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RESEARCH ARTICLE

What do preceptors want? A mixed methods study exploring pharmacist preceptor perceptions of their training and support needs at a regional Australian University

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Keywords

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Abstract

Background: Global demand for work-ready pharmacy graduates has highlighted the role of pharmacy preceptors and the need for training and support from universities. There remains a lack of consensus on the ideal requirements for preceptor training programmes. **Objective:** To assess community pharmacy preceptor training and support requirements at a regional Australian University. **Method:** A mixed method study using an online survey of community pharmacy preceptors of James Cook University, followed by qualitative semi-structured interviews. **Result:** 55 preceptors completed the survey, and ten interviews were conducted. Preferred programme content included role clarification, a curriculum outline and management of poorly performing students. Demands on individuals' time and workloads support a flexible online approach to training and highlight the importance of institutional support for optimal preceptor engagement and retention. **Conclusion:** Good teaching and communication skills were considered by preceptors to be essential for their primary role in linking theory to practice for pharmacy students during experiential placements.

Introduction

Preceptors play a major role in the development of work-ready pharmacy graduates, and their input into pharmacy programmes globally continues to increase (Lucas *et al.*, 2018; Enderby *et al.*, 2021). As practising pharmacists, preceptors provide a vital link between theory and practice by acting as a role model to guide pharmacy students, interns, foundation trainees and residents in the workplace as they transition to registered health professionals (Vos & Trewet, 2012; Fejzic, 2013; Knott, Mylrea & Glass, 2020). With experiential learning accounting for approximately 30% of the United States Doctorate of Pharmacy (Pharm.D.) curriculum (Vos & Trewet, 2012; Assemi, Corelli, & Ambrose, 2011), much attention has been focused in recent years on the quality of preceptors, with many accreditation bodies now mandating training for

preceptors, to ensure that they possess the necessary competencies to fulfil their educational role. Guidelines recommend that preceptors are orientated to their programme and provided with appropriate preceptor development to align with their responsibilities (ACPE, 2016; APC, 2020; CCAPP, 2020; GPhC, 2021).

With the need for training being widely accepted, the focus has now moved to the design, development, and delivery of preceptor training programmes. However, the currently available guidelines for preceptor development are broad and provide no in-depth guidance on the design and delivery or the ideal content for inclusion in these programmes (O'Sullivan *et al.*, 2020). Furthermore, while quality standards are under consideration, there are, at this stage, no set competency standards for pharmacy preceptors (Bartlett *et al.*, 2020; Walter, Mulherin, & Cox, 2018). In recent years the landscape for experiential placements

has been changing. In addition to the traditional community and hospital pharmacy placements, other specialised placement sites are being utilised, such as industry, professional organisations, specialist hospital clinics, general practitioner clinics and rural and remote practices (Lucas *et al.*, 2018). Due to this wide range of experiential placement sites and lack of detail on training requirements, a diversity of preceptor training programmes exist (Knott, Mylrea & Glass, 2020).

A recent study in the United States found that preceptor orientation and professional development strategies did not always meet the required Accreditation Council for Pharmacy Education (ACPE) standard and that programmes varied widely (O'Sullivan *et al.*, 2020). Furthermore, there remains an overall lack of published literature on the ideal elements of a training programme in terms of resource allocation, delivery mode, orientation and preceptor development strategies and supports (DeAngelis & Wolcott, 2019; O'Sullivan *et al.*, 2020, Knott, Mylrea & Glass, 2020). A scoping review of preceptor training programmes in 2020 revealed that most published programmes originated in the United States and were developed for either undergraduate or postgraduate preceptors, with some programmes being general and some being specific to preceptors in community or hospital pharmacy. Delivery of training was predominantly by face-to-face seminars or web-based modules, often including a preceptor manual. The content of preceptor training programmes was variable but would, in most cases, include some basic teaching and communication skills and guidance on the provision of student feedback. Preceptor support measures outlined included newsletters, support networks, training manuals and preceptor mentoring (Knott, Mylrea & Glass, 2020).

A structured, evidence-based approach to preceptor training has been recommended, with some flexibility to meet the diverse needs of pharmacist preceptors (Lucas *et al.*, 2018, Knott, Mylrea & Glass, 2020). Prior to the development of a programme, it has been found to be important to identify the primary role of the preceptor, as well as their ideal skills and attributes (Young *et al.*, 2014). In addition, an assessment of the current learning needs of preceptors is important to guide programme development (Vos & Trewet, 2012).

This study aimed to identify the training and support requirements of community pharmacist preceptors who are involved in the training of James Cook University (JCU) undergraduate pharmacy students to inform the development of a preceptor training programme.

Methods

Study design

The James Cook University (JCU) Bachelor of Pharmacy (B.Pharm.) HONS programme requires pharmacy students to undertake 600 hours of experiential placement, which is supported by a cohort of approximately 350 pharmacist preceptors across both community and hospital pharmacy. These preceptors are provided with an electronic preceptor manual and supported by an academic placement coordinator. While an Australia-wide training programme is offered to preceptors of intern pharmacists (AHPRA, 2021; Pharmacy Guild of Australia, n.d.), currently, there is no generic training programme available to all universities for preceptors of undergraduate students.

The study utilised an explanatory sequential mixed methods approach and included an online cross-sectional survey of current JCU pharmacy community pharmacy preceptors, followed by qualitative semi-structured telephone interviews with a sample of preceptor respondents. Ethics approval for this project was granted by the JCU Human Research Ethics Committee (H8276), and informed consent was obtained from each participant prior to the survey and telephone interviews.

Survey

A 28-item anonymous electronic survey was administered using the online platform Qualtrics and distributed to all of the 250 JCU community pharmacy preceptors. The development of the survey questions was informed by previous studies on preceptor training (Young *et al.*, 2014; Condrey, 2015; O'Sullivan *et al.*, 2015; Lucas *et al.*, 2017). The survey used open, closed, multiple answer and Likert scale questions to investigate preceptor perceptions on their training and support requirements, which included preceptor roles, ideal skills and attributes, preceptor confidence levels for the various roles and the benefits and barriers to precepting. Preferences in terms of design and delivery of a training programme and training and support needs were also investigated. Face and content validity of the surveys were analysed during the pilot prior to administration, using two pharmacy academics and two community pharmacists. The estimated survey completion time was 15 to 20 minutes.

Interviews

Following the completion of the survey, preceptor respondents were invited to participate in a semi-structured follow-up interview to further explore in-depth their perceptions of the role and important attributes of a preceptor, enablers and barriers to good precepting, and their training and support preferences.

Interviews were conducted by phone at a time chosen by the participant and were audio-recorded. Two pilot interviews were conducted to check for question clarity and timing of the interview.

Data analysis

Surveys were analysed using SPSS (SPSS 27 Statistics for Windows, Armonk, NY: IBM Corp), with descriptive statistics being employed for the quantitative data. Chi-squared tests were conducted to examine associations between variables within the dataset, with significance set at $p < 0.05$.

Preceptor interviews were transcribed verbatim and imported into NVivo qualitative analysis software (NVivo; QSR International Pty Ltd, Version 12, 2018) and analysed by qualitative thematic analysis using the process outlined by Braun and Clarke (Braun & Clarke, 2006). All interviews were read and examined thoroughly, then broadly categorised according to preceptor roles, skills and attributes, enablers and barriers to precepting, training preferences and support requirements. Following this process, initial codes were generated, and data were then grouped into themes. These themes were reviewed and refined and then presented throughout the manuscript, along with illustrative quotes.

Results

Sixty-two survey responses were received, with 55 responses being complete, giving a response rate of 22.0%. 63.6% of respondents were female, and most pharmacists (83.6%) worked in a practice which employed one to two pharmacists. Almost all pharmacists had graduated with a B.Pharm. from a Queensland university, with seven of the 55 preceptors having additional qualifications. In terms of preceptor experience, 63.6% of respondents had been a preceptor for three or more years, while 12.7% had never precepted a student or intern. 43.6% of preceptors had supervised more than ten students, while 16.4% had precepted more than 20 students. Most preceptors (83.6%) had not undertaken any previous preceptor training.

Of the 19 preceptors who had agreed to participate in an interview, ten were chosen with purposive sampling applied to ensure a wide range of preceptor characteristics, including gender, years of practice and practice location. Of the ten preceptor interviewees, eight were female, and two were male, with five having more than ten years of precepting experience and five out of the ten being based in a rural area, which reflects

the JCU preceptor cohort. The average length of the interview was 25 minutes.

Preceptor role

Based on the interviews, the predominant theme within the role of the preceptor was their linking of theory to practice. Preceptors are seen as introducing the student to the reality of a working community pharmacy. Through their actions, they are thought to provide real-world experiences in a setting where the student may practice in the future.

Preceptors are also seen as educators and mentors to provide guidance, oversee students during placement and assist with workbook activities, in addition to assisting in developing student knowledge.

'I guess the primary roles of the pharmacist preceptor would be to train on the everyday workings of a pharmacy, but also to help develop the student as far as drug knowledge, forensic knowledge - I know we get taught a lot of that at university but kind of, how it relates to real life situations.' [Preceptor 1]

While the provision of feedback was seen as an important role, interviewees had some difficulty in defining the role of the preceptor in terms of assessment, as it was believed that assessment, particularly of theoretical knowledge, is predominantly the role of the university. However, preceptors felt that they had a role to play in assessing professional behaviour, confidence, and practical skills. Some preceptors indicated that training was required for them to formally assess students, with lack of time often limiting their ability to undertake this task.

'I think feedback's the most important thing, more so than assessing there's not going to be a standardised assessment, because every preceptor will have a different opinion whereas feedback is that's the best way to do it, you know, as soon as they've finished their counselling or you could do it at the end of the day' [Preceptor 2]

Preceptor skills, attributes, and confidence levels

Preceptors in the survey considered the importance of a range of preceptor skills and attributes, and the results are presented in Figure 1. While most of the listed attributes were thought to be very important or important to preceptors, the most important skill was found to be effective communication and counselling, and this was followed by interest and enthusiasm for precepting. Of least importance was familiarity with the pharmacy curriculum and being able to manage unmotivated or poorly performing students.

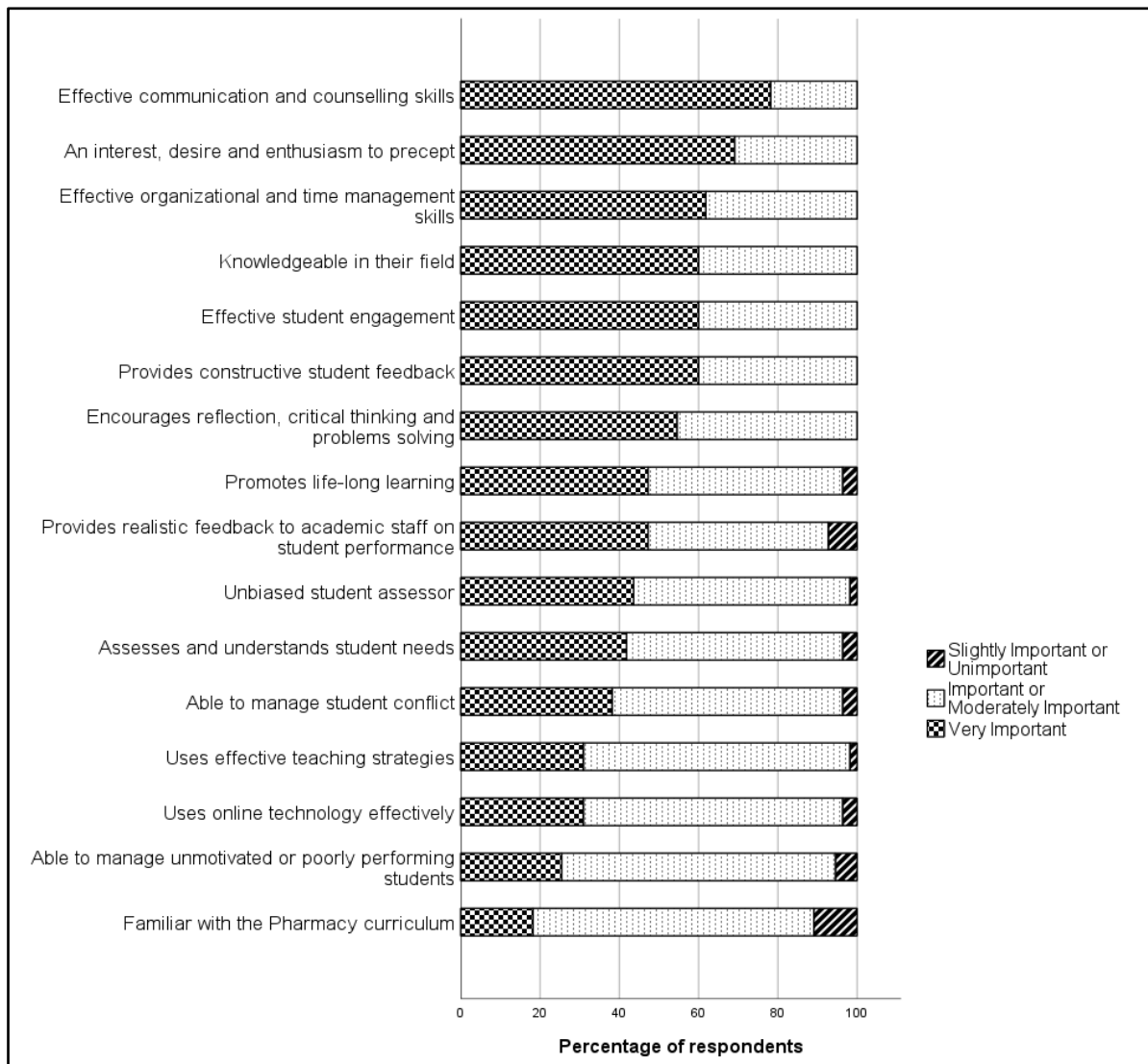


Figure 1: Importance of preceptor skills and attributes (n = 55)

Additionally, the survey found that important preceptor attributes included being ‘passionate about being a pharmacist’, being ‘patient with students’ and having ‘experience in management’. Interviewees also identified skills including time management, leadership, motivating and inspiring students, being knowledgeable and competent, being adaptable in their teaching style and having the ability to provide negative feedback.

‘That they know what they’re doing. That they’re well spoken. That they’re considerate. That they’re knowledgeable. That they inspire the student.’ [Preceptor 10]

‘I think that the biggest one is adaptability, particularly in their ability to be able to change their teaching style to suit the role of the student Because everyone learns a little bit differently’ [Preceptor 3]

Preceptors were also asked in the survey to rate their confidence levels across a range of different precepting skills. Preceptors were most confident in demonstrating effective patient counselling, clinical decision-making, and evidence-based practice. They felt least confident in the areas of managing conflict involving a student and discussing poor feedback with students (shown in Figure 2).

Following chi-squared testing, it was found that there was no association between preceptor experience (in terms of the number of student supervisions as well as years of practice as a pharmacist) and preceptor confidence in most of the skills listed in Figure 2. However, there was a positive association between the number of student supervisions and preceptor confidence in discussing poor feedback with students ($\chi^2 = 8.9, p=0.003$).

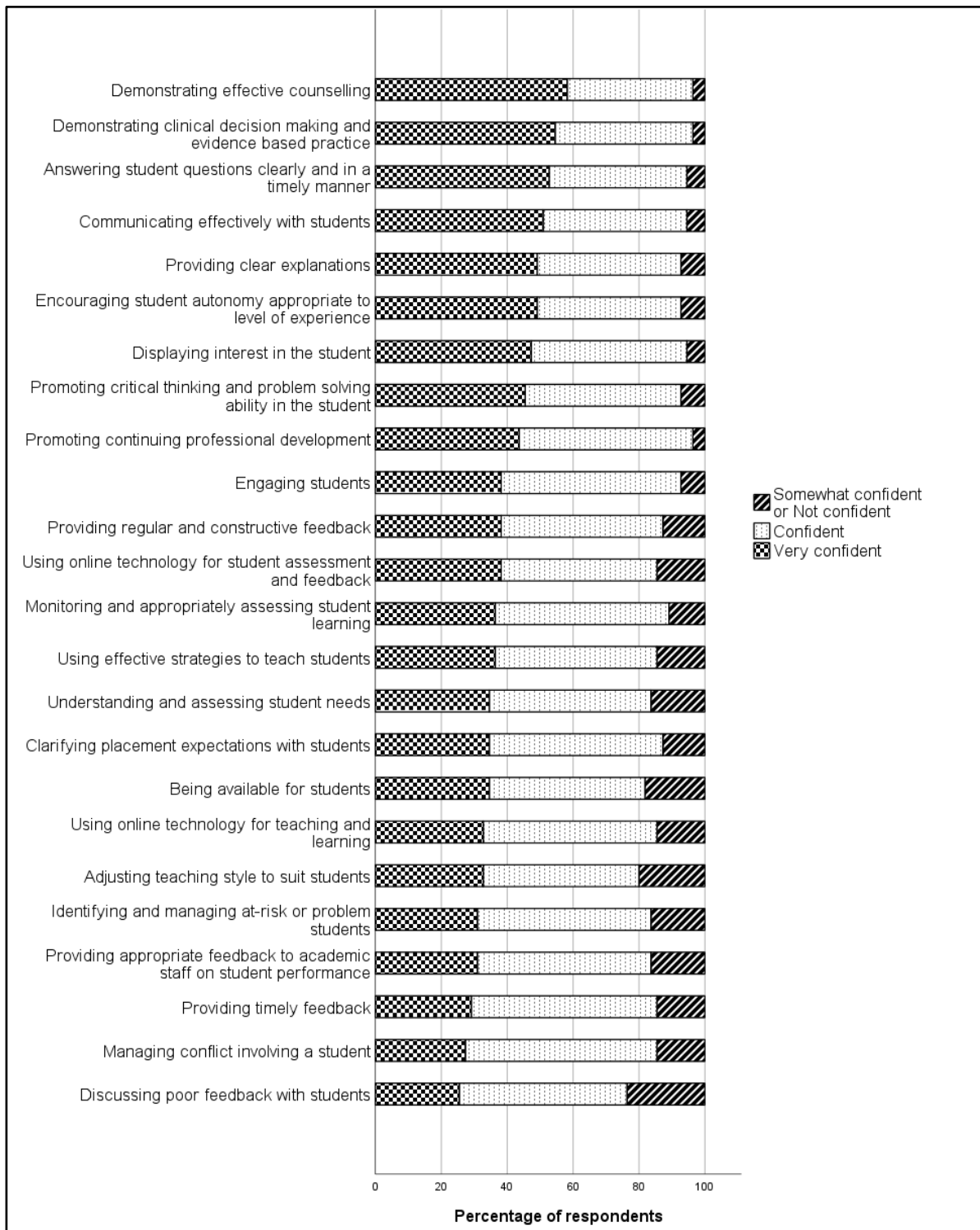


Figure 2: Preceptor confidence levels (n = 55)

Preceptor training

Online training was considered the method of choice to deliver a preceptor training programme, with 60% of survey respondents choosing this format and a further 29% choosing a combination of online and face-to-face

training. Many preceptors explained that while the current preceptor manual was useful for the process-driven tasks, an online module or interactive session, or a combination, would be additionally useful. While a face-to-face component to training would be desirable,

restrictions of work, family and distances would make this impractical. Other suggestions included a webinar or a voice-over power-point module and the use of the Zoom interactive platform.

'My preference would probably be an online course in the form of a module – being in a rural place, it would be difficult to come for a face-to-face training so online is always good but I do like the manuals as well' [Preceptor 1]

'[interactive session] it mightn't be a bad idea to have preceptors to engage with each other so that they can, I don't know, bounce off each other

and see who's motivating and perhaps encourage each other a bit more.' [Preceptor 9]

Most suggested content areas for training were regarded in the survey as moderately important to very important, with the most important topics being dealing with unmotivated or poorly performing students, preceptor time management and identifying factors that may affect student performance. Of least importance to preceptors was the provision of information on the structure of the JCU pharmacy curriculum. Results are shown in Figure 3.

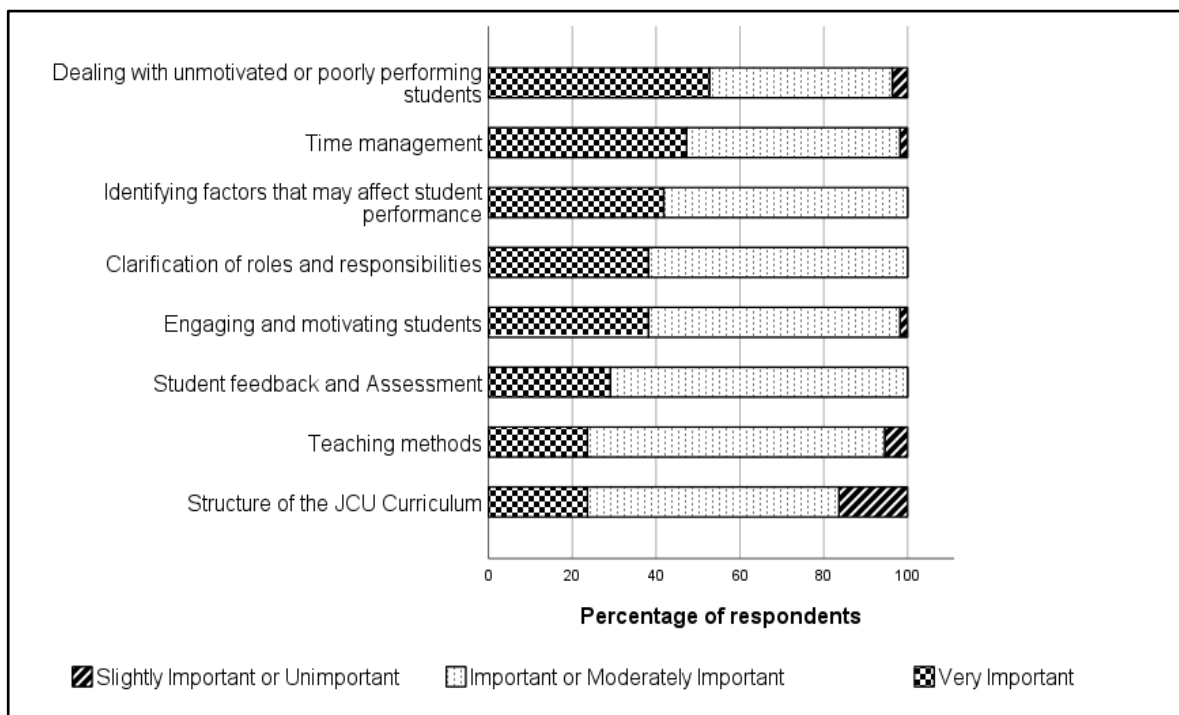


Figure 3: Preceptor importance of content for a training programme (n = 55)

During the interviews, the most common request for content inclusion in a preceptor training programme was a general overview of the level of skills and knowledge of the placement student to provide optimal guidance to that student. Some information on teaching skills was felt to be valuable, particularly the identification of different student learning styles, the best way to communicate with students and how to deal with difficult behaviour.

'Basic teaching skills would be good, that's something you don't learn at Uni. You know, just some basic teaching skills, being able to pass on knowledge.....' [Preceptor 3]

'I'd like to know where students are up to in their learning and what needs to be achieved in the placement.' [Preceptor 4]

'I guess, probably how to deal with difficult behaviour. So, if you're having students that..... maybe need more guidance how to deal with that.' [Preceptor 6]

Following chi-squared testing, there was found to be no association between the experience of the preceptor (number of student supervisions as well as years of practice as a pharmacist) and their preferences for content areas for training. However, there was a negative association between the number of student supervisions and the requirement for training to

include the structure of the JCU curriculum ($\chi^2=5.2$, $p=0.022$).

There were mixed views on making preceptor training compulsory, with 23.6% of survey respondents saying yes and 41.8% saying no. 34.6% were unsure, with preceptors again identifying the issue of time and workload. Although compulsory training may be an advantage in terms of assuring precepting consistency, it was felt that the additional time commitment might be a burden to an already busy health professional. An emphasis on flexibility of training and incentive payments were regarded as ways to promote participation in training, as well as the provision of CPD points for training. Regardless of their view on compulsory training, 85.5% of preceptors in the survey indicated that they would be either very likely or likely to attend training if it was provided.

'..... but I don't believe you can make training compulsory unless you pay the preceptor for that role because there's no incentive. They'll just say, "If it's compulsory, then I won't take a student".' [Preceptor 5]

Preceptor support

Preceptors had mostly positive opinions of the current level of support provided to them by JCU, with 61% of

survey respondents reporting that they received good to excellent support. In the main, interview respondents found that placements run quite smoothly, and that support was of more benefit for the relatively new preceptors.

'Yeh, I think it's very good you always do check-ins everything like that ... we know that you are there if we have any concerns or anything... so ... we've never had any issues and it's always been very positive we've always had good support.' [Preceptor 2]

The most important preceptor support measure was acknowledgement for preceptor time, although the preferred method of acknowledgement varied, with many being happy with the traditional wall plaques and letters of appreciation. The ability to access university databases and resources was also considered to be important (this is shown in the results shown in Figure 4).

'I couldn't care less about awards or certificates, but CPD points would be great'

'Access to University content - for any possible skill gaps on my part, should students have any questions for subjects I may not have studied for several years.'

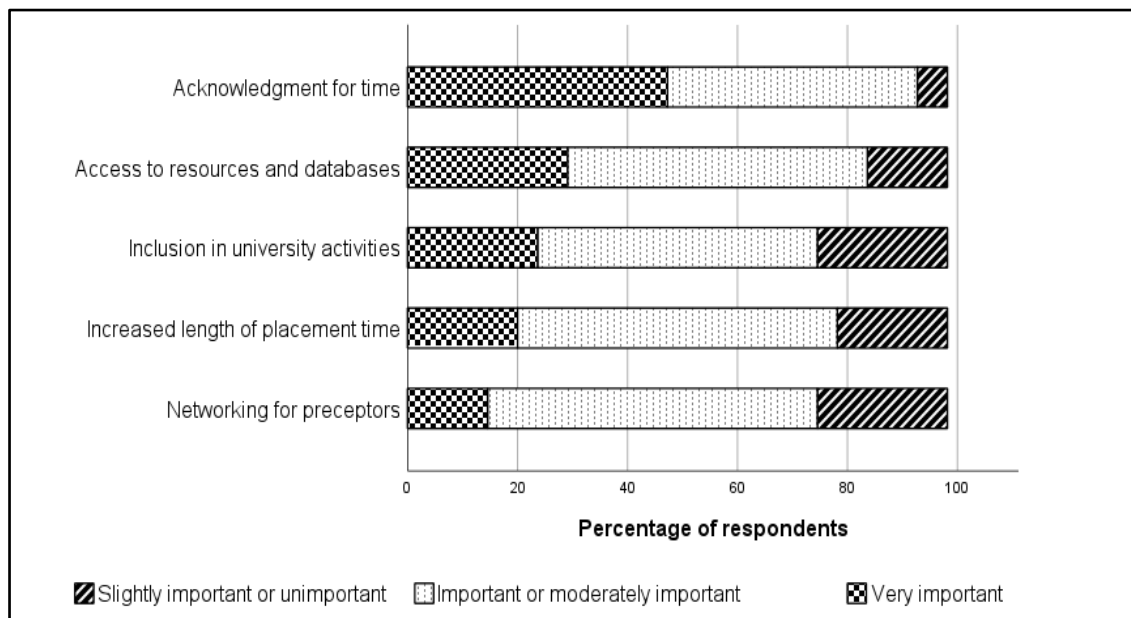


Figure 4: Preceptor importance of support measures (n = 55)

Several preceptors felt that they would appreciate additional involvement in university educational activities, particularly in the final year of the degree.

'I think that would be fantastic if they could be [more involved in school activities], yeah. And access to some university resources would be great.' [Preceptor 8]

Barriers and enablers to precepting

The survey and interviews identified that the most significant barrier to precepting was a lack of time, reflected in the high workload of pharmacist preceptors, especially those in community pharmacies with only one pharmacist on duty. Consequently, time management was reported to be an important skill for preceptors (Figure 1). Other potential barriers to effective precepting included lack of training for this role, appropriate knowledge to precept, remuneration, and space or site capacity in the pharmacy to accommodate a student.

'..... so that balance of trying to find that best experience for the student and the realities of the day, is a little difficult.' [Preceptor 5]

'[Barriers to precepting] Not having the skillset themselves to feel that they can guide. So not having enough years of experience themselves, so they don't have the time or resources to provide feedback themselves. So that's probably the biggest barriers; time, skillset, and confidence.' [Preceptor 10]

Preceptors are not remunerated for their precepting and while the majority of preceptors did not expect payment, it was suggested by some that remuneration would be useful to employ additional staff to precept, as well as for time to attend preceptor training. However, the option of having CPD points allocated to training was thought to be preferable to remuneration.

'I think it would be great if preceptors did a course and were paid to do it because it's hard to find the time to do these things unless they're scheduled in or at least that doing a preceptor course creates CPD points for their participation' [Preceptor 4]

Preceptors were very positive about training as an enabler to precepting, as well as about the benefits of the current JCU preceptor manual, but felt that more information about the different year levels and what the students are learning would be useful, as well as information on the best way to teach students. One interviewed preceptor highlighted the importance of the student themselves being organised.

'I would like a plan if I had a clear cut 'these are the topics that are being focused on but also, I find it easier to have a student when they are organised and they have clear goals like they're taking responsibility for their learning in a way as well' [Preceptor 1]

In the survey, preceptors were asked how long a pharmacist should be registered to practice prior to becoming a preceptor, with 32 respondents (58.2%)

saying between two and three years. Three respondents out of 55 were of the opinion that it would depend on the characteristics of the individual pharmacist and was not necessarily related to time, with one respondent elaborating:

'I believe the competency of a pharmacist as a preceptor largely depends on attitude, leadership capacity, and commitment to education of self and others. Early career pharmacists may be as well placed as more experienced pharmacist preceptors, particularly given their recency of experience as students/interns.'

One preceptor felt that they should be able to precept students immediately on registration but should be registered for two years prior to supervising intern pharmacists.

Discussion

This study has found that there is strong support for a pharmacist preceptor training programme at JCU, with delivery via a flexible online approach considered most appropriate. Programme content should be closely aligned with JCU preceptor roles, skills and attributes and should likely include basic teaching skills, conflict management and feedback and assessment training. Current preceptor support is reported to be positive overall, with some suggestions for additional involvement in educational activities in the Pharmacy Programme at JCU.

The role of the preceptor can be defined using the educational model outlined by Condrey (2015). At the centre of this model is their primary role of linking theory to practice, which was the predominant theme identified by pharmacist preceptors in this study. This requires that preceptors use their skills in four main areas, as a role model, mentor, educator, and assessor. As outlined by Condrey (2015), the development of content for a preceptor training programme can be based on the reinforcement of the key concepts associated with these four preceptor skills, with the aim of strengthening the preceptor's ability and confidence in these areas. Identification of key preceptor attributes linked with these preceptor skills is also important as these may also be developed as part of the training programme. A study conducted in 2014 (Young *et al.*, 2014) about student perceptions of a good preceptor identified the most important attributes as being a good role model, showing interest in teaching and relating to students as an individual, which are consistent with the role of a preceptor in Condrey (2015)'s model.

As a role model, preceptors should lead by example, which allows the student to observe and then emulate the actions of the experienced preceptor to develop their own knowledge, attitudes, and practice, as well as a sense of professionalism. A good role model should be knowledgeable and have effective communication skills (Bochenek *et al.*, 2016). It was noted that having 'effective communication and counselling skills' and being 'knowledgeable in their field' were also identified by preceptors as important skills and preceptor confidence in these areas was correspondingly high (Figure 1). Reinforcement of these attributes of a role model and a focus on good communication skills would therefore be a useful inclusion in a preceptor training programme.

As a mentor, preceptors work alongside the student and guide their actions and activities. The essential skills of a mentor would include engaging and motivating students and being able to manage student conflict (Young *et al.*, 2014). Preceptors in this study felt that being interested and enthusiastic about precepting was important. A study of student perceptions of the behaviours of excellent preceptors supported this view by identifying important attributes as having an interest in student learning, making time for students, and displaying a positive preceptor attitude (O'Sullivan *et al.*, 2015). Managing conflict and dealing with unmotivated students, however, was regarded as less important in this study, with correspondingly lower preceptor confidence levels in these areas. Conflict between preceptors and learners was reported to be quite common and lack of confidence of pharmacy preceptors in handling conflict has also been frequently described (Assemi, Corelli, & Ambrose, 2011; Smith *et al.*, 2020; Kendrick *et al.*, 2021). With conflict resolution being regarded as an aspect of professionalism, training in conflict management has been recommended (Kendrick *et al.*, 2021).

As an educator, preceptors should supplement knowledge learnt in the classroom and facilitate the application of theory to the practice. For this purpose, preceptors should be orientated to the university curriculum and be confident in using effective teaching strategies to encourage students to reflect, think critically and problem solve (DeAngelis & Wolcott, 2019; Enderby *et al.*, 2021; O'Sullivan *et al.*, 2020). Familiarity with the pharmacy curriculum was rated lower in importance for preceptors in this study, which may be related to the high proportion of preceptors (47.3%) having studied at JCU and therefore already having a good knowledge of how the course is structured. Preceptors, however, placed high importance on being provided with a general overview of the expected knowledge and skills of their allocated

student, thus enabling them to tailor their precepting to suit the student.

Teaching methods were not regarded as an important area for preceptor training, with a correspondingly low confidence level in using effective teaching strategies. However, preceptors identified the need for a training programme to include an overview of different learning styles and highlighted the overall importance of skills to manage students, as both areas are not taught in their university degree. Studies have demonstrated an improvement in preceptor confidence in their teaching skills following a training programme (Pogge *et al.*, 2019; Smith *et al.*, 2020; Le *et al.*, 2022). Teaching skills and strategies such as the One-Minute Preceptor, clinical reasoning and critical thinking are examples of content that have been included in some programmes (Enderby *et al.*, 2021; Le *et al.*, 2022). Educational strategies are a frequent programme request from preceptors (O'Sullivan *et al.*, 2015; O'Sullivan *et al.*, 2020) and are included in most preceptor training programmes (Sylvia, 2019; Knott, Mylrea & Glass, 2020; Smith *et al.*, 2020).

As an assessor, the preceptor is required to examine the performance of the student in the practice. A critical component of being an assessor is the provision of feedback, which enables the student to monitor their progress toward meeting their performance criteria (DeAngelis & Wolcott, 2019; Knott, Mylrea & Glass, 2020). This study suggested that preceptors should provide unbiased student assessment and feedback that is timely and constructive. However, preceptor confidence levels in both assessment and feedback were relatively low. Some preceptors felt that assessment was not part of their role, particularly the assessment of knowledge. Assessment and feedback are however regarded in the literature as important skills for preceptors (Wilkinson *et al.*, 2013; Knott, Mylrea & Glass, 2020; O'Sullivan *et al.*, 2020; Smith *et al.*, 2020). The findings of this study may indicate a need for clarification of preceptor roles and additional training in this area.

The most significant barrier to training and effective precepting is balancing time and workload, requiring a flexible training programme. Advances in technology have brought the use of online methods for training into mainstream practice, as they are practical, easily accessible, able to provide interactive learning opportunities and allow for individual tailoring of training programmes (Knott, Mylrea & Glass, 2020; O'Sullivan *et al.*, 2020; Enderby *et al.*, 2021). On-demand webinars were found to be the most favourable type of online resource for preceptors, followed by live webinars (Enderby *et al.*, 2021). Despite this preference for online resources, a recent

study found that most preceptor orientation programmes in the US were face-to-face, either at the practice site or at the pharmacy school (O'Sullivan *et al.*, 2020). While training methods such as a preceptor manual, the Therapeutic Research Center's *Pharmacist's Letter* (trc healthcare, n.d.) and preceptor training texts (Soric *et al.*, 2017) have been useful, they are generic in nature and do not provide for interaction between preceptors. They would therefore be considered as only an adjunct to online training (O'Sullivan *et al.*, 2020).

The engagement and retention of preceptors is crucial to the success of an experiential placement programme and a range of strategies have been utilised to support preceptors to fulfil their role within the academic team, particularly given the voluntary nature of their position. As confirmed in this study, research has found that acknowledgement of preceptor time is regarded as one of the most important measures and this is thought to increase the likelihood of preceptors adopting positive learning practices (Fejzic *et al.*, 2013). Similarly, the request for preceptors to participate more in educational activities in this study, reflects the literature where an increased integration of preceptors into the educational process is thought to potentially strengthen the relationship between the university and the preceptor (Lucas *et al.*, 2018; O'Sullivan *et al.*, 2020).

Recommendations from this study include that there is a need for a flexible online preceptor training programme which is tailored to suit the individual pharmacy programme and also provides for interaction amongst preceptors. The provision of CPD credits for completion of training is desirable. Programme content should aim to identify and reinforce the roles and ideal attributes of preceptors. Prior to precepting, an initial orientation to the school's curriculum should be provided, which will allow the preceptor to know what to expect from students in terms of their skills and knowledge, enabling them to tailor their precepting to the individual student. Programme content should also include a focus on good communication skills, basic teaching strategies and student management training, particularly in conflict management. The ability to appropriately assess and provide constructive feedback is seen as a crucial skill for preceptors and therefore is an important inclusion in a training programme. Preceptors may however need additional clarity around their role in student assessment. Preceptor appreciation by integration into the university is important, and preceptors should continue to be acknowledged for their time and strategies for additional involvement in school activities should be investigated.

While the voluntary nature of precepting is a challenge globally in mandating attendance (O'Sullivan *et al.*, 2020), the issue of adequate resources and funding for preceptor training has also been raised. It has been identified that there is a need for academic administrators to recognise the importance of preceptor training and appropriately allocate funding for this purpose (Smith *et al.*, 2019; O'Sullivan *et al.*, 2020).

This study had several strengths, including the use of a mixed methods approach which allowed for both breadth and depth of data from preceptors about their training and support requirements. The anonymous nature of the survey also assisted in reducing the risk of participant response bias. Interview participants were chosen using purposive sampling, which provided a representative range of preceptors. Limitations of the study include the low response rate to the survey and the lack of generalisability of the results, with only community pharmacy preceptors from one regional Australian university being included in the study. The impact of the COVID-19 pandemic on the workload of community pharmacists may also have resulted in a lower participant response rate.

Conclusion

Preceptors in this study highlighted the importance of good teaching and communication skills to prepare them for their role in educating, guiding, and assessing pharmacy students in the practice setting. Perceived training needs were found to be closely linked to their views on the ideal preceptor roles, skills, and attributes, and should include core skills such as teaching strategies and student management, as well as providing feedback and assessment training. Considering demands on time and workload pressures, the need for a flexible, online training programme which includes an acknowledgement of their important and unique role in linking theory to practice for enhanced student learning was identified. The outcomes from this study will contribute to the increasing knowledge base around the requirements for preceptor training and support. With experiential education being a key component of pharmacy curricula, the optimisation of training and support for preceptors will contribute significantly to the competency of pharmacy graduates.

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