1. Introduction

In the United Kingdom (UK), undergraduate master of pharmacy (MPharm) students undertake experiential leaning (EL) as part of their curriculum. The purpose is to equip them with the necessary skills to enter the workforce, and it has been reported that EL helps develop clinical and core soft skills required of a pharmacist such as communication and interpersonal skills (Cox, 2016; McCartney & Boschmans, 2018; Nojima, Ravia, & Hongu, 2017; Prisco et al., 2017). Placements can also help students in determining their future career paths and network with the workforce (Owen & Stupans, 2009). With the changing healthcare model and the focus on patient-centred care, EL takes on greater salience.

In a School of Pharmacy (SoP) in Scotland, EL focuses predominantly on community and hospital settings. For community EL, the first day is arranged by university staff. Students then negotiate the remaining visit dates with the tutor and may undertake full-day placements if the university timetable permits. For final year EL, students volunteer for a limited number of hospital EL places in the first semester while the remaining students have community EL; all attend community EL in the second semester. Before the placement, students are given a handbook which outlines their EL responsibilities as well as the learning outcomes to be achieved for all four years. These learning outcomes are based on the Standards for the Initial Education and Training of Pharmacists introduced by the General Pharmaceutical Council (GPhC), the regulator of pharmacists in the UK (General Pharmaceutical Council, 2011a). Students may also undertake paid or unpaid summer placements in community and hospital practice but students bear the sole responsibility of planning these placements, which are not part of the University requirements for study.

In 2018, the SoP embarked on the TELL Project, a **T**hree-60 degree evaluation of the **E**xperientia**L** **L**earning at the university, with the objective of allowing students, graduates, tutors, and stakeholders to TELL us what they think of the EL and what they want from it. We report here the findings from the study involving recent graduates of the MPharm programme. The overarching question was: as they undergo pre-registration training to prepare them to be pharmacists, do they feel the EL undertaken during their MPharm was effective in preparing them for practice? This article is Part 2 in a two-part series describing the results of a mixed methods study of graduates to obtain feedback on their EL experience. Part 1 describes study methods in detail, reports on the demographics of respondents, details graduates' perceptions of the effectiveness of the EL from the survey results, and discusses themes one to three of the qualitative research (Figure 1). This article, Part 2, reports the overall feedback of graduates regarding EL, and discusses in detail theme four of the thematic analysis.

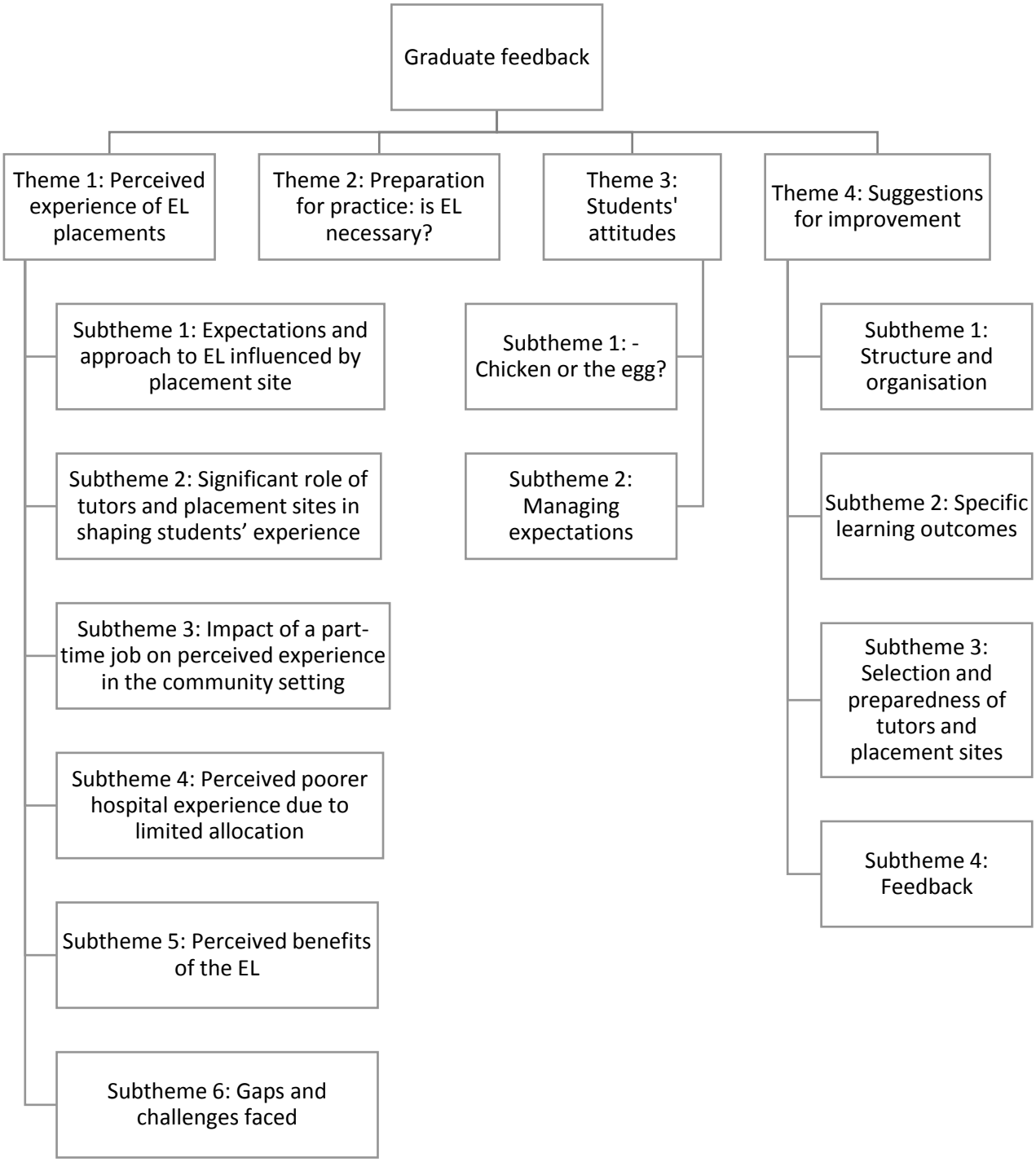

Figure 1: Themes and subthemes

2. Methods

2.1 Study design

A mixed-methods concurrent triangulation design was adopted which comprised a cross-sectional survey, semi-structured interviews and a focus group discussion (FGD) of recent graduates of the MPharm programme. The university ethics committee confirmed that ethical approval was not required for this evaluation. Briefly, the quantitative online survey utilized an 8-item anonymous self-report consisting of one open-ended and seven closed-ended questions, the latter utilising 5-point Likert-type scales ranging from strongly disagree (1) to strongly agree (5). In the survey, graduates' feedback on the effectiveness of the EL, organisation and structure of the EL, as well as tutors and placement sites were sought. Demographic details were collected. Preliminary findings from the survey were used to develop the interview guide for the qualitative interviews, which adopted a grounded-theory approach. Purposive and snowball sampling were used to recruit study participants. All sessions were audio-recorded and participants were not offered any incentives.

2.2 Data analysis

Analysis of survey outcomes were performed using Microsoft Excel and SPSS 24.0 statistical software (SPSS Inc, Chicago, IL, USA). To create a composite picture of what respondents disagreed and agreed on questions employing the five-point Likert scale, responses were collapsed to a 3-point scale (agree, neural, disagree). Mean values of students' feedback were generated by tabulating their responses on the 5-point Likert scale.

Recorded interviews were transcribed verbatim, and results were imported into NVivo 12 Software (QSR International Pty Ltd., Version 12, 2018)(Richards, 2005). A coding framework was developed based on independent coding of two transcripts by the researchers. 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 (2006) six phase approach to coding. Data saturation was achieved with no new themes emerging in the later interviews. Transcripts were returned to all participants for comments and/or corrections.

Respondents to open-ended comments are referred to as 'respondents' while those who were interviewed are referred to as 'participants' The word 'student' is used as a general term in describing the experience, in describing the 'status' of the graduates when they undertook their EL, and in reference to current or future students undergoing EL. 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), undergraduate part-time job status (e.g. P – part-time; Y - yes), and if they had summer placements (e.g. S – summer; N - no). Interview participants are identified according to their current pre-registration site (e.g. C1 or H1). The one FGD involving hospital pre-registration trainees is identified as H-FGD with numbers indicating the number assigned to each participant during the FGD (e.g. #2, H-FGD).

3. Results

3.1 Quantitative survey

Sixty-three graduates responded to the quantitative survey, and of the 52 respondents with demographic data, the majority (71.2%) were completing their pre-registration training in the community. During their MPharm, the majority of respondents (67.3%) did not undertake a hospital pharmacy summer placement while 49 (94.2%) worked part-time in a community pharmacy. Respondents were neutral with regard to their overall feedback of the EL component, however 56.8% of those completing their pre-registration training in the community did not agree that the time spent in community was sufficient to prepare them for practice. Thirteen of the 15 respondents from the hospital group felt that the time spent in the hospital was not sufficient to prepare them for practice. There was near unanimous agreement that EL in other settings, such as primary care, should be allowed. None of those currently practicing in the hospital felt the EL was unnecessary. Of the 23 respondents who disagreed that EL prepared them for practice, 78.8% were from the community (Table 1).

Table 1

Overall feedback on Experiential Learning (EL)

Statements[#]	***Disagree***	***Neither agree nor disagree***	***Agree***	***Mean (± SD*)***
a) The allocated EL hours in the community were sufficient to prepare me for practice	24 (46.2)	6 (11.5)	22 (42.3)	3.00 (± 1.56)
b) The allocated EL hours in the hospital were sufficient to prepare me for practice	41 (78.8)	6 (11.5)	2 (3.8)	1.80 (± 0.96)
c) Students should be allowed to do placements in other settings e.g. hospices, GP surgeries etc.	1 (1.9)	2 (3.8)	49 (94.2)	4.60 (± 0.66)

d) Pharmacy employment, for example on a Saturday, should be recognised by the university as EL	15 (28.8)	2 (3.8)	35 (67.3)	3.79 (± 1.51)
e) Students should be allowed to select their own EL placement sites	11 (21.2)	17 (32.7)	24 (46.2)	3.42 (± 1.32)
f) Overall, tutors in the hospital settings prepared me well for practice	19 (36.5)	11 (21.2)	17 (32.7)	2.87 (± 1.35)
g) Overall, tutors in the community settings prepared me well for practice	13 (25)	17 (32.7)	22 (42.3)	3.19 (± 1.03)
h) The EL programme was well coordinated	22 (42.3)	14 (26.9)	16 (30.8)	2.77 (± 1.18)
i) I received sufficient support from the academic staff at SIPBS on matters related to EL	9 (17.3)	12 (23.1)	28 (53.8)	3.45 (± 1.17)
j) The EL programme is unnecessary	38 (73.1)	5 (9.6)	9 (17.3)	2.08 (± 1.08)
k) Overall, I think the EL programme prepared me for practice	23 (44.2)	12 (23.1)	17 (32.7)	2.83 (± 1.13)
Overall mean				3.25 (±1.40)

#EL: Experiential learning
*SD: Standard deviation

3.2 Interviews and focus group discussion

Twenty-eight graduates responded to the open-ended comments with regard to graduates' overall experience with the EL programme. Ten one-on-one sessions were conducted over the phone: interviews took an average of 24 minutes. Three participants were currently completing their pre-registration training in the community, six were in the hospital, while one was doing a modular attachment. One FGD, which involved four graduates currently completing their pre-registration training in hospital, was conducted in person at the participants' place of work and took approximately an hour. Participants were predominantly female (78.6%) and all but one had part-time jobs in a community pharmacy during their undergraduate degree. Thematic analysis revealed the following four key themes (Figure 1): 1) Perceived experience of EL placements; 2) Preparation for practice: is EL

necessary?; 3) Students' attitudes; and 4) Suggestions for improvement. We elaborate on theme four.

3.2.1 Subtheme 1: Structure and organisation

3.2.1.1 Allocation of time between placement sites

Most graduates felt that more EL was warranted as the limited time gave an unrealistic picture of what working in the pharmacy would be like. There were a lot of complaints about the lack of time spent in the hospital setting, and there was a call by the majority for more hospital EL, as illustrated in the following reflection: *"In hospital pharmacy the time spent there was extremely sparse and nowhere near enough to give a good representation of what it is like"* ***(OC7, SN, PY)*** Graduates also wanted more of a balance between time spent in the community and hospital, and there was a request for fairer rotation of hospital placements as the same students kept getting picked.

3.2.1.2 Longer duration of placements

There was near unanimous agreement among participants for the EL to be conducted in blocks or over weeks, with participants lamenting the half day or one-day placement durations impeded their learning. Participants drew examples from other healthcare professionals who seemed better prepared for practice due to their extended placement experience: *"...you see the medical students and you see the nursing students and they're out learning so much day to day on the job but there's no pharmacy students or the pharmacy students might be there for a day and it's not enough time to see everything that's out there."* ***(M1)***

Graduates were of the opinion that longer EL would increase their competencies, ensure a better learning experience, enable them to see their tasks through from beginning to the end, and afford more continuity and consistency in their learning. Graduates perceived that spending just half a day did not allow them to integrate well with the placement staff, and instead felt that longer placements would allow them to build better working relationships with staff and feel *"like part of the team rather than someone who was just visiting"* ***(H7)***. Some participants suggested that block placements would be easier to organise and fit into their timetable.

Graduates perceived that spending half a day in the community did not allow them to get a good understanding of what happens in the pharmacy as some patients might only come in and utilise services in the half of the day they were not around. Participants also lamented that the lack of experience gained due to half-day placements forced them to obtain a part-time job: "*…but because the experiential learning placements were just […] so little time it would just be a half day […] in 1st and 2nd year I didn't really get much experience so I just went and got my Saturday job just to get more experience"* ***(#3, H-FGD)*** There were comments, however, from those who had part-time jobs, that spending one to two weeks in the community in final year was too long and unnecessary.

3.2.1.3 Organisation of placement sites

Participants highlighted that there should be better communication between the university and placement sites so they were aware when students were coming and were able to set aside time for this. Participants also suggested that placement sites should be selected based on where students live, with one suggesting that students be allowed to submit a list of preferred sites based on their location. There was a call by graduates for more variation in

types of pharmacies students were sent to e.g. independent vs chain pharmacies. Similarly, many felt it would be good to include other placement sites such as primary care, saying it *"… would be excellent especially as there are more and more pharmacists getting jobs situated in GP practices…"* ***(OC16, SN, PN)***

The majority felt that students should not be allowed to select their own placement sites as if given the option, most would just pick their own part-time pharmacies. Participants thought it was good to be pushed out of their comfort zones and work at a place they were unfamiliar with. Participants suggested instead that students be allowed to indicate to the university what area of pharmacy they were interested in as *"…people have different interests in what they want to do career-wise […]and they might prefer certain places over others but I think a varied experience learning is the best way to sort of get the most experience and see what suits you as a person."* ***(H2)***

When asked if students should be sent to the same site each year, responses were ambiguous. Some felt they should be sent to different sites as it would allow a more varied experience that would enable students to get an exposure to different pharmacy systems and working styles: *"…I've worked with lots of different pharmacists, so I've seen a bit of oh I like what this person does, but I also don't like what this person does, so you take different things from different pharmacists, which is I think really useful."* ***(C1)***

Others were in agreement that students should be sent to the same site each year, arguing that this allowed students to develop familiarity with how the pharmacy works, enabling students to become accustomed with the systems in place. More importantly, participants felt that being sent to the same site each time would allow them to develop a rapport with the pharmacy staff, which would help facilitate the experience, *"…you become familiar with the staff and that you maybe feel more comfortable and get to know them meaning*

*you can focus on your objectives better and they can help you once you've got that relationship with them." **(H7)*** According to participants**,** ultimately it would depend on the tutor and placement site: if students had a tutor who was engaged and eager to teach, it would be in their best interest to be sent to the same site. Similarly, participants felt if a pharmacy was not busy enough and lacked workload, students might be at a disadvantage if they kept being sent to the same site.

On whether their part-time work should contribute toward their EL hours, some felt it should be taken into consideration. Arguments to support this was the fact that they covered similar tasks during their part-time work. Others, however, disagreed, commenting that their role at work was as a staff or *"technician",* whereas their role during EL was as a student, and it was important to make this distinction. According to participants, this might not be achievable at their place of work where they have their own responsibilities and might not be given the necessary tasks to achieve their learning outcomes. Participants also perceived that it would be difficult changing their role in their work place from dispenser to 'pharmacist': *"...experiential learning you were supposed to be there to learn how be the pharmacist and to learn what you needed to, whereas at work you have tasks that you need to do and you need to get done whereas I think it's probably more beneficial if you learnt experiential learning as [...] a kind of supernumerary figure that was there solely to learn." **(H4)***

In busy pharmacies where they worked part-time, participants perceived not having the opportunity to ask questions or spend time focusing on their own learning. Participants also perceived that there could be bias on the part of tutors who might just sign them off even if they hadn't completed a task, as one graduate noted, *"... they might [...] have a good relationship with the tutor the tutor might sign them off for something where they actually*

maybe shouldn't[…] maybe the tutor won't want to be 'oh you've not done this' because they get along…" ***(C1)*** There were suggestions that students be allowed instead to focus on tasks which had not been covered during their part-time jobs or for them to be allowed to undertake less time in the community for EL.

3.2.2 Subtheme 2: Specific learning outcomes

The learning outcomes outlined in the handbook were said to be achievable and most found it as a good guide to help them structure their placement experience in terms of time and workload, and facilitate the application of their knowledge to practice. There were suggestions, however, for more guidance and explanation on the learning outcomes and what was expected of students. Some perceived the learning outcomes as too simple and vague, suggesting that it should be more specific and focused for example, "*…say dispense x amount of prescriptions, check x amount of prescriptions […] I feel the learning outcomes were quite vague they (tutors) didn't know exactly what you had to complete."* ***(C2)*** There was also a suggestion to include interprofessional learning outcomes so students learned how to communicate with other healthcare professionals.

3.2.3 Subtheme 3: Selection and preparedness of tutors and placement sites

Participants were of the opinion that tutors should be trained so they are familiar with the learning outcomes students have to achieve, with students relating certain instances where the tutors were perceived as not being sure of what was expected of students. Participants felt this was also necessary to ensure tutors were aware that students were there to learn and get more exposure to the role of pharmacists. This was mentioned in the following open-ended comment: *"Training sites […] in community must be told with emphasis*

that the student should not be used as another member of staff, and should undertake limited dispensing activities to give time for clinical consultations and other activities." ***(OC4, SY, PY)***

The presence of pre-registration trainees in the site was perceived by participants to enhance the placement experience as it allowed them to ask questions in preparation for their future roles. As pre-registration trainees had recently undergone a similar experience, it was perceived by participants that they were able to explain things better to students and were better aware of areas they needed assistance with. Participants felt tutors who were also trained as pre-registration tutors provided a much better placement experience compared to those not trained, noting *"all the other people that I had been with in community weren't pre-registration tutors, had never had a pre-registration trainee so it wasn't quite as beneficial […] there was just a clear difference in somebody who was a pre-registration tutor and somebody who's not a pre-registration tutor and knowing what to do."* ***(H4)***. The experience with pre-registration tutors was perceived as very positive by participants, with students allowed to be more hands-on, and the tutors perceived as being very organised with several tasks planned for the students to undertake: *"…and the pharmacist that I was with during that one week they were all pre-registration tutors and they were so good […] they were very trusting of the student that was with them which I thought was quite nice…"****(H5)***

Participants felt that more information about the students and their level of knowledge should be provided to tutors to ensure they are pitching at the right level, as according to them the course had changed significantly from when their tutors had undertaken it. It was also suggested that tutors should have protected time when students are there on placements to ensure students are given their full attention, as illustrated in the following statement: *"…to be able to actually not need to think oh I need to do discharges […]*

I need to do this I need to do that while trying to teach students which is really hard…" ***(H1)***

Likewise, according to participants it was important to select placement sites which would allow students to have a varied experience and be exposed to different types of services. In the community especially, students wanted more hands-on experience which did not include dispensing. Participants also felt it should be ensured that all students benefitted equally from their placement experience. One participant shared, *"…we found the eight of us that went to the [tertiary-care hospital] had a really, really, really good experience whereas other students were having a terrible experience […] it should all be a level playing field it shouldn't matter where you go you should all get the same out of it I think."* ***(M1)***

One suggestion was that pre-registration training sites should be selected as placement sites, given their experience in training students as pharmacy staff would be familiar with having students and know how to place them within the pharmacy. To ensure students were getting the relevant placement experience, participants suggested that quality assurance of placement sites should be undertaken, such as via visitations or getting feedback from students. This was suggested to ensure there was a good structure in place and sites were not short-staffed or too busy that students could not complete their learning outcomes, and not too quiet there was nothing to do, similar to what is done for pre-registration placement sites. One participant lamented, *"…but I feel people have gone to community pharmacies for a placement and people have been off and it's almost that's been allowed because they knew they had a student coming in…"* ***(H5)***

Similarly, participants suggested that checks were necessary to vet tutors to ensure they were well-prepared for students, were available, and actually interested in supervising students. This was highlighted in the following comment: *"…I think the university should limit the number of pharmacies that take on or agree to take on students because I feel a lot of*

community pharmacies they'll take on a student but don't really want to put in that effort to make sure the student makes the most out of it […]but there are again another select pharmacies which make sure that students get the best possible experience…" ***(#3, H-FGD)***

3.2.4 Subtheme 4: Feedback

Participants reported receiving no feedback from any of the tutors, , although graduates felt this was understandable in the hospital as they were limited to shadowing the pharmacists and did not actually perform any tasks. However, participants were unanimous in their desire for feedback, noting that having an awareness of their strengths, weakness, and areas they needed to improve on, would help them in their future practice and in writing their reflections. As well, participants were of the opinion that obtaining feedback would prepare them for the same experience during pre-registration training, as feedback was at the very core of pre-registration training. Participants also felt feedback should be formalised as this would ensure engagement from tutors and that feedback was actually given: *"…if it's more formalised the tutors are more likely to have involvement with the students as well so they'd be looking out for things that they're not doing so well and […]may be able to pick up on things that the students might not notice* ***(#3, H-FGD)*** There were also suggestions that feedback should be both ways, with students feeding back to the university on the tutors as well. Participants felt this would also encourage tutor-engagement as tutors knew the information would be passed on to the university

4. Discussion

Suggestions for improving the EL were mainly related to the structure, with calls for longer duration, better allocation to the hospital setting, and expansion to other sites such as primary care. While having a part-time job had a major impact on their EL experience and feedback, opinion was divided as to whether it should contribute to EL hours. The importance of tutor-training and selecting appropriate placement sites was also stressed, along with the need for feedback from tutors.

4.1 Contribution of part-time work to EL hours

A number of respondents and participants felt that part-time work should be recognised by the university as EL.A nationwide survey of universities in the UK also revealed some support for students receiving EL credit for their part-time work (Details not provided to preserve blinding). However, participants highlighted that they had their own responsibilities at their work, which did not allow any time for learning. One of the key aspects of EL is the process of reflecting about the experience. As illustrated in Kolb's cycle, students have to immerse themselves in the experience and then reflect on the experience (Kolb DA, 1984).This process then facilitates the acquisition of new skills and ways of thinking. Students, however, are not asked to reflect during their part-time work (Pham, 2009).

4.2 Adopting quality assurance measures

Issues with tutors such as the lack of interest and preparation, prompted calls for tutor training. With the introduction of the Preparation for Facilitating Experiential Learning Training *(*PFEL*)* for tutors by NES, it is hoped that tutors will have a clearer idea on what should

342 be expected of students, and of themselves (NHS for Education Scotland, 2019). Indeed,
343 participants in this study noted that the quality of training received from pre-registration
344 tutors was superior to those who were not. In Scotland, NES provide additional QA around
345 pre-registration training sites that is currently not conducted in the rest of the UK, and as such
346 all pre-registration tutors must undergo training which exceeds the GPhC requirements. Thus,
347 QA measures and regular placement visits should be introduced to ensure students are
348 getting an educationally-appropriate experience (Skrabal et al., 2010).

349 Continuous quality improvement (CQI) processes are important to ensure EL
350 outcomes are achieved and all students receive a standard experience across different sites
351 (Assemi, DiVall, Lee, Sy, & O'Sullivan, 2017). It has also been noted that site visits help in
352 building and maintaining a collaborative relationship between the university and tutors
353 (Assemi et al., 2017), ultimately translating to a better student experience. The Standards
354 introduced by the GPhC call for quality assessment of placement sites (Standard 2.3) (General
355 Pharmaceutical Council, 2011b). However, no details have been provided about the methods
356 for going about this. One of the major challenges highlighted with regard to EL was QA of sites
357 and tutors, the latter ranked third in a survey of UK universities (Details not provided to
358 preserve blinding). This has been mainly attributed to the lack of staff and resources
359 (Darbishire, Devine, Holowatyj, & Schmelz, 2008; Details not provided to preserve blinding;
360 Devine & Darbishire, 2015). Potential solutions would be to use teleconferencing for remote
361 site visits and webinars to communicate with tutors (Assemi et al., 2017).

362 One method widely adopted for CQI is the five-step process outlined by the American
363 Physical Therapy Association (Figure 2)(American Physical Therapy Association, 2018; Assemi
364 et al., 2017). Before beginning the cycle, the first step would be to set up the assessment team
365 who will be in charge of the CQI. Goals of the CQI should then be developed and linked to

366 expected outcomes which are measurable and assessable. These goals and outcomes will be
367 dependent on the 'target' i.e. tutor-specific, site-specific or student-specific. For example, a
368 student-specific outline can be defined as "At the end of the EL, students should achieve or
369 be able to…" The next step is the development of an assessment plan which will include
370 specific information such as on indicators of outcomes, timeframes, and threshold criteria
371 that will warrant the need for a change. The assessment plan is also developed depending on
372 the 'target' e.g. site visits and feedback from students for tutor-specific assessments. Some
373 sites have used Yelp-type rating from students while others have employed tutor report cards
374 (Assemi et al., 2017).
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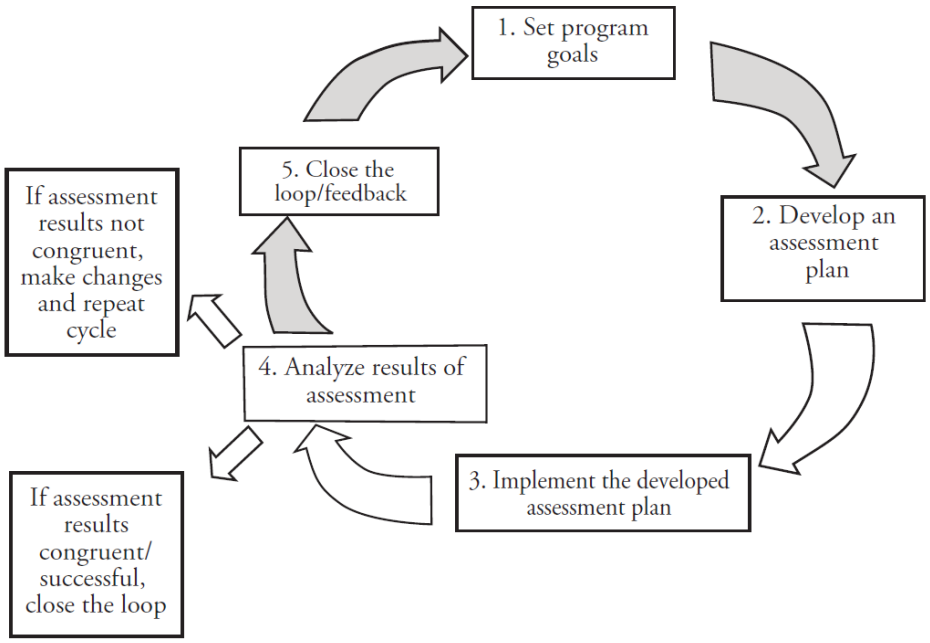

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379 **Figure 2: Model for outcome assessment [Adapted from (American Physical Therapy Association,**
380 **2018)]**
381

Results of the CQI are then analysed and changes implemented if necessary. This could include discussing feedback from students with tutors who received low ratings, or initiating training programmes, extra visits, and discussions with tutors where problems are flagged (Assemi et al., 2017). The final step is closing the loop which involves a feedback process about the changes or actions implemented. It is imperative that it is understood that CQI processes including the resultant changes implemented are for the *'greater good of the programme'* and should not be seen to have punitive connotations (American Physical Therapy Association, 2018).

4.3 Duration of placements

Participants stated a preference for block placements, similar to EL in Australian universities (Owen & Stupans, 2009). In Scotland, allocation of graduates to pre-registration sites is based on tutors' preference lists (NHS Education for Scotland, 2019). To obtain a place on this list, students are encouraged to undertake placements at their preferred sites to establish a relationship with staff and be able to show their self-worth and skills, and this is best achieved through longer placement durations (Prisco et al., 2017). In addition, shorter placements are not practical for the development of most skills, as outlined in students' learning outcomes. For instance, professionalism is frequently stressed in the Standards (General Pharmaceutical Council, 2011b), and is achieved in EL through the process of socialisation. This is enhanced through a process of feedback between tutors and students,

406 and role-modelling where students learn through interacting with and observing other staff
407 (Hammer, 2006) – a process that requires a significant amount of time.

408 In addition, tutors often have to spend considerable time orientating new students to
409 the practice site and the workings of the site, which would take up a significant proportion of
410 students' time if they were on brief placements (Hall, Musing, Miller, & Tisdale, 2012). Tutors
411 would then have to repeat the whole process again with a new batch, only for them to go
412 away again without gaining sufficient clinical exposure. A longitudinal placement model, as
413 proposed by Hall et al, would allow these students to receive their orientation and then have
414 sufficient time to immerse themselves in the practice team and contribute to patient care
415 (Hall et al., 2012). This will then make practice sites more open to accepting students for
416 placements as they see their value to the site and patients (Chase, 2007; Hall et al., 2012;
417 Walker et al., 2015; Zdyb, Lyden, & Allen, 2015).

418

419 *4.4 The value of peer-mentors*

420

421 Many study participants noted that the presence of pre-registration trainees
422 facilitated their learning. . Peer-teaching or tiered-teaching is a model that has long been
423 adopted in the clinical teaching of medical students, and has been shown to increase the
424 development of clinical skills and cognition (Allen & Smith, 2010; Hall et al., 2012; Lindblad,
425 Howorko, Cashin, Ehlers, & Cox, 2011; Secomb, 2008). Indeed, there are calls for pharmacy
426 programmes to adopt this model as it would ease the burden on pharmacy staff as well as
427 ensure a better student to tutor ratio (Allen & Smith, 2010; Hall et al., 2012; Lindblad et al.,
428 2011). Lindblad et al (2011) conducted a study where same-year peers acted as mentors to
429 pharmacy students undertaking placements after them, and reported an increase in students'

confidence, judgement, time-management skills, responsibility, and patient interventions. Peer-teaching was also postulated to help pre-registration trainees reinforce their own knowledge and refine their communication skills (Allen & Smith, 2010; Lindblad et al., 2011). It would also ensure pre-registration trainees receive exposure to teaching, thereby creating a new generation of tutors (Allen & Smith, 2010).

As noted, many tutors did not undergo EL or were trained at a time when the focus was on developing different skills such as risk aversion and accuracy (Hall et al., 2012) Pre-registration trainees, on the other hand, are better able to understand the challenges students face at the placement setting, and are able to teach students at the students' level of knowledge. This is because their knowledge level is only slightly higher compared to students'. This is in contrast to tutors who have much higher levels of knowledge, and therefore tend to communicate with students in a more complex or advanced manner, causing students to become discouraged (Ross & Cameron, 2007).

Peer-teaching also supports social constructivism, where students learn through collaborative dialogue with more knowledgeable peers (Harland, 2003). Possible issues that could arise would be a mismatch between personalities and learning styles, and students not spending sufficient time with tutors (Secomb, 2008). Care should also be taken so that there is a balance and pre-registration trainees are not over-burdened with teaching or tutoring duties (Allen & Smith, 2010). If this is to be adopted, it should be pilot-tested to assess its value and feasibility within the UK healthcare system.

4.5 Primary care placements

Another area for improvement was the lack of exposure to other placement sites, particularly primary care. It is projected that by 2029, 1.3 million people in Scotland will be living with chronic diseases namely diabetes, heart failure, lung conditions, and hypertension (Crooks & Adil, 2017; Duncan & Jowit, 2018). There is thus a call to focus on the prevention of diseases or health maintenance rather than treatment (Kingston et al., 2018; Montgomery et al., 2017) - which is best achieved in the primary care settings. This is where pharmacists can assume a significant role in counselling patients and members of the public through public health programmes on disease prevention such as smoking cessation, weight loss etc. (Montgomery et al., 2017).

NES also aims to train more pharmacists to work in primary care to improve medication management (Scottish Government, 2017). While some universities in the UK have started sending students for primary care placements, this is still not widely adopted (Details not provided to preserve blinding). To ensure our graduates are prepared to work in this emerging area, the curriculum should change and move along with the changing healthcare environment (Cox, 2016). Adding other placement sites will also help add to the pool of possible placement sites, addressing the issue of limited placement sites at the hospitals and community pharmacies (Details not provided to preserve blinding).

4.6 Importance of feedback

According to all participants, no feedback was received from tutors, but all agreed they wanted feedback. This has been echoed in other studies where students expressed a desire for detailed feedback from tutors so they could improve themselves (Owen & Stupans, 2009). Feedback, which is stressed in EL theories (Kolb & Kolb, 2005), is an important tool for

developing students' professionalism and should be provided in real-time (Hammer, 2006). It should also be tailored according to each student as some may need more feedback than others. More importantly, feedback should be used to let students know they are doing well, and not just to point out their shortcomings (Hammer, 2006).

Feedback should be dialogical rather than transmission-centred, where students work together with tutors to set out plans to ensure the same mistakes are not made again (Hammer, 2006; Nicol & Macfarlane-Dick, 2006). It should also be used to empower students to be self-regulated learners, where students interact with and use the feedback to regulate and improve themselves (Nicol & Macfarlane-Dick, 2006; Pereira, Flores, Simão, & Barros, 2016). Indeed, feedback '*offers students an experiential base for reflection'* (Quinton & Smallbone, 2010). In the same vein, students should also be encouraged to provide feedback about the site and tutor. Students' comments about the experiences observed provides an opportunity for tutors to pick up on and correct things the students may have misunderstood (Hammer, 2006). In addition, as EL placements move toward 'doing' rather than merely shadowing, feedback will assume greater importance. Research into the feasibility of facilitators conducting competency-based assessments of students during their EL is being undertaken, which will then increase the importance of feedback.

5. Limitations

As study respondents and participants had graduated a year before the study, there is the issue of recall bias. Additionally, while we achieved the required sample size, the use of a third party to distribute the link to the survey might have affected the number of responses received as the researchers had no direct contact with the respondents. While the number of participants in the qualitative interviews from the hospital sector outnumbered those from

the community, as it pertains to the thematic analysis, we feel this was balanced out by the number of open-ended comments received from graduates currently undergoing their pre-registration period in the community. Demographics of survey respondents which showed a female preponderance and the majority doing their pre-registration in the community also matches the national spread of pre-registration training. This study was conducted in one institution which may limit the transferability of the findings to other institutions worldwide. However, our findings are relevant to undergraduate pharmacy programmes in the UK due to similarities in key placement sites, support provided to tutors, and challenges faced with EL.

6. Conclusion

The healthcare environment in the UK is changing, and so too should experiential learning programmes to ensure our graduates are ready for practice. More stringent measures should be designed and undertaken to support the QA of both the site and tutors. This could mirror some of the processes used by NES for the pre-registration training, which could support a more equitable experience. MPharm programmes can look to other countries such as the United States and Australia to make programmatic changes in terms of duration of placements and variability in placement sites.

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