Research

Intersectional Identities: Making Sense of Skill Development on Clinical Placements

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ABSTRACT

Objective: Little is known about the influence of personal experiences on learners’ trajectories toward mastery. Newell’s theory of constraints articulates the relationship between environmental, individual, and task-related factors for skill development. This study explores how undergraduate pharmacy students experience skill development on placements and what the barriers and facilitators are within Newell’s framework.

Methods: Year 3 undergraduate pharmacy students were invited to take part in focus groups exploring Newell’s theory relative to skill development. Verbatim transcripts were analyzed using an interpretive phenomenological approach.

Results: Five focus groups were conducted with 16 students. The placement task provided structure through entrustable professional activities (EPAs). The resulting skill development varied but included EPA expected behaviors and also skills for mastery, eg, self-reflection. Students’ personal identities acted as both barriers and facilitators. For example, expecting or experiencing racial microaggressions limited participation; having a local accent facilitated rapport with patients. Students worked toward integration into the community of practice (the ward), where the staff was critical to inclusion. Where students had barriers related to their identities, they found it more difficult to access the community of practice.

Conclusion: Factors related to the community of practice (environment), students’ identities (individual), and the EPA behaviors (task) can influence skill development during placement. For some students, these factors will be more prevalent, and elements of their identities may intersect and conflict, acting as both barriers and facilitators to skill development. Educators can consider the influence of intersectionality on student identity when designing and preparing new placements and assessing students.

1. Introduction

In the United Kingdom, undergraduate pharmacy students complete a 4-year Master of Pharmacy (MPharm) degree, which must meet the General Pharmaceutical Council’s Standards for the Initial Education and Training of Pharmacists and include clinical placements.1–3 Placements (workplace or experiential learning, akin to Introductory Pharmacy Practice Experiences or Advanced Pharmacy Practice Experiences in the US) encourage students to learn through constructing knowledge and meaning from real-life experience as they move through a cycle of practice, reflection, and refinement of mental models for a task (Kolb’s experiential learning cycle).4,5

Entrustable professional activities (EPAs) are the units of activity that students complete on placement.6,7 EPAs guide participation and assist student progression as supervision decreases over time and students develop professional expertise.8,9 Progression is a gradual transition: from rigid adherence to the EPA procedures, to an intuitive mode of expert operation underpinned by principles of truthfulness, conscientiousness, and discernment.10 Competency-based curricula recognize that interlearner development is variable over time.11 This is a logical complexity given that fixed outcomes contribute to ensuring standards of practice, balanced with individual learners coming to training with variable experiences and skills and consequently attaining competencies at different rates.12

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The solution is to use longitudinal workplace assessment, yet practically, this strains logistical and administrative support when training high numbers of students.\(^\text{12}\)

Newell’s theory of constraints is an established model for the development of physical skills, eg, learning to throw a ball. It distinguishes categories of constraints that can affect skill development: individual, environmental, and task.\(^\text{13}\) Individual constraints are related to personal characteristics, eg, personal identity. Environmental constraints are external to the person, including sociocultural constraints (eg, availability of supervision). Task constraints are specific to the task, such as the complexity or number of steps.\(^\text{14}\) The model is built on learner individuality, where some factors may be more significant than others.\(^\text{15}\) The model has been used in various disciplines but not yet in clinical training.\(^\text{16}\)

There is little published work exploring how undergraduate pharmacy students with different individual factors progress at different rates and trajectories in placements toward mastery, and what this means for the delivery of increasingly clinical pharmacy curricula. Gruppen and colleagues recognize the need to gather better data on learners’ strengths and weaknesses so that delivery of placements can be adapted to individual needs rather than those of groups.\(^\text{17}\) The focus here is understanding which type of learners have a greater need for adaptation and support during placements and how educators can anticipate this and support students accordingly.

2. Aim

This study aims to explore the skill development of undergraduate pharmacy students during placements within a tertiary-care setting. The research questions were (1) how do students experience skill development on placements?; (2) what are the barriers and facilitators to skill development during placements?; and (3) how does Newell’s theory of constraints apply to the skill development of undergraduate pharmacy students on placements?

3. Methods

3.1. Methodology

An interpretative phenomenological approach was used with a constructivist methodology to understand meaning through the experiences of individuals in particular contexts.\(^\text{18}\) Ethical approval was granted by the Faculty of Medical Sciences (Ref:13601/2020). The consolidated criteria for reporting qualitative studies (COREQ) were used (detailed in Appendices A and B).\(^\text{19}\)

3.2. Research Team

A phenomenological approach emphasizes researchers’ involvement in interpreting data, thus implicitly recognizing the importance of the research team.\(^\text{20}\) Most of the research team in this study are pharmacists (C.L.R., A.M., A.P.R., H.N.), primarily working within academia. A.M. has been an educator within medical education; C.L.R., A.P.R., and A.M. are placement supervisors; J.F. is an undergraduate medical student contributing as a research intern; L.L. is a psychologist and qualitative researcher.

3.3. Context

Students in year 3 of the MPharm program (n = 80) took part in placements at a tertiary hospital\(^\text{12}\) (see GREET [Guideline for Reporting Evidence-based practice Educational interventions and Teaching] Checklist\(^\text{21}\)). Each student attended 10 3-hour sessions working in pairs on a ward and completing 2 EPAs: conducting a drug history and providing medication counseling (specifically inhalers, simple analgesia, and non-vitamin-K oral anticoagulants).\(^\text{20}\) Students received training in the EPAs before placement and were provided with paperwork to document activities. A supervisor conducted a briefing and debriefing at each placement and was available for support and supervision (level 3b supervision [ten Cate]).\(^\text{22}\)

3.4. Data Collection

All students who took part in the placements between September 2020 and June 2021 (n = 80) were invited to participate in a focus group (FG). They were contacted via email with an information sheet and consent form. A convenience sample was selected; participants received a £ 10 voucher for participation. A FG guide was developed using works with similar methods to explore skill development.\(^\text{23–25}\); it was used flexibly to enable the sharing of broader thoughts. The discussion moved between open-ended questions related to the task, environment, and individual. FGs were facilitated by J.F. and conducted via Zoom in July 2021. J.F. was not known to the participants but acted as a peer to minimize bias toward reporting positive experiences. An online questionnaire was used to record demographics.

3.5. Data Analysis

Reflexive thematic analysis was applied to the data.\(^\text{25}\) Automatic transcription technology produced a transcript, which was reviewed for accuracy by J.F. and C.L.R.; J.F. kept a reflexive diary and supplemented transcripts with observations and reflections. C.L.R. and J.F. coded the transcripts inductively in discussion with other authors to establish consensus in the data. Codes were grouped moving from descriptive codes to emergent themes, and then through discussion to final themes. Relationships between the codes and themes were considered to represent the connections described by the participants.

Trustworthiness was considered via providing a “thick” description of the intervention and the participant’s perspective to allow the reader to judge transferability to other contexts, in keeping with the chosen methodology.\(^\text{25}\) Reflexivity was crucial to the conduct of the work, as detailed in the results; negative case analysis was incorporated to search for and analyze deviant cases.\(^\text{26}\)

4. Results

4.1. Overview

A total of 5 FGs were conducted with 16 students (2–4 participants per FG). Their length varied from 55 to 79 min (mean 68 min). Each participant was given a code for analysis based on their gender and order of speaking, and they also shared their ethnicity via a questionnaire (Table 1 and 2).

4.2. Phenomenological Analysis

From the phenomenological analysis, 4 themes were identified, as described below and presented in a conceptual map (Fig. 1).

4.3. The task

The placement facilitated the development of skills within the EPAs, which provided structure for activities. This suggests that the EPAs were of an appropriate level of supervision and complexity. The students initially relied on a protocol for completing the EPAs more closely, but with practice and experience tasks became more ingrained and automatic. When this occurred, some students reported feelings of the tasks becoming repetitive, but for others the complexity was suitable for continuous development.
Abbreviations: FG, focus group.

Participant Demographics.

<table>
<thead>
<tr>
<th>FG Number</th>
<th>Participant code</th>
<th>Gender*</th>
<th>Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M1</td>
<td>Male</td>
<td>21</td>
</tr>
<tr>
<td>1</td>
<td>F1</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>1</td>
<td>F2</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>1</td>
<td>F4</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>F5</td>
<td>Female</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>F6</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>F3</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>M2</td>
<td>Male</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>F7</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>F9</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>F8</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>M3</td>
<td>Male</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>F10</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>F11</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>F12</td>
<td>Female</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>F13</td>
<td>Female</td>
<td>21</td>
</tr>
</tbody>
</table>

*Participants were asked to describe their gender as male/female/other (and to self-describe) or prefer not to say.

Summary of Participant Ethnicities.

<table>
<thead>
<tr>
<th>Ethnicity*</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>White British</td>
<td>9 (56.25%)</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>2 (12.5%)</td>
</tr>
<tr>
<td>White Irish</td>
<td>1 (6.25%)</td>
</tr>
<tr>
<td>Black African</td>
<td>1 (6.25%)</td>
</tr>
<tr>
<td>Arab</td>
<td>1 (6.25%)</td>
</tr>
<tr>
<td>Indian</td>
<td>1 (6.25%)</td>
</tr>
<tr>
<td>Mixed (other)</td>
<td>1 (6.25%)</td>
</tr>
</tbody>
</table>

*These data are presented separately to maintain anonymity of participants. Ethnicity groups from the UK Office for National Statistics best practice for collecting data on ethnicity.

Students discussed an increasing trajectory of development and confidence over time. Some students reported skill development plateauing (feeling repetitive); this pertained to skills of conducting the EPAs. Boredom and stagnation were reported less frequently among students who had varied and diverse patient interactions.

"Initially, at the start, that’s when you’re learning how to adapt your communication, how to talk to patients, your confidence is growing, and I think once you get in there, you get in the rhythm of things and everything is just the same, I think there’ll be the odd times where you get thrown a curveball patient and then you learn something new from them. So there was not much growth or learning progression after that. You hit a plateau.” (Participant F8)

EPA-specific skills were obvious to all of the students and contributed to achieving expected behaviors (27) of the EPAs. The skills included those for hosting consultations; skills in handing over patients and appropriate documenting interactions, and applying underpinning clinical knowledge relevant for the EPAs. There was a commonality of adapting skills to the individual patient or circumstances. Some students indicated that they were developing a patient-centered approach but described this as considering patient diversity rather than recognizing it to be patient-centeredness.

"There was a variety of patients. Different ages, different complexities, conditions, and knowledge of their medication, and so I suppose it was just adapting skills to each scenario.” (Participant F4)

Other skills were related to developing behaviors (27) of the EPAs, for example, time management, teamwork, problem solving, rapport building, empathy, professionalism, and self-reflection. These were often embedded among other skills and not necessarily something the students were aware of.

4.5. Personal Identity, Beliefs, and Previous Experiences

Personal experiences contributed to students’ professional identities through shaping their priorities and approach (individual factors). For some, these experiences positively influenced practice.

"Because I couldn’t see my own family members in hospital and, so I kind of took my own kind of sadness in a way into the placement and tried to make a difference. To treat them as if they were like my own family.” (Participant F1)

Conversely, negative experiences, eg, discrimination, made understanding professional identity challenging and created barriers to participation. Some students struggled with managing and negotiating the balance between their personal and professional identities, as evidenced when students did not want to appear unprofessional or uncaring by responding to discrimination when in a professional context. They reported that because they were pharmacy students, they felt that they were unable to address discrimination with patients or staff directly despite being something that they would do in their personal lives.

"One of the patients I saw was very rude to me, and he was being slightly racist, and I didn’t know that we could just leave the patient if we don’t feel comfortable and we can just say ‘I don’t want to talk to you anymore,’ so I just stood there listening to everything he said.” (Participant F12)

Similarly, one student spoke of family members sharing experiences of working in health care, which contributed to an expectation of experiencing racial microaggressions. The following example illustrates a Black student having an additional challenge to navigate because of race.
Students who experienced microaggressions described having to work harder to be able to participate to the same degree as their peers. “I wouldn’t say it was like a bad experience or hindered my learning, but I think, because I wear a hijab, with some cases I think the patients do feel quite uncomfortable at first, and it’s just sort of like doing that extra push to sort of ease them.” (Participant F10)

Conversely, identity was also a facilitator to participation. Where students had a shared experience or element of their identity with patients, participation was more accessible. Examples included having a local accent, sharing a hobby with a patient, eg, football, or speaking a shared language.

(F10) “The patients would warm up to me, and I think, I don’t know if I have a Geordie [local] accent, but—”

(M3 to F10) “You do, I was about to say you’ve got quite a clear one. I don’t know if that would maybe have helped you.”

(F10) “Yeah, so I think they were able to sort of warm up to me because of that.”

Participant F10 has a local accent, is Bangladeshi, and wears a hijab. She describes having experienced both barriers (discrimination and microaggressions related to ethnicity and religion) and facilitators (local accent) to participation and consequently skill development.

4.6. Community of Practice

Students initially described feeling as an inconvenience when on the wards; for some this eased over time. In these situations, the ward represented the environment and the community of practice that the students needed to be a part of. Integration into the community created a sense of belonging, which allowed for further engagement with the EPAs and thus skill development.

“Initially, I felt like a bit of an inconvenience when I went into the wards, so when I was introducing myself to the nurses, I just got in their way, and so with the weeks that went by, they kind of got used to seeing us.” (Participant F5)

Students perceived themselves as not being part of staff, but in their own group. Students described success when staff members “granted” access.

“A couple of times. there was a doctor or consultant, and as soon as he’d talk to you. people would be more respectful and sort of let you do what you needed to do, whereas if no one made that first chat. then they were a bit more like, ‘We need you to move.’” (Participant F9)

Students did not want to physically intrude on ward staff, which affected their ability to perform the EPAs. “Sometimes it was difficult to actually do your. notes, because there isn’t anywhere to do it; I mean depending on the ward, if it was a slightly bigger ward, we’d just steal one of the chairs from the nurses’ station and try and do it there.” (Participant F2)

Some students were unable to integrate into, and consequently felt uncomfortable within, the community because they had been made to feel unwelcome by staff. This affected their experience and made it difficult to focus on tasks.

“If the staff were good and the whole place was sort of calmer, I felt like you could just stand there and talk to patients for ages, and they’d teach you a lot of things; I think that was much more beneficial. If it was busy or if I felt unwanted, I was getting out as soon as I could. I just felt like it was overwhelming.” (Participant F9)

Access to the community of practice was a greater challenge for students at risk of microaggression or discrimination, and this further acted as a barrier. The following example of Participant F5, who wears a hijab, describes the impact of microaggression.

“I spoke to the nurse and she kind of passively told me to be bare below the elbows, even though I was going to do that anyway; that kind of set the tone for my day, and I felt a bit down after hearing that, so like weeks after that getting nervous to speak to the nurses.” (Participant F5)

5. Discussion

All students reported skill development through the placements; however, the types and extent varied. Considering this within literature related to how EPAs function, some students described working at expected behaviors and some remained working within developing behaviors. Integration into the community of practice was key to skill development, with ward staff acting as gatekeepers. Personal identity was also key, with some students facing discrimination or microaggressions, although others experienced smoother integration; emotive experiences appeared to be particularly germane. A key finding is that these factors may present as intersecting factors of skill development. This is not dissimilar to playing a game of snakes (chutes) and ladders with students being faced with competing factors of barriers (snakes/chutes) and facilitators (ladders).

To our knowledge, this is the first study exploring the relationship between skill development, individual student identity and behavior, and placement environments. To date, health care training has focused on being objective and standardized, but this work demonstrates that individuals may have barriers to participation (and consequently skill development) regardless of placement design or tasks. Where a student is challenged by emotive encounters, eg, microaggressions, these appear to contribute to the cognitive load of the student as an extraneous load (distraction from the task). This may explain why individual students have varying trajectories in reaching EPA milestones and highlights that placement design and infrastructure (eg, formative assessment, supervision, and orientation to the site) represent opportunity for self-reflection on behaviors that can influence progress within EPAs.

The findings represent skill development through placements in ward environments as a complex social process, under the influence of social hierarchy, culture, and unconscious biases. This is further supported by evidence of higher perceptions of unfair treatment in clinical settings from ethnic minority students, evidence that students from ethnic minority backgrounds may experience stress due to increased pressure to change their individual behaviors to counteract anticipated negative stereotypes, and evidence of intersectionality influencing the success of clinical training. Intersectionality is a framework that acknowledges that all people have unique experiences of discrimination and disadvantage exacerbated by the overlap of multiple social identities. This supports our suggestion that social context (the environment) and the role of individual identity (the individual) may play a role in student behaviors and attainment toward EPAs (the tasks) during placements.

Returning to Newell’s theory, the model described in this study is not of physical environment, physical ability, and task, but of the community of practice, personal identity, and EPAs. Some of this is captured in the theory of longitudinal clerkships, as a form of...
placement. Thistlethwaite and colleagues concluded that continuity of one or more of the following was important for student performance: patient care, supervision and mentorship, peer group, and location. The influence of intersectionality, unconscious bias, or microaggressions within ward settings and in particular interactions with staff to access the social context of the ward (ward culture) is not discussed, but could fall under what Thistlethwaite describes as “quality of participation” (how well a student can participate in a placement), which is recognized as important for effective longitudinal placements. Conversely, social context is recognized to affect professional identity formation, where placements are as much about learning to speak and act as a professional as they are about learning the curriculum content; however, what remains lacking within this is consideration for diversity of individuals.

6. Implications

This study highlights the importance of educators having an awareness of the effect of individual student identities on behavior during placements. Educators could consider this in placement setting, design, and management through integrating meaningful formative assessment and reflection to promote increased awareness of self, relative to trajectory through EPAs. The increased focus on decolonizing and diversifying pharmacy curriculum is timely given these suggestions. This is anticipated to increase acknowledgment and management of intersectional identities in assessments of participation and performance within placements.

7. Limitations

This study examines a scarcely investigated area, and the methodology has allowed for a detailed description of the phenomena as described by students. Limitations include the focus on a single placement type in a single profession and at a single hospital, which potentially limits transferability. However, the specific context has been detailed to allow judgment on this. One FG had only 2 participants because of unexpected absences; it is possible that this FG had less interparticipant discussion or conversely a greater depth of discussion due to fewer voices to be heard, and is not anticipated to have changed the overall understanding of the phenomena.

Further research could identify strategies for recognizing and addressing the opportunities and challenges in performance and student learning with regard to individual identity and experiences within a community of practice. The applicability of the phenomena described could be explored in other professions and settings.

8. Conclusion

Factors related to the task (EPAs), environment (community of practice), and individual (identity and behaviors) can act as barriers and facilitators to skill development during placements. For some, these factors will be more prevalent and can compete and intersect, which can be conceptualized as a game of snakes (chutes) and ladders. Educators can consider the influence of varied student identities and resulting behaviors when designing and facilitating placements.

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None declared.

CRediT authorship contribution statement

All authors planned and designed this study, with J.F. conducting the focus groups. All authors were involved in the analysis and interpretation of the data and the drafting of this manuscript.

Acknowledgments

The authors would like to acknowledge the students and patients who took part in these placements and consented to their stories being shared.

Declaration of Competing Interest

None declared.

Appendix A. The consolidated criteria for reporting qualitative studies (19)

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<th>Number</th>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOMAIN 1: RESEARCH TEAM AND REFLEXIVITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Interviewer/facilitator</td>
<td>JF</td>
</tr>
<tr>
<td>2</td>
<td>Credentials</td>
<td>listed in the author information and under reflexivity</td>
</tr>
<tr>
<td>3</td>
<td>Occupation</td>
<td>See reflexivity</td>
</tr>
<tr>
<td>4</td>
<td>Gender</td>
<td>JF is male</td>
</tr>
<tr>
<td>5</td>
<td>Experience and training</td>
<td>JF was trained in conducting focus groups and had regular discussions with CR and AM to reflect</td>
</tr>
<tr>
<td><strong>Relationship with participants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Relationship established</td>
<td>JF was not known to the participants prior</td>
</tr>
<tr>
<td>7</td>
<td>Participant knowledge of the interviewer</td>
<td>JF’s being a medical student was made aware to participants at the start of the focus groups to encourage students to relate to JF as a peer rather than a researcher</td>
</tr>
<tr>
<td>8</td>
<td>Interviewer characteristics</td>
<td>See reflexivity</td>
</tr>
<tr>
<td><strong>DOMAIN 2: STUDY DESIGN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Methodological orientation and Theory</td>
<td>An interpretative phenomenological approach with a constructivist methodology</td>
</tr>
<tr>
<td><strong>Participant selection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Sampling</td>
<td>Convenience sample (n = 16) from the students who had taken part in the placements in 2020/2021 (n = 80)</td>
</tr>
<tr>
<td>11</td>
<td>Method of Approach</td>
<td>Emailed by CR</td>
</tr>
<tr>
<td>12</td>
<td>Sample Size</td>
<td>n = 16 across five focus groups</td>
</tr>
<tr>
<td>13</td>
<td>Non-participation</td>
<td>n = 2 potential participants consented to participate but then did not attend due to clashing schedules</td>
</tr>
</tbody>
</table>
Setting
14 Setting of data collection Remotely via Zoom
15 Presence of non-participants NA
16 Description of sample presented in Tables 1 and 2

Data collection
17 Interview guide Can be obtained by contacting the authors; discussion moved between the task, environment, and student within skill development
18 Repeat interviews NA
19 Audio/visual recording Audio and video recorded
20 Field notes JF kept a reflexive diary throughout focus groups to note down observations and reflections
21 Duration Varied: 55–79 min (mean 68 min)
22 Data saturation For the major themes data saturation was achieved after four focus groups
23 Transcripts returned NA

DOMAIN 3: ANALYSIS AND FINDINGS

Data analysis
24 Number of data coders CR and JF coded with discussions with AR and AM
25 Description of the coding tree Please contact the authors for access
26 Derivation of themes Iterative identification
27 Software NVIVO V11
28 Participant checking NA

Reporting
29 Quotations presented Quotations presented throughout
30 Data and findings consistent Both quotations and interpretations are presented to allow judgement of the consistency of data and findings
31 Clarity of major themes Presented as part of the Figure
32 Clarity of minor themes Diverse and minority cases are highlighted

Appendix B. guideline for reporting evidence-based practice educational interventions and teaching (GREET) checklist (21)

BRIEF NAME
1. Intervention Students in year three of the Master of Pharmacy programme (n = 80) no controls or comparators

WHY
2. Theory Experiential ward-based learning and longitudinal clerkships
3. Learning objectives Complete two entrustable professional activities (EPAs):
   - Conduct a drug history;
   - Provide medication counselling for inhalers, simple analgesia and non-vitamin K oral anticoagulants (NOACs).
   The aim of these were to:
   - Develop skills relevant to clinical practice as a pharmacist;
   - Apply learning from other areas of teaching to patients and clinical situations and;
   - Develop person-centered communication.

4. EBP content The content was based on the steps in the evidence-based practice process, how to ask and identify answerable clinical questions, finding, appraising, and applying evidence and integrating this with clinical expertise and the patient's values and experiences

WHAT
5. Materials Each EPA had an accompanying student protocol. For each patient students completed paperwork using a subjective, objective, action and plan (SOAP) structure. Pre-placement training included examples and practice opportunities as well as didactic information. Supervisors used briefing and debriefing checklists for consistency
6. Educational strategies Sessions used the structure of a work-based learning placement. Pre-placement training was in-person and self-directed
7. Incentives Placement participation was a requirement of the programme £10 online voucher for focus group participation

WHO
8. Instructors All facilitators (AM, AR and CR) were pharmacists working in academia/hospitals
   All used a consistent approach to supervision and were trained

HOW
9. Delivery Face-to-face, students attended in groups of 6–8 who were split into pairs. Pairs and wards varied across the year

WHERE
10. Environment Single tertiary hospital in the United Kingdom. The wards were from a bank of seven wards used for pharmacy teaching. Individual students attended a mixture of wards depending on the availability of patients. The briefing and debriefing took place near to the pharmacy department, away from the ward

WHEN and HOW MUCH
11. Schedule Each student attended 10 × 3-hour sessions (once fortnightly). A session included a briefing, ward time and a debrief
12. Timing Minimum of 40 min with supervisor per session; higher when individuals required additional supervision
   Students were indirectly supervised by surrounding ward staff

CHANGES
13. Planned changes Additional sessions (n = 4) were arranged when students missed sessions due to illness
14. Unplanned changes No unplanned changes

References


16. Delivered as pla-

17. All sessions were delivered as scheduled.