7.69)	7 (21.9)	9 (15.5)
Qualifications*			
BSc Degree	15 (57.7)	7 (21.9)	22 (37.9)
MPharm	13 (50.0)	19 (59.4)	32 (55.2)
Postgraduate masters	1 (3.85)	17 (53.1)	18 (31.0)
Independent prescribers	3 (11.5)	2 (6.3)	5 (8.62)
Postgraduate diploma	1 (3.85)	4 (12.9)	5 (8.62)
PhD	0 (0.0)	1 (3.1)	1 (1.72)
BPharm	0 (0.0)	1 (3.1)	1 (1.72)
Number of students tutored for the SoP over the past academic year (2018/2019)			
≤ 3	19 (73.1)	11 (35.5)	30 (51.7)
4–6	6 (23.1)	11 (35.5)	17 (29.3)
7–9	1 (3.85)	4 (12.9)	5 (8.62)
≥10	0 (0.0)	5 (16.1)	5 (8.62)
Year(s) of study students were tutored*			
Year 2	22 (84.6)	15 (46.9)	37 (63.8)
Year 3	22 (84.6)	22 (68.8)	44 (75.9)
Year 4	18 (69.2)	27 (84.4)	45 (77.6)
Year 5	14 (53.9)	22 (68.8)	36 (62.1)

*Respondents were allowed to select more than one option, therefore totals might exceed 100 %.

slightly more positive compared to hospital tutors (M=2.82, SD=1.28). More hospital tutors disagreed (75 %) that having a student helped them complete their daily responsibilities compared to community tutors (52 %), while the majority in both the hospital (84 %) and community (81 %) disagreed that having a student decreased the overall workload in the practice setting. More than 40 % of tutors in both settings agreed that it increased their stress levels (Table 3).

Tutors from both settings were overall positive about the effectiveness of EL in developing students' clinical (M=3.59, SD=0.95), technical (M=3.59, SD=0.90), and professionalism and communication skills (M=3.51, SD=0.97) (Table 4). The majority agreed that placement site visits are important for communicating the SoP's expectations of sites/tutors (M=4.13, SD=0.79), for addressing questions/issues regarding assigned students (M=3.84, SD=0.93), and for assisting tutors in developing and refining the practice experience they provide (M=3.98, SD=0.81). Findings with regard to tutors' training and resource need will be presented elsewhere.

3.2. Interviews, focus group discussion, and open-ended comments

A total of 54 tutors responded to the open-ended comments: 20 from community, 34 from hospital practice. Eleven interviews were conducted with community tutors: five over the phone, and six face to face. The majority were male (64 %) aged 50 and above (55 %) with 25 and more years registered as a pharmacist (55 %) and less than seven years of tutoring experience (64 %). One community participant did not provide demographic details. Interviews took an average of 31 min. Twenty-five hospital tutors participated in five FGDs: one each with four and six participants, and three with five participants each. The majority of participants were female (84 %) below 40 years of age (72 %) with less than 10 years registered as a pharmacist (60 %) and less than seven years tutoring experience (72 %). FGDs lasted an average of 49 min. Four key themes from the analysis were developed: (1) being a tutor, (2) students on EL, (3) perception of the structure and content of EL, and (4) training needs (Fig. 2). We elaborate on Themes 1–3 below and in Table 5. Theme 4 will be discussed elsewhere.

3.2.1. Theme 1: being a tutor

3.2.1.1. Subtheme 1: experience, role, and responsibilities. Tutors from both settings described the tutoring experience as being *"very fulfilling"* and enjoyable. It was an opportunity for them to give back and

contribute to the education of future pharmacists, and seen as part of their professional responsibility to train students and develop the workforce. Community tutors described it as being rewarding, despite the extra workload, as they were able to see the progress of students. For hospital tutors, this was a chance for them to introduce students to the various roles of a hospital pharmacist. Tutors from both settings, however, did say that their own experience was dependent on students' attitudes and engagement, saying *"Some students are extremely rewarding to tutor and show real interest. However some are just 'ticking a box' to find a case and get IT done as easily and as quickly as possible - this is soul destroying for me as a tutor and a complete waste of their time and opportunity."* **(OH18)**.

Community tutors regularly asked customers to attend while students were there so they could fulfil their learning outcomes and get a good experience. Community tutors also noted that while time was frequently a factor, they do spend time ensuring proper staffing and preparations are in place to accommodate students attending EL. Community tutors acknowledged that students might feel bored dispensing including Dosette boxes (multicompartment compliance aids), especially those with part-time jobs. However, the onus was on tutors to provide additional teaching on top of these activities so that students saw the value in the different tasks: *"...what I tend to do is right well you've just dispensed that do you know what that's for or do you know what that's used for? [.]let them see that [...] I'm not being used as an extra pair of hands..."* **(C10)** Similarly, tutors also felt that while they are aware that students have their learning outcomes to achieve, it was important to individualize the different tasks and opportunities according to student's level of experience, as illustrated in the following comment: *"... you find out if they have got a part time job or whatever and what experience they've got of pharmacy already and then you try and make it a bit more interesting you try and say well have you seen this have you seen that and try and find things that would be new for them..."* **(C7)**.

3.2.1.2. Subtheme 2: benefits as a tutor. Tutors from all sites felt that having a student on EL was an impetus for them to upskill their own knowledge and skills. It was also an opportunity for them to gain more information and knowledge on how the pharmacy course is currently run, with many noting that the course had changed significantly from when they studied. They also enjoyed having students as it gave them a chance to interact with them, motivated them to work, and brought a different dynamic to the workplace. Tutors described that having students on EL would benefit them in the long-term as they would have a

Table 3
Tutors' perceptions of having a student on experiential learning.

Having a student on experiential learning^	Community					Hospital				
	n	Disagree n (%)	Neutral n (%)	Agree n (%)	Mean (± SD#)	n	Disagree n (%)	Neutral n (%)	Agree n (%)	Mean (± SD#)
a) Helps me complete my daily responsibilities	31	16 (51.6)	8 (25.8)	7 (22.6)	2.65 (1.02)	44	33 (75.0)	6 (13.6)	5 (11.4)	2 (0.99)
b) Makes me think more about patient care	31	5 (16.1)	6 (19.4)	20 (64.5)	3.61 (1.02)	44	11 (25.0)	16 (36.4)	17 (38.6)	3.11 (0.99)
c) Decreases the overall workload in my practice setting	32	26 (81.3)	6 (18.8)	3 (9.4)	2.19 (0.97)	44	37 (84.1)	2 (4.55)	5 (11.4)	1.84 (1.10)
d) Decreases the time that I have for direct patient care	32	14 (43.8)	10 (31.3)	8 (25.0)	2.75 (1.02)	44	9 (20.5)	3 (6.82)	32 (72.7)	3.75 (1.28)
e) Increases my stress levels	32	10 (31.3)	8 (25.0)	14 (43.8)	3.13 (1.07)	44	13 (29.6)	10 (22.7)	21 (47.7)	3.18 (1.02)
f) Presents difficulties due to the lack of space	32	17 (53.1)	7 (21.9)	8 (25.0)	2.63 (1.07)	44	13 (29.6)	10 (22.7)	21 (47.7)	3.23 (1.01)
g) Is a useful way to maintain my professional knowledge	32	5 (15.6)	4 (12.5)	23 (71.9)	3.75 (1.05)	44	9 (20.5)	7 (15.9)	28 (63.6)	3.52 (1.00)
h) Is part of my professional responsibility	32	3 (9.4)	7 (21.9)	22 (68.8)	3.75 (0.95)	44	1 (2.27)	1 (2.27)	40 (90.9)	4.33 (0.75)
i) Is helpful to identify and recruit talented future staff	32	3 (9.4)	9 (28.1)	20 (64.5)	3.72 (0.95)	44	N/A*	N/A*	N/A*	N/A*
Overall mean (± SD)^				3.24 (1.13)					2.82 (1.28)	

#SD: Standard deviation; *N/A: Not included in hospital survey.
^Reverse coding undertaken for questions d), e), and f).

Table 4

Tutors' perceptions of the effectiveness of the EL in developing clinical, professionalism and communication, and technical skills.

EL prepares students in the following skills[a]	Community					Hospital				
	n	Disagree n (%)	Neutral n (%)	Agree n (%)	Mean (± SD#)	n	Disagree n (%)	Neutral n (%)	Agree n (%)	Mean (± SD#)
Clinical skills										
a) Take part in the Acute Medicines Service (AMS)	29	2 (6.9)	4 (13.8)	23 (79.3)	3.97 (0.82)	N/A*	N/A*	N/A*	N/A*	N/A*
b) Undertake a Minor Ailments Service (MAS) consultation	30	4 (13.3)	3 (10.0)	23 (76.7)	3.83 (0.91)	N/A*	N/A*	N/A*	N/A*	N/A*
c) Undertake a Chronic Medication Service (CMS) consultation	30	10 (33.3)	3 (10.0)	17 (56.7)	3.40 (1.13)	N/A*	N/A*	N/A*	N/A*	N/A*
d) Undertake health promotion activities	30	7 (23.3)	7 (23.3)	16 (53.3)	3.43 (1.01)	30	6 (20.0)	8 (26.7)	16 (53.3)	3.37 (0.96)
e) Identify patient-specific factors that affect health, pharmacotherapy, or disease management	30	8 (26.7)	5 (16.7)	17 (56.7)	3.33 (1.03)	36	1 (2.78)	3 (8.33)	32 (88.9)	4.06 (0.63)
f) Formulate/develop pharmaceutical care plans	30	12 (40.0)	6 (20.0)	12 (40.0)	2.97 (0.96)	36	2 (5.56)	3 (8.33)	31 (86.1)	4.00 (0.72)
g) Perform medication reconciliation	N/A^	N/A^	N/A^	N/A^	N/A^	36	4 (11.1)	2 (5.56)	30 (83.3)	3.89 (0.82)
h) Perform discharge planning	N/A^	N/A^	N/A^	N/A^	N/A^	35	6 (17.1)	3 (8.57)	26 (74.3)	3.69 (0.90)
i) Assess patient adherence	30	9 (30.0)	5 (16.7)	16 (53.3)	3.23 (0.90)	36	7 (19.4)	11 (30.6)	18 (50.0)	3.36 (0.87)
Overall mean clinical (± SD)	3.45 (1.01)					3.74 (0.86)				
Communication and professionalism										
a) Communicate and interact effectively with patients and/or caregivers	29	4 (13.8)	6 (20.7)	19 (65.5)	3.69 (0.93)	36	3 (8.33)	3 (8.33)	30 (83.3)	3.86 (0.72)
b) Counsel patients and/or caregivers	29	5 (17.2)	4 (13.8)	20 (69.0)	3.69 (0.97)	36	3 (8.33)	3 (8.33)	30 (83.3)	3.83 (0.70)
c) Participate and contribute as members of an interprofessional healthcare team	29	5 (17.2)	5 (17.2)	19 (65.5)	3.62 (0.94)	36	7 (19.4)	7 (19.4)	22 (61.1)	3.50 (0.91)
d) Behave in a professional manner	29	4 (13.8)	2 (6.9)	23 (79.3)	3.83 (0.89)	36	0 (0.0)	3 (8.33)	33 (91.7)	4.14 (0.54)
e) Speak up when they have concerns or when things go wrong	29	5 (17.2)	6 (20.7)	18 (62.1)	3.52 (0.99)	36	11 (30.6)	11 (30.6)	14 (38.9)	3.11 (0.89)
f) Demonstrate leadership	29	8 (27.6)	14 (48.3)	7 (24.1)	2.97 (0.98)	36	23 (63.9)	9 (25.0)	4 (11.1)	2.39 (0.80)
Overall mean communication and professionalism (± SD)	3.55 (0.98)					3.65 (0.90)				
Technical skills										
a) Perform calculations required to dispense and administer medications	29	8 (27.6)	2 (6.9)	19 (65.5)	3.48 (1.02)	34	6 (17.7)	3 (8.82)	25 (73.5)	3.62 (0.85)
b) Interpret and evaluate patient information (e.g. medical/medication history, laboratory tests, etc.)	29	7 (24.1)	6 (20.7)	16 (55.2)	3.41 (0.98)	36	2 (5.56)	4 (11.1)	30 (83.3)	4.06 (0.79)
c) Prescription screening	28	3 (10.7)	5 (17.9)	20 (71.4)	3.68 (0.77)	36	5 (13.9)	2 (5.56)	29 (80.6)	3.78 (0.83)
d) Demonstrate skills in drug administration techniques (e.g. inhalation devices)	29	3 (10.7)	5 (17.9)	21 (72.4)	3.76 (0.83)	34	11 (32.4)	9 (26.5)	14 (41.2)	3.18 (1.00)
e) Recommend appropriate drug therapy: medication, doses, and dosage schedule	29	8 (27.6)	6 (20.7)	15 (51.7)	3.28 (0.92)	36	7 (19.4)	3 (8.33)	26 (72.2)	3.64 (0.93)
f) Document information, interventions, and recommendations of pharmacist-delivered patient care	29	5 (17.9)	7 (24.1)	17 (58.6)	3.48 (0.87)	35	6 (17.1)	6 (17.1)	23 (65.7)	3.57 (0.88)
g) Demonstrate problem-solving skills	29	5 (17.9)	6 (20.7)	18 (62.1)	3.52 (0.87)	36	6 (16.7)	6 (16.7)	24 (66.7)	3.61 (0.90)
h) Recommend appropriate medication dosing using pharmacokinetic principles	N/A^	N/A^	N/A^	N/A^	N/A^	36	4 (11.1)	6 (16.7)	26 (72.2)	3.72 (0.82)
Overall mean technical (± SD)	3.51 (0.90)					3.47 (0.96)				

aEL: Experiential learning.

#SD: Standard deviation.

*N/A: Not included in hospital survey.

^N/A: Not included in community survey.

skilled workforce which would then benefit the profession as a whole. Tutors also shared that EL was an opportunity for them to not only recruit potential staff, but also showcase themselves and attract more pre-registration pharmacists. In the same vein, EL was an opportunity for students to 'market' themselves for pre-reg placements: *"…if they want to work in community pharmacy and want to do their pre-reg they (should) use their placement as an opportunity to advertise themselves you know rather than just ticking boxes and going through a workbook." (C4)* Hospital tutors noted that it gave them more supervisory experience which helped when supervising other healthcare students.

3.2.1.3. Subtheme 3: challenges and needs. The pressures of time and workload were highlighted as major barriers by tutors from both sites, citing it as a reason for not being able to engage properly with students and give them accurate feedback. In the same vein, one of the main challenges highlighted by hospital tutors was the negative impact on their work as they saw fewer patients and their workload increased, which was then a source of stress. As such, there was a call for more protected time for tutors and for them *".to be removed from the workload rota. Having a student limits the number of ordinary duties that can be done. (OH32).*
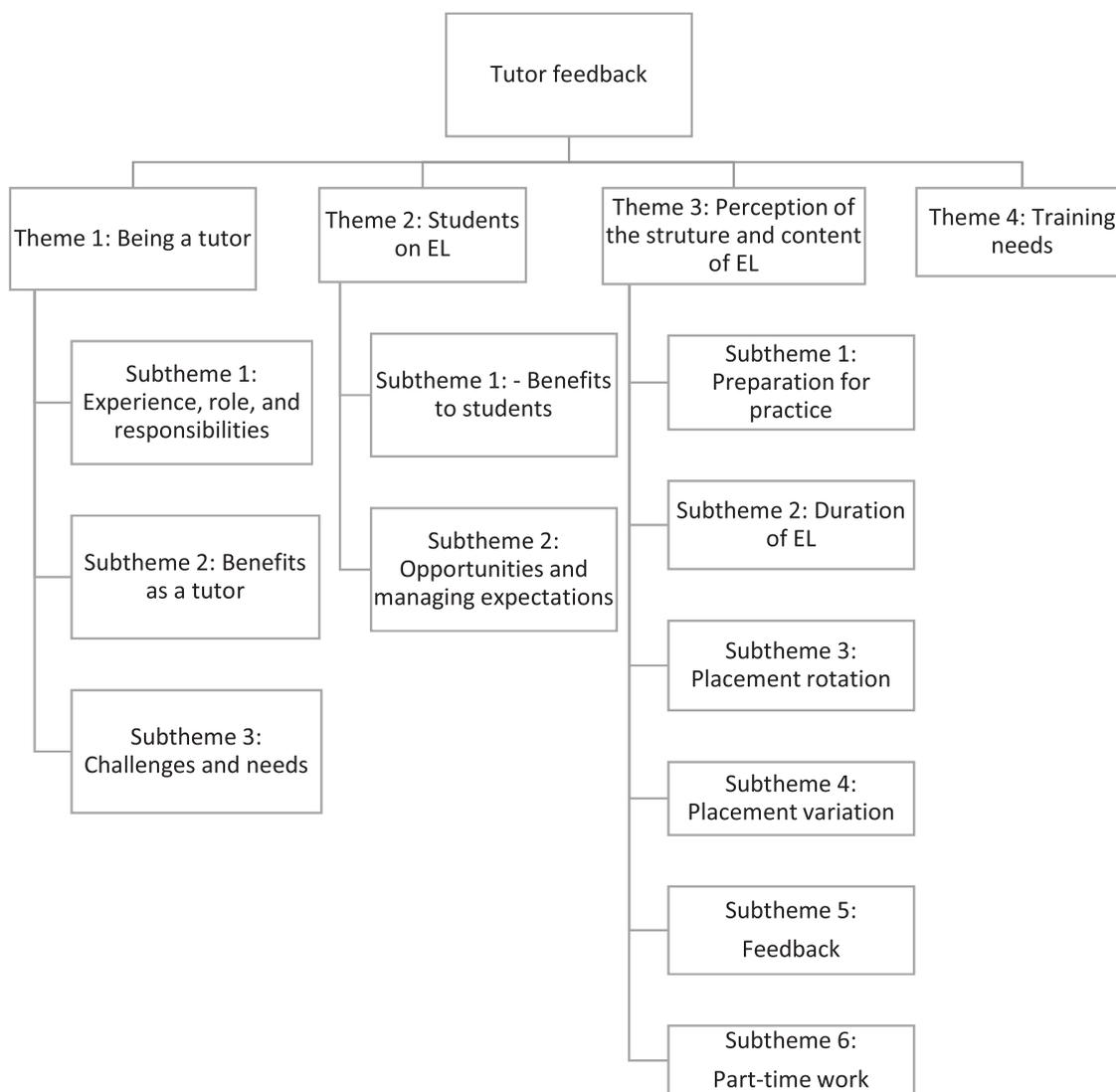
Fig. 2. Themes and subthemes.

Another challenge highlighted by tutors from both settings was students with different levels of knowledge, personalities, and engagement as illustrated in the following comment: *"...the whole thing with different levels of ability or different levels of engagement even between students with one person is really keen and understands the other person doesn't understand is just confused so if you try to explain simply the other person gets bored so if you make it too complicated, the other person is lost so that can be a challenge as well."* ***(FGD5-#2)***.

Tutors' opinions were mixed about students' attitudes, with many saying they had students with positive attitudes. However, poor student attitudes were highlighted as a major challenge. This was especially apparent in students who already had part-time jobs in the community: *"Most students who already work in community pharmacy treat placement with contempt and do not present with attitude to facilitate learning. This makes the interactions challenging for me and the rest of my team."* ***(OC7)*** Another gripe community tutors had was with the lack of communication from students about when they would be attending EL or with regard to absences. This has impacted staffing as often a locum would be scheduled or staff would be moved around in anticipation of a student attending. Community tutors also expressed a lack of preparation by a large number of students, who attend the placement not knowing what was required of them.

Hospital tutors, on the other hand, expressed frustration and feeling demotivated due to the negative attitudes and poor engagement by

students, especially those who had already decided to undertake their pre-registration in community pharmacy: *"Just complete like disinterest [...]and it wouldn't be uncommon for people to say, oh, well, I want to be a community pharmacist anyways so this isn't important"* ***(FGD4-#1)***. Hospital tutors also voiced their displeasure with the way some students' dressed, saying it lacked professionalism. As such, tutors from both sites expressed the need for a contact person at the university to help deal with challenging students or EL issues.

The lack of clarity on expectations of themselves as well as of students was also highlighted as a challenge by tutors, with a call for more information on this from the university. This was compounded by the fact that many tutors had either limited or no EL during their undergraduate course. Other challenges included the dynamic nature of community pharmacy as students' might not be able to see the type(s) of patients they wanted, while some pharmacies lacked footfall. All these factors were thought to then have an adverse impact on students' experience. A suggestion was for there to be more flexibility in the learning outcomes/experience as this would allow students to experience the true nature of community pharmacies. Hospital tutors found it difficult trying to navigate large groups of students as it not only resulted in crowded wards, but also impeded effective teaching.

As such, tutors from both sectors supported the idea of university staff making site visits for quality assurance purposes and discussions on any problems tutors might face: *"...maybe you want to ensure [...] that*

Table 5

Themes and selected subthemes and illustrative quotes.

Themes	Elaboration	Illustrative quotes*
Theme 1: Being a tutor		
Subtheme 1: Experience, role, and responsibilities	Experience was positive and enabled them to give back to the profession	*"We feel as if we might be helping with their education so I quite like doing it I like having them here" (C3)*
		"but we need to provide EL so that the pharmacists of the future are ready for practice. Supporting others develop is part of being a professional" (OH1)
	Felt it was rewarding to see progress of students	*"It can be very rewarding to see how they develop in their communication skills and in their confidence over the course of the placement." (OC20)*
	Opportunity to expose students to the role of a hospital pharmacist	*"It is good to take students and introduce them to real clinical practice- showing them a bit of what day-to-day practice involves and reviewing at least one interesting clinical case and discussing the issues that arise for that patient" (OH18)*
	Pre-planning with regular customers to provide students with more experience	*"…if we know that somebody is coming in maybe for an inhaler type review or something we say to them well we've got a student coming in next week or we've got a student coming in the next couple of days would you mind coming in because you know who your good patients are and you know who's going to be willing to talk to a student…" (C4)*
	Time was spent on planning and staffing prior to students attending the placement	*"…when I know the students are coming I've done lots of preparation for that I've geared up the pharmacy team for that and they play a very active part in the student placement it's not just solely me […] the students benefit from actually having experience of a mixed skills set […]that we have within our pharmacy teams" (C5)*
Subtheme 2: Benefits as a tutor	Having a student on EL pushed tutors to upskill own knowledge, as well as helped gain more knowledge on the course	*"…so that's been quite good just to update my knowledge of tutoring skills, and giving feedback skills and giving feedback and things like that…"(C11)*
		"The students bring their own perspective and natural curiosity to our current practice. They keep me on my toes by asking questions I had not thought about; and they make me go back to first principles and review my knowledge of pharmacology and clinical practice. I believe they have a positive impact on patient care because they are not in so much of a rush when it comes to spending time with patients; they also help me to focus on the patient in terms of thinking through what I should be saying, my demeanour and bedside manner." (OH23)
	Tutors were motivated to work due to the presence of students	*"…having a young person with new enthusiasm in it's nice for the staff and we have enjoyed having them and certainly you know we get to hear how they've been taught and how things are changing obviously…"(C3)*
	The profession would benefit from a skilled workforce	*"…we want the pharmacists of the future to be highly trained […] I'm an employer so I look at it from the view that you know in years to come I will want a well-trained experienced work force and you want people who are even fairly newly qualified to be to have enough experience to deliver that" (C7)*
	EL afforded the opportunity for future staff recruitment	*"I think actually to me as an employer the benefit is the relationship with potentially a student that could for us go from for certainly it could go towards employment on a Saturday or when they're not at university and even through to pre-reg and then from that through to potentially working for the group" (C8)*
	Increased supervisory experience which helped when supervising other healthcare students	*"…a lot of us are involved in teaching like maybe junior you know junior medical or any grade of medical staff or nursing staff you know we can be involved in education sessions but if you didn't have any exposure to students say earlier in your career like even from pre-regs supervising university students and things like that, you might not feel that confident and competent in knowing how to approach that" (FGD1-#2)*
Subtheme 3: Challenges and needs	Time cited as major barrier, which impacted engagement with students	*"…time and pressure it's always difficult when you've got to do your own job and have someone with you as well to teach them I think that's the biggest problem really."(FGD1-#5)*
		"…it's sometimes difficult for the tutors as well because there are busy pharmacies and sometimes things happen and you're like you know 'oh gosh have we spoken for an hour?'"(C10)
	Increased stress levels due to increased workload, as a result of having students.	*"…it often requires a lot of planning on top of my daily workload to accommodate them to ensure they meet learning objectives. It also means that I get through less work than I normally would as I am having to explain everything I am doing and why. I have also noticed that I am more prone to making mistakes when I have students with me…" (OH6)*
	Lack of communication from students with regard to attendance, impacting staffing.	*"…if the student hadn't been there it would have been J* one of our regular locums but you know we swapped everything round so that it would be me there so that he had somebody that was trained teaching him and so that was quite frustrating because I could have quite easily been away doing something that I needed to do" (C7)*
	Lack of preparation by students prior to attending placements	*"…about 50 % of them aren't particularly prepared some of them claim that they don't have any paper work from the university when they clearly do because everytime we get a student we get what their name is and we get the handbook so I print one of them off for everyone of them so I know they've got the paperwork so when they say I don't have the paper work you're like alright is your heart in this? So that's a frustration that sometimes they see it as a chore they don't see it as a benefit" (C4)*
	Negative attitudes and poor engagement due to choice of pre-reg, leading to tutors feeling frustrated and demotivated.	*"…it is very disheartening. And it makes you not want to take students […] you're ruining your own day by taking them because you end up staying late*

Table 5 (*continued*)

Themes	Elaboration	Illustrative quotes*
		because to get all your work done […]when you have somebody who is not interested it's like it's very disheartening and makes you go, god why do i even bother" **(FGD4-#1)**
	Lack of professionalism with regard to dressing	*"Skirts are too short and they shouldn't be wearing Vans […] you can understand what the fashions are but they're working in a professional environment"* **(FGD1-#1)**
	Lack of clarity of expectations from themselves and students	*"…one of the challenges is knowing how much input to have like how much coaching that they require for each case […]but it's just knowing you know do we literally give them a case and leave them to it for the full day but that isn't really kind of how I would kind of work it you know but sometimes it's how much time is expected."* **(FGD1-#1)**
		"…sometimes they give you this list of things that you're supposed to do I'm not that clear on what exactly they're looking for so some kind of more guidance on what even if they were like case studies or something that I could study so that I know what to look for from prescriptions coming in and when patients come in so that we're kind of on top of what's happening for them" **(C3)**
	Dynamic nature of community pharmacies could negatively impact students' ability to achieve their learning outcomes. Thus, more flexibility was warranted	*"…but the reality is they will experience whatever is going on when they're here right so if they arrive and there's some patient's got some major disaster that we're sorting out for them and that takes a lot of time then they experience that and I think that's the way it should be they should experience what's happening on the day it shouldn't be a case of some of the staff are away dealing with that issue and then the students are kicked to the side and no no you're just to worry about your workbook sort of thing I think it is a case of they have to experience real life and this is what it's like so […] I think this is the beauty of the fact that they either come for a week or they come for 6 half days because they might come for a half day and we do next to nothing in their workbook because of what else is going on but the other things that are going on we make sure they experience them and that is a valuable lesson for them eventhough it's not in the workbook"* **(C7)**
	Big student groups affected work space and teaching in the hospital	*"If you get if you've got like 4 or 5 students in an afternoon, it's very hard to kind of show them about a ward area and show them Kardexs and get them get involved in any kind of patient contact when there are so many because it crowds out the ward environment and you do feel a little bit conscientious of that […]you maybe give them a wee quick tour about, but then you end up being in like a separate room discussing things which probably does kind of defeat the whole purpose of actually doing it in the first place"* **(FGD3-#2)**
	Supportive of placement visits for quality assurance purposes	*"…I'd like to know my students are going and if it's a good environment for them because occasionally I have sent students to hospitals setting and it's not been a good experience for them for whatever reason."* **(FGD5-#2)**
	More information on students' knowledge and course needed to enable effective engagement	*"…I don't even know what they're teaching in the university at the moment because I have nothing to do with the university. So I literally have no idea what the students are doing from one year to next. So how are we supposed to teach someone when we have no idea of where they're at […]there's no point in you giving all the right information to somebody, and they're hearing it for the first time, it means nothing. It's like you're speaking a different language and then you just get this blank concerned face because they're like, am I supposed to do that now? […]it would be helpful to have some idea of what to expect from your student when they arrive"* **(FGD4-#1)**
		"Information regarding stage of learning student is at. Often tasks are completed very quickly (from task list) therefore it would be great to know current area of learning being undertaken so as to utilise student on this when on site" **(OC7)**
Theme 2: Students on EL Subtheme 1: Benefits to students	Gave students real-world exposure	*"Well it obviously gives them an insight into what life is like in the real world rather than what's going on at university I think it is important for them to come out and see that it's not all theory and practice this is how it works […] I think it is important that they you know that they get practical look at the real world rather than doing it at a university laboratory which happened a long time ago…"* **(C3)**
		"This is how sometimes we need to accept that we can't always like have it our own way and there's discussion and we work as a team and the people whose opinions that we need to take into account and things like that, which I think is great…" **(FGD3-#2)**
	Application of knowledge in practice	*"but what where I think the biggest advantage is that they get a basis of why they're learning what they're learning and how they can actually put that into practice it makes it a bit more real for them even the first few visits they have in first year just to get a feel of and they start to see the names of the medications and things like that that they're actually learning about and then they start to they start to explore and they'll see that the everything's not blending together because they're starting off learning drugs in isolation but in real life everything patients are complex and have complex needs and will have complex pharmaceutical care needs and that becomes more real for them I think when they experience it and then in terms of services the best way to learn about the services is to actually do them…"* **(C7)**
	Learn different methods and approaches from experienced staff	*"…I always say to them is watch what all the staff do when they're interacting with patients I say because you'll pick up ways and means of doing of making it*

Table 5 (*continued*)

Themes	Elaboration	Illustrative quotes*
		a lot more patient friendly as well you know you can learn the theory and you think well this is what I want to ask but there are lots of different ways of asking a particular question […] different people approach for instance patient counselling and […]you learn from your experience and so develop your own style…" **(C7)**
	Exposure to different work environments which would help in future career choices	*"…I always say to my students 'look it's really good that you're having this experience because it will tell you, it will give you an insight into whether you really want to be focused on a career in community pharmacy or is it really not for you and either answer is good'…"* **(C10)**
	More hands-on experience, and improved communication skills due to repeated interactions	*"…once they've done it a couple of times they're like ok whereas the first phone call you can see them kind of how do I say it what do I do so after that you see them go and they'll just go right and phone"* **(C9)**
	Hospital tutors noted it would help students manage their expectations about what they could actually do as pharmacists	*"So I think it definitely provides a great basis of what the role of pharmacy actually is. And specifically the limitations of that role. I think when you're at university there's a temptation to think that you can kind of change the world whereas when you actually see in practice you can say right this is pharmacy"* **(FGD3-#2)**
	Benefits gained dependent on students' attitudes and approach to EL	*"…benefits to the students depends very much on the students […]you get students who are highly motivated and you get students that don't even attend you know so it depends on the motivation of the student…"* **(C2)**
Subtheme 2: Opportunities and managing expectations	Students often provided with opportunities to interact with patients and other healthcare professionals	*"…I don't use them as an extra pair of hands I use them to be the kind of like icing on the cake so I try very much to get them to increase their communication skills […] any potential interaction I try and get the student to contact the prescriber the practice nurse you know another pharmacy, speak to patients, I try and do that because I think that's what they're here for"* **(C2)**
	Reservations on students interacting with patients in the hospital due to limited time with them	*"I mean to assess patient adherence would mean going to speak to them and chatting and things which I don't think is really appropriate for a student to be doing unless they're unless we build up that relationship and we've seen that they're confident and we've seen them a few times and thought yes ok I could supervise them doing that but I wouldn't feel comfortable letting a student do that"* **(FGD2 – #5)**
	Students mainly allowed to shadow tutors during ward rounds	*"So they would really just have to shadow you and be silent and then ask questions at the end because otherwise you won't get your work done. […]If you're going on a consulting ward round in the receiving unit, you have to see 16 patients in three hours. They're all new patients. They're all keeping on well. And you've got the consultants, you've got the two junior doctors, you've got your nurse, you then potentially a couple of medical students. Then if you had students as well, it gets very it gets very busy. […]And then usually what I end up doing is like sending them in with the consultant to watch the exam while I like to scuttle around doing all the work, so they don't really get to see what I'm doing because I'm just like go listen to that I don't have time"* **(FGD4-#1)**
	Less opportunities for smoking cessation and health promotion in the hospital as those activities are undertaken by other healthcare professionals	*"…the dieticians' doing the smoking cessation it's not our remit. So perhaps the health promotion site should be in the sector that does health promotion and maybe what you should change is the things in the hospital side that we do more of that doesn't happen in another sector."* **(FGD3-#1)**
	Onus on students to set their own learning and look for opportunities to learn	*"…experiential learning is all about taking control of your own destiny and you know, be responsible for your learning and if they don't want to go and learn then that's their problem because when they get to pre-reg they'll suffer"* **(FGD4-#2)** *"I need to remind them that it's their placement and […] it's what they make of it in the placement and it can be really mundane and quite boring and they might not get any value of it or if they're really proactive it could be on the flip side of that really beneficial to them"* **(C4)**
Theme 3: Perception of the structure and content of EL		
Subtheme 1: Preparation for practice	Agreement from community tutors that EL prepared students for practice	*"Yeah I do definitely as I said I think it's been well-thought out, I think it covers or sort of kind of points them to cover all the different aspects"* **(C10)**
	Limited duration and lack of hands-on hindered students' preparedness for practice	*"I don't think there is sufficient experiential learning for them to actually feel comfortable and actually be completely up and running to actually make a big difference when they go into the pre-registration year…"* **(FGD2-#2)**
Subtheme 2: Duration of EL	Preference for full days as half-days could impede achievement of learning outcomes due to dynamic nature of community pharmacy	*"…things are sort of dependent on for want of a better word luck you know for some of the things you need to do you actually need a patient to be requiring that service to actually present to the pharmacy and unless you've prior arranged that it's very much dependent on what happens on that given day in the pharmacy"* **(C5)**
	Some preferred half-days so they had time for their own work, while others preferred full days so students could be more hands-on	*"I think half days feels a bit of a token effort. As someone who's recently qualified, it was show up to the hospital or do one med rec and then leave which really didn't feel like my learning was consolidated from the university."* **(FGD5-#6)**
Subtheme 3: Placement rotation	Being sent to different sites allows for students to be exposed to different services and working styles	*"…it probably does make sense to split the placements and spread them across a variety of different sites and contractors to try and allow the students to get maximum experience to all the different kind of ways that people work"* **(C5)**
	Going back to the same site allowed for continuity and familiarity with the site	*"Especially if you're giving formal feedback, then that means that you can actually see if there's been any progression. And it would mean they would know where things are. They would know people. I think it would be easier"* **(FGD3-#1)**

9

Table 5 (*continued*)

Themes	Elaboration	Illustrative quotes*
	Students being sent to the same site would allow for continuity, relationship building and monitoring of student progress, which would help in decisions on future recruitment as a staff member	*"I think it's just nice to build a relationship with someone you get to know their ways of working… I mean my ultimate my goal from this is hopefully meeting some engaged people who will want to come and work for me. That's why if I'm going to see you in snapshots of people that I never get to really work with for a long time that's not really what I'm looking for I'm looking for you know a connection with someone you know in trying to then develop them see what they want to do with their career"* **(C8)**
	This would also allow for progression and structure to the placement, and better recruitment of future staff	*"I think it's a two-way thing because actually we get to know the same students they get a feel for us if they stay within a geographical location then actually they might wish to come and do the pre-reg here they might want to then stay on as a Band 6 and so again for recruitment within the NHS"* **(FGD2-#2)**
Subtheme 4: Placement variation	Variation in type of sites would enable exposure to different roles of pharmacists	*"…maybe a couple of days maybe with a practice pharmacist I think would be useful I mean I know our practice pharmacists are doing a lot of the prescribing now but seeing it from their point of view and what they are doing I think that would be good"* **(C3)**
	Primary care was highlighted due to increasing and different roles undertaken by pharmacists in that area	*"And the types of analysis and the things their sort of processes will be slightly different to other people, they look at finances and they get experience using different systems so it might be beneficial and they'll do polypharmacy reviews…"***(FGD1-#1)**
Subtheme 5: Feedback	Feedback from students will help improve future placements	*"I'd just like them to let me know how their experience was how I could, what they thought went well as well as what they thought didn't go so well so that I could for the next time try and focus on what they could improve or what I could improve on for them to make their experience bit more fulfilling maybe"* **(C10)**
	Feedback should be formalized for quality assurance purposes	*"…because it's quite difficult maybe for a student to say face to face, rather than I think if there was a formal feedback form they could maybe put everything, or would be more comfortable writing things down rather than saying 'ok I didn't think this was very good' after spending a week or a few days with a pharmacist or pharmacy team."* **(C11)** *"…so like NES they'll let us know what that feedback's like if there's particular issues they'll come and address those issues and they'll have a conversation with the pharmacy about them but also in general though they've got tutor appraisal they've got the sort of quality assurance process with questionnaires and things both for the tutors and the trainees…I think ultimately we're going to need that type of thing because I mean it may well be that a pharmacy thinks their doing something particularly well but they might not be"* **(C7)**
	Feedback from university welcomed on whether they had fulfilled their expectations	*"I want to know if we're providing the experience that the students are supposed to be getting I suppose in a way I want to know am I approaching this correctly"* **(C7)**
Subtheme 6: Part-time work	Part-time work can contribute to EL hours so students weren't bored	*"Depending on their attitude if they think oh I've already done that so I don't need to do it when I'm on my in my placement so that would be wasting my time but it means they're not wasting their time either…"* **(C4)**
	Should not replace EL hours in hospital due to different skill set that needs to be developed	*"…I don't think they would be repeating any of their work that they do at a Saturday job or at a part time job in a pharmacy"* **(FGD2 – #5)**
	Part-time work is more about working instead of learning, with no interactions with other healthcare professionals. Less opportunities for undertaking pharmacist-related tasks	*"…so there's not much going on a Saturday really you don't have any contact with GP surgeries or anything like that and they're probably half the time out serving make up and things like that but I think they still need to come for experiential learning"* **(C3)**

*Open-ended comments are indicated by the letter 'O' and respondents are identified according to their current pre-registration site (e.g. OH for those working in the hospital). The numbers indicated in the focus groups represent the number assigned to each participant during the focus group (e.g. FGD1-#2).

everybody's getting the same sort of deal out of it and the fact that some students have said oh we're just an extra pair of hands were they really or are they just saying feeling that they were because they were asked to do things I was just an extra pair of hands because I was asked to go out and counsel a patient (laughs)"(C10) Tutors also expressed the need for more information about the course and about students' level of knowledge so they could pitch EL at the right level.

3.2.2. Theme 2: students on EL

3.2.2.1. Subtheme 1: benefits to students. Tutors from both settings felt the main benefit of EL to students was that it gave them exposure to the job of a pharmacist in the real-world and what that actually entailed. Another benefit highlighted was that it would allow for the application of their knowledge in the practice setting: *"I think it's about being able to apply what you're learning in practice and see how the two marry up how the theory that you're taught in uni is actually applied in reality in day to day work" (FGD2-#2)* There was also the opinion that exposure to different

staff members would allow students to learn from experienced staff who could show them different methods and approaches to different patient situations. Another benefit noted was that students would gain an insight into the workings of a pharmacy which would help give them an idea about the different work environments, which would then help in their career choices.

Other benefits noted by community tutors were that it afforded students more *"hands-on opportunity rather than wait till you finish and then do your pre-reg" (C4),* and would improve their communication skills and confidence in interacting not just with patients, but also other staff members and healthcare professionals due to repeated opportunities to practice this skill during EL. Hospital tutors noted it would help students temper their expectations about what they could actually do as pharmacists in future. Both sites, however, did note that the benefits students gained from the EL was dependent on their attitudes and approach to the placement.

3.2.2.2. Subtheme 2: opportunities and managing expectations.

Community tutors were more open to allowing students to engage in patient-facing roles compared to hospital pharmacists, noting that students were often provided with opportunities to interact with patients and other healthcare professionals. Indeed, one community tutor noted that students should be allowed to be more hands-on so they were able to learn best practices: *"…I suppose it's sharing best practice really […] if there's people out there that are having good ideas about how to give the students those experiences then that should get shared […] I think we're wasting a great opportunity if we just observe" (C7)* Hospital tutors had more reservations about students talking to patients, and this hesitation was due the fact that hospital tutors had a limited amount of time with students to build rapport and assess their confidence in speaking to patients. As such, students would be mainly shadowing them while in the wards, with provisions to ask questions only at the end of the rounds so their work was not interrupted. Hospital tutors also commented that there was less involvement of students in smoking cessation or health promotion activities in the hospital settings as these were undertaken by other healthcare professionals.

Some tutors noted that while students might find certain tasks mundane, there was great value in undertaking these activities such as filling up Dosette boxes: *"…if somebody is suggesting for a minute that is not part of community pharmacy then they mean to come and see me for a couple of hours [.] it doesn't do any harm for the young ones to realise what we do on a day to day basis and one of those things is Dosette boxes and if those Dosette boxes are not done accurately and carefully then we will harm someone…" (C1)* In the same vein, tutors felt that the onus should be on students to set their own learning, instead of dismissing a placement as a waste of their time: *"I'm always wary of somebody who says 'oh it was a waste of time' so why was it a waste of time because you didn't put in the effort? Because you didn't look to find something new? You know no learning is a waste of time." (C10)* Other than that, community tutors felt the university and students should temper their expectations on what exactly students can accomplish during their EL, especially within the limited time frame as *"… there's only so much you can provide like because it isn't it's a job it's just experience so there's I think it's as good as you can really get really " (C9).*

3.2.3. Theme 3: perception of the structure and content of EL

3.2.3.1. Subtheme 1: preparation for practice. There was general agreement from community tutors that EL prepared students for practice, with good build up and progression over the years. This was in stark contrast to hospital tutors who felt the content did not prepare students for practice due to the limitations in time and the lack of hands-on experience for students. They also attributed this to a focus of the university on community pharmacy and developing students' technical skills such as dispensing, instead of clinical skills: *"…basic skills of communicating, communication skills, history taking and then being able to critically like look at a combination of drugs and pull-out care issues […] That's the focus. We're moving away from dispensing and the university needs to do that as well (FGD4-#1)".*

3.2.3.2. Subtheme 2: duration of EL. Due to the fluid environment of community pharmacies as previously noted, community tutors noted that students might not be able to achieve all their learning outcomes if they were only there for a half-day as this was predicated on the type of patients that came in during that period. There was thus a preference for students to spend a full day instead. Hospital pharmacists were ambivalent, with some preferring a full day to allow students enough time to undertake hands-on tasks, while others preferred half-days so they could have the remainder of the day to do their own work. The latter was echoed by some community pharmacists. There was also support from both sites for students coming in blocks as they would integrate better with the staff, there was a better likelihood of them achieving their learning objectives, and they would be able to follow the patient journey

better *"…allows them to maybe see the journey through rather than just come in play a part of the journey and then move on in 3 or 4 weeks time and back for another 4 h playing a small part in the journey a patient journey and then they're away again for another wee while you know. If they come in a block they can get much more follow through I would say" (C5).*

3.2.3.3. Subtheme 3: placement rotation. Community tutors were ambivalent on whether the same student should be sent to the same site, with some noting that being sent to different sites allows students to be exposed to a variety of services and different working styles. There was, however, argument supporting the same student being sent to the same site with tutors saying it would allow for continuity, familiarity so students would not have to learn the standard operating procedures again, and for tutors to be able to see the progression of the students. This would also save tutors time as they would not have to spend time trying to gauge the experience and knowledge level of each new student. Indeed, having just a snapshot of the student would impede the working relationship and hamper the secondary purpose of EL for tutors, which was to hire future staff members.

Hospital tutors were in general agreement to the same student going back to the same site, echoing community tutors that it gave students continuity, and would make it easier for students to navigate the site as they were already familiar with it. For the tutors, it would allow them to prepare more structure to the sessions which they could build on through the years, as well as helps facilitate recruitment of students into the pre-registration programme as they would be more familiar with students.

3.2.3.4. Subtheme 4: placement variation. Tutors from both sectors agreed with sending students to different types of sites other than hospital and community, saying it would give students a good idea of the different job paths a pharmacist could take, as well as to have an awareness of the different roles of different healthcare professionals in the different sites. This was especially true for primary care as participants felt most students lacked an exposure to this area, and primary care pharmacists were currently undertaking various tasks different to that undertaken in community and hospital. This would be of benefit to students to observe and learn and apply in other practice sites. In Scotland, primacy care pharmacists work in general practices (Jacob et al., 2021). The pharmacists there also have private consultation rooms which would allow discussions with students, making it a good teaching environment. They did, however, feel that community and hospital placements should be prioritised for the time being as these were considered the core areas of practice, and there was a perception that a career in primary care was currently only available to more experienced pharmacists: *"…if we are looking to develop someone for the workforce you know at the moment I would say they're going to community and they're going to hospital and that should be the most important. If GP practice jobs become available early in someone's career then we would need to look at that." (C8).*

3.2.3.5. Subtheme 5: feedback. Tutors wanted feedback from the university on whether or not they had fulfilled their expected roles as tutors. Tutors also welcomed feedback from students on both the positive and negative aspects of the placements as that information could be used to improve their approach. There was also a suggestion that it should be a more formalised process, similar to that adopted by NES in the pre-registration programme, as this would also ensure that both students and tutors were more engaged: *"Even like they have on the TURAS or the e-portfolio […] If you had to do that, then also that would mean that the student would be much more enthusiastic because they're actually getting assessed and the university are going to see this… It's because it's so informal that nobody knows what's going on and also, therefore, you have the opportunity to try and shirk some of the work" (FGD4-#1)* There was some hesitation from a few hospital pharmacists about receiving feedback

from students, with one saying they would find it daunting, and that unlike medicine, there wasn't a culture of feedback in pharmacy, as illustrated in the following comment: *"I don't know I think we're not really hardened for us pharmacists to be receiving like 360 degree feedback like the medical staff are. So I think that we don't have this probably as thick skin and I think that I would pick at myself like oh my god they've said this whereas medical staff they have that from the day, day zero you know they just have to take that on the chin"* **(FGD1-#2).**

3.2.3.6. Subtheme 6: part-time work. On whether part-time work should contribute to EL hours, there was general agreement from community tutors that it should so students did not get bored and their time as well as the time of the tutors was not wasted. Hospital tutors were ambivalent but most agreed that it should not replace hospital EL hours as the tasks undertaken or skills needed to be developed are very different in the hospital setting. There were concerns that work undertaken during part-time jobs would be less pharmacy-based with no interactions with other HCPs, and no proper supervision on tasks being undertaken. Students might also be limited in the tasks that they will be allowed to undertake and *"you don't necessarily have time to learn when you're working on a Saturday"* **(FGD5-#1).**

4. Discussion

This mixed-methods study revealed that tutors generally found the experience enjoyable and a chance to contribute to the development of the future of the profession. While many found it beneficial for future staff recruitment purposes, the lack of time and increased workload were highlighted as major challenges, alongside poor student attitudes. Tutors also felt students would benefit from the real-world application of their knowledge, however they felt that expectations on what could be achieved at the different sites should be tempered. There was overall support for longer EL durations, for students to be sent to the same site to allow for continuity, and for inclusion of new sites such as primary care to assist students in making career choices.

The following discussion compares the findings from this study, with a mixed-method study involving graduates (Jacob & Boyter, 2020c, 2020d) and a survey of undergraduates (Jacob & Boyter, 2020b) of the MPharm programme in the SoP - conducted as part of the TELL Project – to provide a balanced and complete view of the perception of the key stakeholders about EL.

4.1. Being a tutor

While interviews with undergraduates and graduates from this SoP revealed that their experience was dependent on tutor engagement and preparation (Jacob & Boyter, 2020b, 2020c), tutors in this study commented that their experience was dependent on students' attitudes. Graduates and undergraduates noted that tutors who were not engaged and not prepared made them feel demotivated and killed their enthusiasm, and while there was acknowledgement of poor behavior by students, they felt tutors should also maintain their professionalism and duties (Jacob & Boyter, 2020b, 2020c). Graduates did, however, admit that some students with part-time work resented not being paid during EL, which could explain the poor attitudes (Jacob & Boyter, 2020c). Tutors in this study, on the other hand, lamented the poor attitudes of students who came unprepared, appeared disinterested, and did not want to engage, which they described as 'soul crushing'. This was especially apparent in students who already had part-time jobs. More than 70 % and 90 % of this cohort of undergraduates and graduates, respectively, had part-time jobs in community pharmacies (Jacob & Boyter, 2020b, 2020c). Indeed, graduates and undergraduates who had part-time jobs were found to have higher expectations of EL, labelling placements that did not meet their expectations as pointless (Jacob & Boyter, 2020b, 2020c).

Tutors in this study have stressed the need for students to take ownership of their own learning and change their approach to what might be perceived as mundane tasks, while also acknowledging their own responsibility to provide teaching 'on top' of these mundane activities. Going back to Fig. 1, tutors should also cycle between their role as 'subject experts' and 'evaluators' to 'facilitators' where they should adopt an affirmative style in order to motivate students and pique their interest (Kolb & Kolb, 2017). There is, however, also the issue of tutors themselves not knowing what was expected of them, the details of the course, or even students' knowledge and experience levels – leading to them not knowing what level to pitch the teaching and experience. Compounding this is the fact that most tutors had either had limited or no EL experience themselves. All these factors could have led to this clash of opinions.

Another contributing factor was the perceived lack of time, a factor frequently highlighted by tutors as a major barrier to them being able to provide an effective EL experience to students (Chaar et al., 2011; Fejzic et al., 2013; Hendry et al., 2016). In 2018, the Additional Cost of Teaching for Pharmacy (ACTp) funding was launched by the Scottish Government (Wright, 2019). Other than for training purposes, this money paid directly to the community pharmacy or the Health Board for hospitals can be used to hire extra staff when students are on EL, which should address the issues of protected time and workload (Watson et al., 2019), thereby allowing tutors to engage more with students.

The importance of having a contact person at the university was highlighted by tutors along with the need for placement site visits. Indeed the lack of site visits has been noted in other studies (Jacob & Boyter, 2020a; Talley, 2006), and there were concerns that students were not getting the appropriate experience during EL (General Pharmaceutical Council, 2015b; Stupans, 2009). Site visits are important for quality assurance purposes to ensure students are safe, and getting the appropriate experience in the appropriate environment by appropriate staff (Jacob & Boyter, 2020a; Skrabal et al., 2010). Indeed, tutors in this study mentioned variations in their sites, with some being too busy, and some not having enough high level of patient interactions. Beyond that, site visits also provide an opportunity for tutors to clarify any doubts they have about their role and expectations as a tutor, as well as help tutors with student-related issues (Burgett et al., 2012).

Another more concrete solution to mitigating and perhaps preventing any potential conflict and dissatisfaction between these two key stakeholders is for them to participate in the co-design of EL. Co-design, which is defined as an activity "to combine the views, input and skills of people with many different perspectives to address a specific problem" (Bradwell & Marr, 2008), is a bottom-up approach that underlines the importance of involving the ever-changing and diverse perspectives of a variety of stakeholders, each with varied experiences (Dollinger & D'Angelo, 2020). An example is the WE-DID-IT method proposed by Dollinger and D'Angelo (2020) (Fig. 3).

Co-design is a key component in the process of value co-creation, which takes its roots from business programmes and relationship marketing theories, and allows for greater involvement of the 'consumer'– in this case the student – through knowledge-sharing and shapes the 'service' provided based on the needs and opinions of the consumers. It sees students as partners and focusses on students and institutions working together to improve the student experience, by bringing together student resources (e.g. knowledge, experience, personality) with institutional resources (Dollinger et al., 2018).

Students do want a more active role as partners in shaping their experience in higher education (Dollinger et al., 2018). As noted by Cook-Sather et al. (2014), students might not be disciplinary experts but they are experts at being students. It has also been suggested that value co-creation can result in a better student experience, quality interactions with educators which will result in higher levels of learning, increased acceptance of and satisfaction with the programme, and students placing more value on their experience (Dollinger et al., 2018; Komarraju et al., 2010).

These principles have been adopted in the ACTp Study, a series of studies funded by the Scottish Government, where one of the key outcomes is to make improvements to the EL, with a focus on engaging tutors in competency-based assessments of students during EL (Jacob et al. (2021)). While initial stages of the ACTp Study gathered feedback from key stakeholders such as tutors, academics, and students on the proposed changes, the next key stage will adopt a community-based participatory approach where key stakeholders will be involved as co-designers in the structure and processes of the assessment. This approach has been shown to increase acceptance from those involved and give them a sense of ownership over the processes and outcomes of the work (Dollinger & D'Angelo, 2020; Viswanathan et al. (2004)).

4.2. Duration of EL

The limited duration of EL has long been highlighted as a barrier to the effective provision of EL to students, with concerns that they would be superficial and are more 'tours' rather than an immersive experience (Chaar et al., 2011; Hall et al., 2012; Talley, 2006). This has been echoed by tutors in our study, as well as graduates and undergraduates, who commented on the poorer experience due to short EL durations (Jacob & Boyter, 2020b, 2020c). The benefits of longer EL duration have well-been noted, such as increased familiarity with the site, more opportunities for hands-on learning, more realistic real-world exposure, development of professionalism, and more constant and regular learning (Jacob & Boyter, 2020d; Coker et al., 2016; McCartney & Boschmans, 2018; University of Houston, 2016). Longer durations are also needed to ensure students are able to complete the Kolb learning cycle, where time is needed for students to cycle between action and reflection (Coker et al., 2016; Kolb, 1984; Schenck & Cruickshank, 2014).

Building relationships with staff also requires longer periods (Prisco et al., 2017), and this is especially important given that tutors are looking at EL as an opportunity to recruit future staff. At the time of this study, in Scotland, NES coordinated the pre-registration process through a centralized system where both students and tutors provide NES with a ranked preference list (NHS Education for Scotland, 2019). As such, tutors use EL to observe students' work ethic, personalities, expertise etc. and these factors are then considered when submitting their preference list for future pre-registration pharmacists to NES. However, if tutors are to use EL as a recruitment platform, then tutors should create an EL environment that not only facilitates students' ability to gain knowledge and skills, but also one that provides them with opportunities to showcase their skills (Singh et al., 2020). This should include more opportunities for hands-on activities, which have been noted to be severely lacking during EL (Jacob & Boyter, 2020b, 2020c; Bullen et al., 2019; Smithson et al., 2015), but has been cited as having a strong impact on students' readiness for practice (McKenzie & Mellis, 2017). In the same vein, students should also view EL as an opportunity to market themselves, as underlined by tutors in this study.

4.3. EL in primary care

The idea of sending students to primary care sites was welcomed by tutors, and there was also near unanimous support from students and graduates for EL in primary care (Jacob & Boyter, 2020b, 2020d). In the ACTp Study where this cohort of undergraduate students undertook EL in primary care, feedback received was very positive, with students saying it provided them with a good exposure to this new role of pharmacists, allowed more patient-facing opportunities, and facilitated interactions with different healthcare professionals (Jacob et al., 2021). Placements in primary care by various healthcare students were also found to increase students' consideration of a future career in primary care, increased their knowledge of the general practice clinical system, increased students' confidence in their competence, and increased students' perceptions of their preparedness to practice (Braniff et al., 2016; Campbell, 2015; Donovan et al., 2019). Currently in the UK, pharmacists

are allowed to start training to become Independent Prescribers after a minimum of two years post registration. However, the 2021 Standards for initial Education & Training of Pharmacists now stipulate that pharmacists will be able to prescribe from the point of registration, and as such the undergraduate curriculum must prepare students for this (General Pharmaceutical Council, 2021; Power et al., 2021).

Inter-professional learning (IPL) is frequently adopted in independent prescribing courses, helping students gain a better understanding of team and professional roles (Stewart et al., 2012). It has been suggested that IPL starts from an early stage in the undergraduate period as this can help students develop communication skills and empathy (Croker et al., 2016), and so that students from each profession recognise their respective roles, which then prevents any fears about loss of autonomy (Gallagher & Gallagher, 2012). This also aligns with the requirements for more interprofessional learning as stipulated in the Standards by the GPhC (General Pharmaceutical Council, 2021). This then underlines the significant role that EL in primary care can play in preparing students for this bigger undertaking.

Other than helping overcome the issues of limited placement sites in the hospital and community settings (Jacob & Boyter, 2020a), EL in primary care will also help train future pharmacists who will be able to adapt quickly to the changing landscape of the healthcare system in Scotland, where more people will be diagnosed with chronic diseases and there will be an increased need and focus on disease prevention in primary care (Crooks & Adil, 2017; Duncan & Jowit, 2018; Montgomery et al., 2017). This will support the goals of Achieving Excellence in Pharmaceutical Care – a Strategy for Scotland, which aims to train pharmacists in the area of primary care to support this anticipated shift from institutions to primary care, and subsequent increased burden on the sites (Burgess, 2019; General Pharmaceutical Council, 2015a; Scottish Government, 2017).

4.4. Contribution of part-time work to EL hours

Our research involving graduates and undergraduates highlighted the impact of part-time work - influencing students' expectations of and
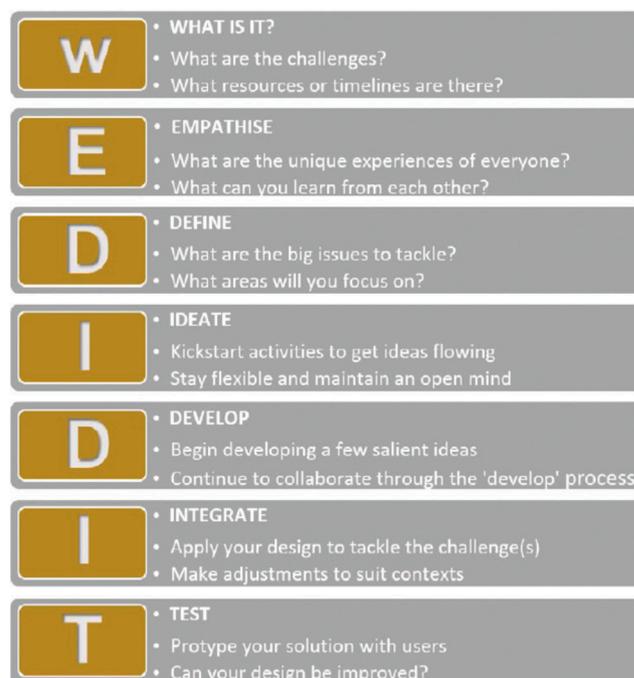

Fig. 3. WE-DID-IT approach (adapted from Dollinger and D'Angelo (Dollinger & D'Angelo, 2020))

approach to the EL (Jacob & Boyter, 2020b, 2020c). Tutors in this study also noted the impact on students' EL experience, with the opinion that tasks should be individualized according to students' level of experience (Jacob & Boyter, 2020d). Key stakeholders as well as tutors in this study were generally supportive of the idea of part-time work contributing to EL hours, although this was limited to the community setting (Jacob & Boyter, 2020a, 2020b, 2020c). This approach would certainly help address issues such as bored students, and a lack of EL sites and tutors (Jacob & Boyter, 2020a). In addition, this would allow for more continuity as favoured by tutors.

However, there were also arguments against it, with comments that students were working as 'technicians' and not as pharmacists during their part-time jobs, it lacked opportunities for learning, there would be limited interaction with other healthcare providers, and there are no proper structures in place to ensure tasks increase in complexity until competency is achieved – as stipulated by the GPhC (Jacob & Boyter, 2020b, 2020c; General Pharmaceutical Council, 2021). Most importantly there is no time for reflection and neither are students asked to reflect on their tasks, which is a key component of Kolb's cycle (Jacob & Boyter, 2020d; Kolb, 1984; Pham, 2009). Further research is needed to determine if this is a feasible option.

4.5. Limitations

There was low response rate from community tutors and the response rate for hospital tutors could not be calculated as while there is only one identifiable tutor, several are involved in tutoring students during EL and would have been sent the survey link by the lead tutor. The use of third parties to distribute the survey link could have been a contributing factor in the low response rates as researchers did not have direct contact with the respondents. Only tutors who had tutored in the previous academic year were included in the study, thus there were no issues of recall bias. Tutors who volunteered for the interviews may also be more committed and passionate about tutoring, and therefore this may have influenced their responses. Both interviews and FGDs were undertaken due to logistics and time constraints, however, the same interview guide was used. The FGDs were also not conducted in a manner typical of FGDs as illustrated in the methods section and as such it is anticipated that these factors will minimise the impact on participants' responses.

5. Conclusions

This study is a culmination of the TELL Project and provides good baseline data needed to be carried over into the next phase of the ACTp Study. Tutors were on the whole positive about their role, and while benefits to both students and themselves were noted, the gaps and challenges highlighted such as workload, poor student attitudes, and limited EL duration, point to the need for changes to be made to the programme. Potential solutions are to adopt new EL sites, align tutor roles with student learning styles, and introduce more IPL with EL. To ensure effective engagement and avoid future dissatisfaction, co-design involving key stakeholders and including tutors and students is recommended. Once the ACTp is established within EL, this study should then be repeated to determine its success.

Source of funding

CRediT authorship contribution statement

Declarations of Competing Interest

Acknowledgements

References

American Association of Colleges of Pharmacy. (2014). Pharmacy preceptor survey summary report. Retrieved from ⟨https://www.aacp.org/sites/default/files/2017–10/2014_Preceptor_Final%20Summary%20Report_All%20Schools_89_with%20charts.pdf⟩. Retrieved 13/4/2018 ⟨https://www.aacp.org/sites/default/files/2017–10/2014_Preceptor_Final%20Summary%20Report_All%20Schools_89_with%20charts.pdf⟩.

American Association of Colleges of Pharmacy. (2016). Pharmacy preceptor survey summary report. Retrieved from ⟨https://www.aacp.org/sites/default/files/2017–10/2016_Preceptor%20Survey_National%20Summary%20Report_for%20web.pdf⟩. Retrieved 13/4/2018 ⟨https://www.aacp.org/sites/default/files/2017–10/2016_Preceptor%20Survey_National%20Summary%20Report_for%20web.pdf⟩.

Bond, R., Godwin, D., Thompson, M. E., & Wittstrom, K. (2013). Preceptor perceptions of the importance of experiential guidelines. *American Journal of Pharmaceutical Education, 77*(7), 144-144. https://doi.org/10.5688/ajpe777144

Bradwell, P., & Marr, S. (2008). Making the most of collaboration: an international survey of public service co-design *Demos Report 23*. Retrieved from ⟨http://www.demos.co.uk/files/CollabWeb.pdf⟩.

Braniff, C., Spence, R. A., Stevenson, M., Boohan, M., & Watson, P. (2016). Assistantship improves medical students' perception of their preparedness for starting work. *Medical Teacher, 38*(1), 51–58. https://doi.org/10.3109/0142159X.2015.1045843

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bullen, K., Davison, K., & Hardisty, J. (2019). Community pharmacy as an effective teaching and learning environment: Student perspectives from a UK MPharm programme. *Currents in Pharmacy Teaching and Learning, 11*(9), 902–908. https://doi.org/10.1016/j.cptl.2019.05.007

Burgess, L. (2019). Primary Care in Scotland. Retrieved from ⟨https://digitalpublications.parliament.scot/ResearchBriefings/Report/2019/5/29/Primary-Care-in-Scotland⟩. Retrieved 29/6/2020 ⟨https://digitalpublications.parliament.scot/ResearchBriefings/Report/2019/5/29/Primary-Care-in-Scotland⟩.

Burgett, N. E., Dennis, V. C., Wideman, S. D., Kirkpatrick, A. E., & Randall, D. L. (2012). Pharmacy preceptors' views on the value and optimal frequency of quality assurance visits to advanced pharmacy practice experience sites. *American Journal of Pharmaceutical Education, 76*(3), 48. https://doi.org/10.5688/ajpe76348

Campbell, P. (2015). Student placements in primary care. *Practice Nursing, 26*(5), 246–249. https://doi.org/10.12968/pnur.2015.26.5.246

Chaar, B. B., Brien, J. A., Hanrahan, J., McLachlan, A., Penm, J., & Pont, L. (2011). Experimental education in Australian pharmacy: Preceptors' perspectives. *Pharmacy Education, 11*(1), 166–171. ⟨http://www.embase.com/search/results?subaction=viewrecord&from=export&id=L368669475⟩. http://search.lib.monash.edu/openurl/MUA/MUL_SERVICES_PAGE?sid=EMBASE&sid=EMBASE&issn=15602214&id=doi:&atitle=Experimental+education+in+Australian+pharmacy%3A+Preceptors%27+perspectives&stitle=Pharm.+Educ.&title=Pharmacy+Education&volume=11&issue=1&spage=166&epage=171&aulast=Chaar&aufirst=Betty+B.&auinit=B.B.&aufull=Chaar+B.B.&coden=PLACB&isbn=&pages=166-171&date=2011&auinit1=B.&auinitm=B.

Chaar, B. B., Brien, J.-A., Hanrahan, J., McLachlan, A., Penm, J., & Pont, L. (2015). Experimental education in Australian pharmacy: Preceptors' perspectives. *Pharmacy Education* (Vol 11)(2011). ⟨http://pharmacyeducation.fip.org/pharmacyeducation/article/view/320/291⟩.

Coker, J. S., Heiser, E., Taylor, L., & Book, C. (2016). Impacts of experiential learning depth and breadth on student outcomes. *Journal of Experiential Education, 40*(1), 5–23. https://doi.org/10.1177/1053825916678265

Cook-Sather, A., Bovill, C., & Felten, P. (2014). *Engaging students as partners in learning and teaching: a guide for faculty*. San Francisco, CA: John Wiley & Sons.

Croker, A., Smith, T., Fisher, K., & Littlejohns, S. (2016). Educators' interprofessional collaborative relationships: Helping pharmacy students learn to work with other professions. *Pharmacy, 4*(2), 17. ⟨https://www.mdpi.com/2226-4787/4/2/17⟩.

Crooks, G., & Adil, M. (2017). Chronic Disease Intelligence to Optimise Service Planning in Scotland. Retrieved from https://sctt.org.uk/wp-content/uploads/2017/08/Chronic-Disease-Intelligence-for-Service-Planning-In-Scotland-Final-August-2017.pdf.

Dollinger, M., & D'Angelo, B. (2020, 10/12/2021). Co-Design for Student Success. Retrieved from https://www.ncsehe.edu.au/wp-content/uploads/2020/03/CoDesignHandbook_FINAL.pdf.

Dollinger, M., Lodge, J., & Coates, H. (2018). Co-creation in higher education: towards a conceptual model. *Journal of Marketing for Higher Education, 28*(2), 210–231. https://doi.org/10.1080/08841241.2018.1466756

Donovan, G., Brown, J., Von Hatten, E., Armstrong, C., & Hardisty, J. (2019). Introducing pharmacy students to the structure and function of general practice through undergraduate placements. *Currents in Pharmacy Teaching and Learning, 11*(10), 1055–1064. https://doi.org/10.1016/j.cptl.2019.06.013

Driscoll, J., & Teh, B. (2001). The potential of reflective practice to develop individual orthopaedic nurse practitioners and their practice. *Journal of Orthopaedic Nursing, 5*, 95–103.

Duncan, P., & Jowit, J. (2018). Is the NHS the world's best healthcare system? Retrieved from https://www.theguardian.com/society/2018/jul/02/is-the-nhs-the-worlds-best-healthcare-system.

Fejzic, J., Henderson, A., Smith, N. A., & Mey, A. (2013). Community pharmacy experiential placement: Comparison of preceptor and student perspectives in an Australian postgraduate pharmacy programme. *Pharmacy Education, 13*(1), 15–21.

Gallagher, R. M., & Gallagher, H. C. (2012). Improving the working relationship between doctors and pharmacists: is inter-professional education the answer? *Advances in Health Sciences Education, 17*(2), 247–257. https://doi.org/10.1007/s10459-010-9260-5

General Pharmaceutical Council. (2015a). Tomorrow's pharmacy team: Future standards for the initial education and training of pharmacists, pharmacy technicians and pharmacy support staff. Retrieved from https://www.pharmacyregulation.org/sites/default/files/tomorrows_pharmacy_team_june_2015.pdf. Retrieved 3/4/2019 https://www.pharmacyregulation.org/sites/default/files/tomorrows_pharmacy_team_june_2015.pdf.

General Pharmaceutical Council. (2015b). *Tomorrow's pharmacy team: responses to the discussion paper*. United Kingdom: General Pharmaceutical Council. ⟨https://www.pharmacyregulation.org/sites/default/files/report_on_educating_the_pharmacy_team.pdf⟩.

General Pharmaceutical Council. (2021). Standards for the initial education and training of pharmacists. Retrieved from ⟨https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021_0.pdf⟩.

Gibson, M., Sullivan, D., Tubbs, C., Mirtallo, J., & K, K. (2016). Assessment of barriers to providing introductory pharmacy practice experiences (IPPEs) in the hospital setting. *Innovations in Pharmacy, 7*(2). https://doi.org/10.24926/iip.v7i2.442

Hall, K., Musing, E., Miller, D. A., & Tisdale, J. E. (2012). Experiential training for pharmacy students: time for a new approach. *The Canadian Journal of Hospital Pharmacy, 65*(4), 285–293. ⟨http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3420851/⟩.

Hendry, G., Winn, P., Wiggins, S., & Turner, C. J. (2016). Qualitative evaluation of a practice-based experience pilot program for master of pharmacy students in Scotland. *American Journal of Pharmaceutical Education, 80*(10), 165. https://doi.org/10.5688/ajpe8010165

Jacob, S. A., & Boyter, A. C. (2020a). Nationwide survey of experiential learning in MPharm programmes in UK Universities. *International Journal of Pharmacy Practice, 28*(2), 121–129. https://doi.org/10.1111/ijpp.12521

Jacob, S. A., & Boyter, A. C. (2020b). Survey of undergraduates' perceptions of experiential learning in the MPharm programme: The TELL Project. *Pharmacy Practice (Granada), 18*(2), Article 1856.

Jacob, S. A., & Boyter, A. C. (2020c). "*My experiences were highly-dependent on the knowledge and enthusiasm of the tutor*": graduates' feedback of experiential learning in an MPharm programme Part 1 (TELL Project). *Studies in Educational Evaluation, 66*, Article 100891.

Jacob, S. A., & Boyter, A. C. (2020d). "It has very good intentions but it's not quite there yet": Graduates' feedback of experiential learning in an MPharm programme Part 2 (TELL Project). *Studies in Educational Evaluation, 66*, Article 100889.

Jacob, S. A., Jebara, T., Watson, M., Cunningham, S., Power, A., & Boyter, A. C. (2021). Pharmacy students' experience of a novel government-funded experiential learning initiative: A mixed-method study (ACTp Study). *Pharmacy Education, 21*(1), 466–476. https://doi.org/10.46542/pe.2021.211.466476

Jacob, S. A., Power, A., Portlock, J., Jebara, T., Cunningham, S., & Boyter, A. (2021). Competency-based assessment of practice-based experiential learning in undergraduate pharmacy programmes. *Pharmacy Practice, 19*(4). https://doi.org/10.18549/PharmPract.2021.4.2482

Kolb, A. Y., & Kolb, D. A. (2017). Experiential learning theory as a guide for experiential educators in higher education. *Experiential Learning & Teaching in Higher Education, 1*(1). Article 7.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Komarraju, M., Musulkin, S., & Bhattacharya, G. (2010). Role of student–faculty interactions in developing college students' academic self-concept, motivation, and achievement. *Journal of College Student Development, 51*(3), 332–342.

McCartney, J., & Boschmans, S.-A. (2018). South African pharmacy student perspectives of a hospital-based experiential learning programme. *Pharmacy Education, 18*(1), 29–40.

McKenzie, S., & Mellis, C. (2017). Practically prepared? Pre-intern student views following an education package. *Advances in Medical Education and Practice, 8*, 111–120. https://doi.org/10.2147/AMEP.S116777

Montgomery, H. E., Haines, A., Marlow, N., Pearson, G., Mythen, M. G., Grocott, M. P. W., & Swanton, C. (2017). The future of UK healthcare: Problems and potential solutions to a system in crisis. *Annals of Oncology, 28*(8), 1751–1755. https://doi.org/10.1093/annonc/mdx136

NHS Education for Scotland. (2019). Pre-registration Pharmacist Scheme. (18/9/2019). Retrieved from https://www.nes.scot.nhs.uk/education-and-training/by-discipline/pharmacy/pre-registration-pharmacist-scheme.aspx.

O'Sullivan, T. A., Lau, C., Patel, M., Mac, C., Krueger, J., Danielson, J., & Weber, S. S. (2015). Student-valued measurable teaching behaviors of award-winning pharmacy preceptors. *American Journal of Pharmaceutical Education, 79*(10), 151. https://doi.org/10.5688/ajpe7910151

Owen, S. M., & Stupans, I. (2009). Experiential placements and scaffolding for reflection. *Learning in Health & Social Care, 8*(4), 272–281. https://doi.org/10.1111/j.1473-6861.2009.00220.x

Pham, A. (2009). Improving pharmacy students' education through enhanced experiential learning. *American Journal of Pharmaceutical Education, 73*(3), 56-56 (Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/19564999; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2703273/).

Power, A., Stewart, D., Craig, G., Boyter, A., Reid, F., Stewart, F., & Maxwell, S. (2021). Student and pre-registration pharmacist performance in a UK Prescribing Assessment. *International Journal of Clinical Pharmacy*. https://doi.org/10.1007/s11096-021-01317-z

Prisco, J. L., Hritcko, P. M., Feret, B., Yorra, M. L., Todd, N. E., Kim, T., & Szumita, A. (2017). Assessing experiential education factors contributing to a PGY1 residency match: Pharmacy residency program director and comparative student survey. *Currents in Pharmacy Teaching and Learning, 10*(2), 146–153. https://doi.org/10.1016/j.cptl.2017.10.020

Richards, L. (2005). *Handling qualitative data: A practical guide*. London: Sage Publications.

Schenck, J., & Cruickshank, J. (2014). Evolving kolb: Experiential education in the age of neuroscience. *Journal of Experiential Education, 38*(1), 73–95. https://doi.org/10.1177/1053825914547153

Scottish Government. (2017). *Achieving Excellence in Pharmaceutical Care - A Strategy for Scotland*. ⟨https://www.gov.scot/publications/achieving-excellence-pharmaceutical-care-strategy-scotland/⟩.

Singh, A., Morrissey, H., & Ball, P. P. (2020). Experiential learning opportunities for undergraduate pharmacy students in community pharmacies in the United Kingdom. *Journal of Pharmacy Management, 36*(1), 12–19.

Skrabal, M. Z., Jones, R. M., Walters, R. W., Nemire, R. E., Soltis, D. A., Kahaleh, A. A., & Turner, P. D. (2010). National survey of volunteer pharmacy preceptors: Effects of region, practice setting, and population density on responses. *Journal of Pharmacy Practice, 23*(3), 265–272. https://doi.org/10.1177/0897190010366927

Smithson, J., Bellingan, M., Glass, B., & Mills, J. (2015). Standardized patients in pharmacy education: An integrative literature review. *Currents in Pharmacy Teaching and Learning, 7*(6), 851–863. https://doi.org/10.1016/j.cptl.2015.08.002

Stewart, D., MacLure, K., & George, J. (2012). Educating nonmedical prescribers. *British Journal of Clinical Pharmacology, 74*(4), 662–667. https://doi.org/10.1111/j.1365-2125.2012.04204.x

Stupans, I. O., S. M. (2009). Planning and scaffolding for learning in experiential placements in Australian pharmacy schools. *Asia-Pacific Journal of cooperative Education, 10*(1), 29–37.

Talley, C. R. (2006). Experiential rotations for pharmacy students. *American Journal of Health-System Pharmacy, 63*(11), 1029. https://doi.org/10.2146/ajhp060190

Tsingos, C., Bosnic-Anticevich, S., & Smith, L. (2014). Reflective practice and its implications for pharmacy education. *American Journal of Pharmaceutical Education, 78*(1), 18-18. https://doi.org/10.5688/ajpe78118

University of Houston. (2016). Experiential learning needs time, experiential learners need support: Preliminary findings from study on internships suggests one semester not long enough. *ScienceDaily*.

Viswanathan, M., Ammerman, A., Eng, E., Garlehner, G., Lohr, K. N., Griffith, D., & L, W. (2004). *Community-based participatory research: Assessing the evidence; evidence report/technology assessment no 9*. Rockville, MD: Agency for Healthcare Research and Quality.

Watson, M.C., Jacob, S.A., & Jebara, T. (2019). Evaluation of the 2019 ACTp pilot [final report]. Retrieved from NHS Education for Scotland.

Wright, S. (2019). Scottish government invests £2.85m to expand experiential learning of student pharmacists to new settings. *The pharmaceutical journal*. https://doi.org/10.1211/PJ.2019.20206248

Zeitoun, A., Sacre, H., Hallit, S., Zeenny, R. M., Sili, G., & Salameh, P. (2020). Clinical preceptor competencies for a better pharmacy education: A suggested framework for Lebanon. *Journal of Pharmaceutical Policy and Practice, 13*(1), 21. https://doi.org/10.1186/s40545-020-00217-3