

## Physiotherapy students' perceptions about the learning opportunities included in an introductory clinical module

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**Background.** Clinical education forms a core component of physiotherapy training. However, the transition from the classroom to clinical learning environments can be challenging. An introductory clinical placement with appropriate learning opportunities is therefore important to ensure that learning outcomes are reached.

**Objectives.** To determine second-year physiotherapy students' perceptions about the learning opportunities provided in an introductory clinical module and to determine their perception about the attainment of the learning outcomes.

**Methods.** A descriptive case study was undertaken, using mixed methodology. All 39 second-year physiotherapy students were invited to participate. Data were collected using a self-developed questionnaire which focused on the outcomes of the module and the perceived value of the learning opportunities. A focus group discussion was conducted with a random subset ( $n=15$ ) of the population.

**Results.** The response rate to the questionnaire was 79% ( $n=31$ ). Peer learning by observing senior students, demonstrations by clinical lecturers and the assessment of specific skills were perceived by students to be particularly useful. However, several learning opportunities did not contribute effectively to learning. Participants highlighted a transitional process between classroom and clinical environments during which they became aware and could respond mentally to the demands of a clinical placement.

**Conclusions.** The clinical education introductory module provided valuable opportunities, where students learnt productively in a non-threatening learning environment. Junior students linked theoretical and practical concepts to clinical implementation. Peer mentoring and progressive mastering were valuable learning strategies. Reflection and students' emotional adjustment to clinical practice are topics for further investigation.

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Clinical placements offer a rich opportunity for physiotherapy students to learn while patients are receiving care.<sup>[1]</sup> They involve situated experiential learning and are an important strategy to facilitate professional socialisation and to integrate knowledge and skills in the developmental pathway towards clinical competence.<sup>[2]</sup> In the clinical learning environment, students are engaging in a socially authentic workplace environment and these experiences and circumstances shape their learning.<sup>[2]</sup> Learning in this environment is multimodal and complex, and its sociocultural nature may influence learning in several ways.<sup>[2]</sup>

Consequently, learning in the classroom differs greatly from learning in the clinical environment. In the classroom, the learning conditions are controlled and learning activities can be planned and structured, while in the clinical environment, unplanned activities often occur and a flexible structure is needed. These two learning environments differ with regard to their distinct objectives, work tasks, rules and codes of conduct, processes, systems, complexity and community of practice.<sup>[2,3]</sup> It is therefore not surprising that students feel anxious and vulnerable at the start of clinical practice because of uncertainty, variability and unpredictability in the clinical environment.<sup>[4-8]</sup> The transition of the student into the role of practitioner requires the application of classroom content (e.g. theories, techniques) to the clinical context. While students focused on learning new knowledge and skills in the classroom, in the clinical environment those learnt skills now have to be implemented in practice.<sup>[3]</sup> Moving from being a learner to a novice practitioner creates a challenging experience. Novice practitioners become concerned with their level of skill and ability to deliver effective patient care.<sup>[9]</sup> It is therefore important to ensure that learning

opportunities sufficiently address novice practitioners' needs at the start of clinical practice.

Introductory clinical placements can reduce students' anxiety about clinical education and improve their self-confidence.<sup>[4,5]</sup> The success of these placements lies in the fact that students can learn in a supportive and non-threatening environment where they are not expected to take full responsibility for patient care.<sup>[4,5,9]</sup> Further benefits of an introductory clinical programme include feeling more motivated and enthusiastic about entering the profession,<sup>[4]</sup> and adapting learning strategies towards a more clinical orientation.<sup>[10]</sup> While there are benefits to having peer mentoring and support as part of an introductory programme,<sup>[4,11]</sup> it is unclear which learning opportunities best facilitate the attainment of learning outcomes in an introductory clinical placement. The aim of the study was to determine second-year physiotherapy students' perceptions about the learning opportunities provided in an introductory clinical module and to determine their perceptions about the attainment of the learning outcomes.

### Context

The first 2 years of the 4-year Physiotherapy Programme, Division of Physiotherapy, Stellenbosch University (SU), South Africa (SA) are foundational and mainly classroom-based. During third and fourth year, students take responsibility for patient management at clinical placements. The Division presents a second-year clinical introductory module, as a transitional strategy between the classroom and the clinical learning environment. This semester course exposes students to clinical practice through visits to different clinical placements, without being responsible for patient management. The learning opportunities

Table 1. Learning opportunities and learning outcomes of the introductory clinical module

Learning opportunities	Learning outcomes for module							
	Conduct effective interview	Develop observation skills	Develop listening skills	Identify precautions	Plan a physical examination	Plan basic patient management	Develop clinical reasoning	Develop documentation skills
Demonstrations of patient management by lecturer	✓	✓	✓	✓	✓	✓	✓	✓
Group and individual interviews with patients	✓	✓	✓	✓	✓	✓	✓	✓
Observing senior students	✓	✓	✓	✓	✓	✓	✓	✓
Reflection on activities							✓	✓
Documentation							✓	✓
Written task							✓	✓
Viewing patient information folders							✓	✓

offered to facilitate the attainment of module outcomes are summarised in Table 1. Assessment tasks include the ability to interview a patient; record key findings; analyse a video of a patient, focusing on listening and observational skills; and a written assignment, on a health condition encountered during clinical practice.

**Methodology**

**Ethics**

The protocol for the study was approved by the Health Research Ethics Committee, Faculty of Medicine and Health Sciences, SU (reference number N05/08/144). Permission to undertake the study was obtained from the chairperson of the Physiotherapy Division. Written informed consent was obtained from the participants by the primary author.

**Research design**

A descriptive case study was undertaken at the Physiotherapy Division, SU. A mixed methodology was used. We employed a survey questionnaire and a focus group discussion in order to generate quantitative and qualitative data, respectively.

**Sample**

The study population included all second-year physiotherapy students registered for the introductory clinical module during 2006 (N=39). All students were invited to complete the questionnaire. Fifteen students were randomly selected (via computed random numbers) and invited to participate in a focus group discussion to explore their perceptions of the learning opportunities provided in the introductory clinical module.

**Instrumentation**

**Questionnaire**

A purposely designed questionnaire was developed by the research team. The questionnaire focused on the learning value which the different learning opportunities presented. It also enquired about the students' perceptions of knowledge and skills gained. The participants could indicate on a five-point Likert scale which learning opportunities they felt they learnt best or least. The participants could also indicate which outcome they felt they had achieved successfully.

**Focus group discussion**

An interview schedule was developed to ascertain students' perceptions of the module. The topics discussed in the interview included: experience and opinion about the introductory clinical module; main lessons learnt during the clinical exposure; barriers to learning; experiences with observing the final-year students; view on reflective tasks; suggestions for improvement. Probing questions were used to develop a deeper understanding of participants' accounts of learning. The experienced interviewer ensured that there was no dominance of one participant over the other.

**Data collection**

The questionnaire was distributed and returned during a rostered contact session. Students unwilling to participate were requested to remain in class while completing other tasks.

One semi-structured focus group discussion was held at a time convenient for all participants. The discussion was conducted by SBS in English and Afrikaans, according to participant preference and was recorded using a digital voice recorder. The interview lasted approximately 50 minutes and took place at the Physiotherapy Division, SU. The recorded interview was transcribed by an independent transcriber.

**Data analysis**

The quantitative data were recorded on a purpose-built MS Excel data sheet. Data were analysed using percentages. Qualitative data were analysed by an independent research assistant using content analysis.<sup>[12]</sup> This process included familiarising oneself with the data; identifying themes; creating a theme list (codebook); coding and categorising the data; interpreting of data; and checking. Final codes were checked and adjusted by the research team to aid validation.

**Results**

The response rate for the questionnaire was 79% (n=31). Table 2 indicates the percentage of participants who indicated that they had learnt most during the provided learning opportunities. Peer learning by observing senior students, demonstrations by clinical lecturers and the assessment of interviewing skills were perceived to be particularly useful. Fourteen participants (45%) reportedly did not learn from the reflection exercise.

Participants also reported on the skills developed during the module (Table 3). The majority of participants perceived that the provided learning opportunities greatly facilitated the development of three of the eight module outcomes.

**Table 2. Percentage of students who reported that they learnt a lot/learnt an extreme amount in specific learning/assessment opportunities provided**

Learning/assessment opportunity	Percentage
Observing senior student	76
Demonstration by lecturer	71
Assessment of interviewing skills	71
Conducting an interview with a patient	68
Patient information folders	67
Assessment of documentation tasks	56
Video on listening skills	45
Pathology task	41
Documentation tasks	32
Feedback session	32
Reflection	6

**Table 3. Percentage of students who reported that the learning opportunities provided in the introductory clinical module improved the following skills a lot/hugely**

Skill gained	Percentage
Interviewing skills	81
Observation skills	77
Listening skills	68
Clinical reasoning	48
Scientific documentation	42
Application of theory	36
Planning of the physical examination	33

The qualitative findings indicated that the module was perceived to be a positive learning experience for the participants. Four key themes emerged from the data, namely:

- bridging experience
- role models
- emotional implications
- reflection is challenging.

### Bridging experience

The module provided participants with a bridging strategy to link the classroom to the clinical experience. They reported that observing clinical sessions with facilitators assisted them to put skills they had practised in class into perspective. The module clarified the expectations and requirements that they needed upon entering clinical practice in their third/fourth years of the programme. They were thus introduced to the demands they would face during semi-dependent and independent clinical practice, as evidenced by the following verbatim quotations:

‘You see where the techniques done in class fit into clinical practice.’

‘Some work done in classroom makes more sense now that you have seen it in clinical.’

‘I am glad we did it – you slowly get used to it ... and you don’t feel as if you have been thrown in at the deep end.’

‘It was really good to give us exposure to an area where we will work in the future.’

‘If you are in your second year, you can’t do it on your own, so it is good to be with somebody who shows you what you are working towards.’

Introducing students to the first step of patient assessment alerted them to the process of conducting the interview, without the added stress of the content of the interview. This process strengthened their confidence.

‘Doing the interview helped to familiarise myself with how the interview should be done. So next year I can concentrate on the content of the interview.’

The participants mentioned several bridging experiences related to organisational aspects, which included becoming familiar with the hospital environment and obtaining patient information.

Interestingly, interdisciplinary learning was facilitated even in this introductory clinical placement, as evident from the following quotation:

‘... this is the one place where you can see and understand the interaction between the different health professionals.’

### Role models

Senior students played an important part in the learning experience by serving as role models. Learning from senior students depended on their attitude towards the second years. It was clear that senior students could facilitate valuable learning opportunities by being approachable and willing to assist, by involving themselves thoroughly in the process of leading the juniors and by explaining their clinical reasoning during observational sessions. The following quotations confirm this.

‘The fourth years were very helpful, they really went to a lot of trouble and they were nice to us.’

‘We often worked with the fourth years, and some of them were very good; some students had a better experience because their fourth years were willing and open towards them.’

‘Some fourth years were really good, you could ask them anything. They know their theory well ... maybe they were just naturals, or had good training!’

However, not all senior students participated fully in the process, as a participant explained:

‘I don’t know what was communicated to the fourth years beforehand, but some of them did not know what to do, they did not know what to expect, they were a bit confused. Maybe they should be informed about our needs and how they can help us. Give them an indication of what they should show us.’

The participants offered suggestions on how the learning experience could be improved. These included clarifying expectations with senior students and allocating juniors only to committed senior students:

‘Maybe you should enquire which fourth years are willing to accommodate second years, because ... if they care about us, they will help us.’

### Emotional implications

Participants had to come to terms with patient distress and suffering. It appeared that caring for patients was important to them. Viewing patient care assisted them in seeing the person holistically. They also became familiar with an environment where the patients’ needs often take preference over students’ needs. The verbatim quotations below illustrate the emotional challenges faced during the first exposure to clinical work.

'Some of us have never been in such circumstances, and sometimes you see things that are disturbing, and you need to adapt to the situation. So I think the exposure was good to prepare us.'

'The other part is also the emotional attachment you get ... it is hard. Like when you were in the intensive care unit, you see people on machines and lines. And you feel sympathy for them and work with them. It was difficult.'

## Reflection is challenging

Participants found reflection challenging as they requested more time and guidance on content and how to reflect. Participants requested to be informed of the aims of reflection and guidance on the process of reflection:

'I need more time to reflect, I need time to think about it ...'

'Give us some guidelines that will force us to think about every aspect.'

'Is it required to say what we felt, or what we saw happened, or is it required from us to describe the clinical picture? What is required during reflection?'

Nonetheless, reflecting with senior students was seen as a collaborative approach towards learning:

'It was really helpful when we reflected with the fourth years by sitting around the table with them and discussing what happened; they asked us questions and they explained everything to us.'

## Discussion

The aim of the study was to determine second-year physiotherapy students' perceptions about the learning opportunities provided in the introductory clinical module and to determine their perceived attainment of module outcomes. The main findings show that the learning opportunities facilitated some of the key learning outcomes for this module, but not all.

Participants benefitted particularly from observation of senior students and lecturers. The findings are congruent with the participants' self-reports that only three learning outcomes were successfully developed through the learning opportunities provided, namely the ability to observe, listen and to interview a patient. The findings emphasise the value of observation as a non-threatening learning opportunity. Learning by observation is a key component of the social cognitive learning theory,<sup>[13]</sup> and its value in situated learning contexts has been emphasised.<sup>[2]</sup> The qualitative data indicated that observation of the learning task was a crucial transitional strategy from one learning environment to the other. Specific transitional aspects included: putting skills taught into perspective, organisational aspects, mental adjustments and patient care. However, participants, through their feedback (Table 2), also confirmed that learning through observation is not enough. Learning was facilitated by performing and assessment of the learning task. Learning was thus optimised when observation of the task was followed by doing of the task, that is 'learning by doing', as advocated in social cognitive learning theory.<sup>[13]</sup>

The value of peer mentoring for the development of clinical skills was emphasised in this study, as in other studies.<sup>[4,5,11]</sup> Peer mentoring was enhanced by the personal attributes of the mentor and the mentor's willingness to provide explanations. A personal, as well as a cognitive, component of peer mentoring was therefore indicated. However, peer mentoring was largely dependent on the mentor as role model. Senior students, who were unsure and less confident mentors, were perceived as ineffective mentors. Sprenkel and Job<sup>[4]</sup> reported similar findings.

Learning from peer mentors reverberates collaborative learning through the zone of proximal development (ZPD).<sup>[13]</sup> The ZPD emphasises learning by socialisation, where learners learn efficiently when interacting with knowledgeable others.

The findings of the study confirm the clinical learning environment as authentic and situated, where students can apply their knowledge and skills.<sup>[14]</sup> Spencer<sup>[14]</sup> and Skoien *et al.*<sup>[11]</sup> emphasise the authenticity of the clinical learning environment as a strong motivator for learning, which facilitates active participation and the attainment of learning outcomes. In this case, students could apply their novice skills in a non-threatening learning environment. Learners were expected to perform small steps of the clinical process congruent with their level of experience and skill. This concept, known as scaffolding or progressive mastery, is described in behaviourist and social cognitive learning theories.<sup>[13]</sup> Progressive mastery was also successfully employed in introductory physiotherapy clinical education by Oldmeadow.<sup>[8]</sup> Skoien *et al.*<sup>[11]</sup> contend that professional competence develops over time, and that students' responsibilities should be gradually increased over time in practice. This strategy might enable task attainment by the students which could in return boost self-confidence and the motivation to learn.

However, several learning opportunities which had been offered did not contribute effectively to learning, as can be seen in Table 2. Participants were particularly uncertain about the written reflection exercise. In another study by Ernstzen *et al.*,<sup>[1]</sup> physiotherapy students also reported not learning efficiently from reflective activities. Similarly Muir<sup>[15]</sup> found that medical students and their teachers had an incomplete understanding of reflection. A greater emphasis on reflection may thus be needed in learning, teaching and assessment.<sup>[15]</sup> In the context of this study, participants requested guidelines on reflective strategies to optimise its learning value. Donaghy and Morris<sup>[16]</sup> also advocate guided reflective practice. They argue that reflection should be closely linked to critical enquiry, problem solving and clinical reasoning in order to develop higher-order cognitive processes. The value of reflection as a meta-cognitive strategy to create meaning from experience is also clear from the literature.<sup>[13,15, 16]</sup> Participants in this case attached more value to verbal reflection (discussion with senior students) than to written reflection. A reflective discussion can be collaborative learning where students gain practice in thinking through problems, organising concepts, and formulating goals. Consequently, reflection in this introductory clinical placement needs to be revisited to include structure and support to optimise its learning value.

An unexpected finding was that the learning opportunities contributed to a transitional experience with regard to the mental adjustment of the participants in coming to terms with human suffering. Skoien *et al.*<sup>[11]</sup> and Geddes *et al.*<sup>[17]</sup> also found this adjustment when developing a patient-therapist relationship<sup>[11]</sup> and with ethical aspects in the clinical practice context which challenged students' roles as emerging physiotherapists. The field of novice practitioners' mental adjustment to clinical practice is relatively unexplored in the literature and warrants further investigation.

The findings of the study suggest that an introductory clinical placement needs to be carefully planned to ensure academic and personal development of students. Care should also be taken to align learning opportunities and outcomes. While reflection is important for transformative learning, novice learners seemed to require guided and collaborative reflective activities. The learning activities provided did not fully address the development of clinical reasoning, documentation, application of theory and planning skills.

Optimal strategies for facilitation of these skills for novice practitioners need to be actively sought.

The study offers valuable insights into the introductory physiotherapy clinical placement at one institution. It was clear that both classroom and clinical learning environments are essential to prepare graduates for professional practice. The findings of the study confirmed that entrance to the clinical learning environment can be challenging, and that students need support in the transition from the classroom to the clinical learning environment.<sup>[4-8]</sup> Therefore, careful consideration needs to be given to the content of learning activities and support structures in the classroom and clinical learning environments to optimise learning, and to aid the transition from one context to the other. It is acknowledged that this study sought only the views of the junior students. The perceptions of the senior students who acted as mentors should also be investigated.

## Conclusion

An introductory clinical education module was found to provide valuable learning opportunities, where junior students learnt productively in a non-threatening environment. It gave junior students the opportunity to link theoretical and practical concepts to clinical implementation. Peer mentoring and progressive mastery were valuable strategies to enhance learning in this context. The study highlights that reflection should receive more attention in teaching and learning applications, and that the mental adjustment to commencing clinical practice should be further investigated. Some learning opportunities described in this paper can be included in introductory clinical modules to facilitate content and process learning; however, learning outcomes and opportunities need to be aligned.

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## References

1. Ernstzen DV, Bitzer EM, Grimmer-Somers K. Physiotherapy students' and clinical teachers' perceptions of clinical learning opportunities: A case study. *Medical Teacher* 2009;31(3):e102-115. [<http://dx.doi.org/10.1080/01421590802512870>]
2. Billet S, Choy S. Learning through work: Emerging perspectives and new challenges. *Journal of Workplace Learning* 2013;25(4):264-276. [<http://dx.doi.org/10.1108/13665621311316447>]
3. Le Maistre C, Pare A. Learning in two communities: the challenge for universities and workplaces. *Journal of Workplace Learning* 2004;16(1/2):44-52. [<http://dx.doi.org/10.1108/13665620410521503>]
4. Sprengel AD, Job LJ. Reducing student anxiety by using clinical peer mentoring with beginning level nursing students. *Nurse Educator* 2004;29(6):246-250. [<http://dx.doi.org/10.1097/00006223-200411000-00010>]
5. Faure M, Unger M, Burger M. Physiotherapy students' perceptions of an innovative approach to clinical practice orientation. *South African Journal of Physiotherapy* 2002;58(2):3-8.
6. Chan DSK. Combining qualitative and quantitative methods in assessing hospital learning environments. *Int J Nurs Stud* 2001;8:447-459.
7. Massarweh L. Promoting a positive clinical experience. *Nurse Educator* 1999;24(3):44-47. [<http://dx.doi.org/10.1097/00006223-199905000-00016>]
8. Oldmeadow L. Developing clinical competence: a mastery pathway. *Australian Journal of Physiotherapy* 1996;42(1):37-44. [[http://dx.doi.org/10.1016/S0004-9514\(14\)60439-6](http://dx.doi.org/10.1016/S0004-9514(14)60439-6)]
9. Delany C, Bragge P. A study of physiotherapy students and clinical educators' perceptions of learning and teaching. *Medical Teacher* 2009;31:e402-e411. [<http://dx.doi.org/10.1080/01421590902832970>]
10. Cole B, Wessel J. How clinical instructors can enhance the learning experience of physical therapy students in an introductory clinical placement. *Advances in Health Sciences Education* 2008;13:163-179. [<http://dx.doi.org/10.1007/s10459-006-9030-6>]
11. Skoien AK, Vagstol U, Raaheim A. Learning physiotherapy in clinical practice: Student interaction in a professional context. *Physiotherapy Theory and Practice* 2009;25(4):268-278. [<http://dx.doi.org/10.1080/09593980902782298>]
12. Creswell JW. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 2nd ed. Los Angeles: Sage, 2003.
13. Schunk DH. *Learning Theories: An Educational Perspective*. 4th ed. Upper Saddle River, NJ: Pearson Education, 2004.
14. Spencer J. Learning and teaching in the clinical learning environment: ABC of learning and teaching in medicine. *BMJ* 2003;326:591-594. [<http://dx.doi.org/10.1136/bmj.326.7389.591>]
15. Muir F. The understanding and experience of students, tutors and educators regarding reflection in medical education: A qualitative study. *International Journal of Medical Education* 2010;1:61-67. [<http://dx.doi.org/10.5116/ijme.4c65.0a0a>]
16. Donaghy ME, Morris K. Guided reflection: A framework to facilitate and assess reflective practice within the discipline of physiotherapy. *Physiotherapy Theory and Practice* 2000;16:3-14. [<http://dx.doi.org/10.1080/095939800307566>]
17. Geddes EL, Wessel J, Williams RM. Ethical issues identified by physical therapy students during clinical placements. *Physiotherapy Theory and Practice* 2004;20(1):17-29. [<http://dx.doi.org/10.1080/09593980490425076>]