

'He has a life, a soul, a meaning that extends far deeper than his medical assessment ... ': The role of reflective diaries in enhancing reflective practice during a rural community physiotherapy placement

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Background. The Department of Physiotherapy at the University of the Witwatersrand, Johannesburg, South Africa has a programme that allows 4th-year physiotherapy students to experience learning about public health in a rural setting. This experience is assessed using a portfolio. To date, the portfolios have only been assessed in terms of the students achieving the learning objectives. The process has not been evaluated for its effectiveness in promoting a reflective learner. A reflective learner is considered as one who will develop critical thinking and better accountability for their own learning.

Objective. To analyse the level of reflective practice attained by the students.

Methods. A qualitative approach was used to analyse evidence of reflective practice in student reflective diaries. Guided content analysis, using a framework compiled from the literature, was used to code the data. The coding framework outlined the levels of reflective practice – from the lowest level, identifying learning outcomes, to the highest level, i.e. abstract concept formation.

Results. Forty-eight portfolios with reflective diaries were available for analysis. Data saturation was obtained after eight reflective diaries were analysed. The majority of the student diaries (6 of 8) reflected a low level of reflective practice, with only a few attaining a high level.

Conclusion. This study showed that physiotherapy students who experienced learning in a rural setting achieved low levels of reflective practice. A minority of students were able to progress in their reflection to reveal elements of critical thought, reflective thinking and, further still, abstract concept formation.

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Professional development is a process entered into by professional practitioners to maintain, enhance and broaden professional and reflective practice. Reflective portfolios in physiotherapy have predominantly been used as part of professional practice and to a lesser extent in undergraduate training.^[1] There is considerable variation in the definitions of reflection and the criteria used to assess it. Definitions have common threads of experience, a process of introspection, analysing knowledge and taking action on the learning or practice needs of the learner.^[2,3]

Recognition of experiential learning in the curriculum is acknowledged if learning is clearly demonstrated in a written form.^[4,5] The use of the written portfolio as an alternative form of assessment provides a means to evaluate students' growth, maturity and achievement over time.

Final-year students at the University of the Witwatersrand, Johannesburg, South Africa are exposed to knowledge and skills that prepare them for the practice of physiotherapy in a public health and rural community setting prior to embarking on this clinical experience.

A reflective diary, as part of a portfolio, is used to assess the level of reflection undertaken by students during their rural experience. Students write their reflective diaries daily during their 3-week rural community placement.

The aim of this study was to analyse the level of reflective practice attained by final-year physiotherapy students.

Methods

This study used a qualitative approach and directed content analysis to evaluate the reflective diaries. The definitions used are based on an

integration of Brookfield's work on reflective practice that makes use of primary work by Mann *et al.*,^[3] Schön,^[6] Mezirow,^[7] Johns,^[8] Gibbs^[9] and Kolb.^[10] Our study followed the vertical dimension model of reflective practice (Table 1). A framework was derived from the literature on the process of reflection.

Forty-eight portfolios with reflective diaries were available for analysis. Each researcher was initially allocated two randomly selected diaries to read and code. Further allocation of diaries was planned until data saturation was attained. Codes were identified from the students' write-up and a constant comparison method was applied. On completion of the first iteration of coding, the portfolios were exchanged. Then the second coder checked and read the diary, and looked for alignment of codes to the specific reflective category and possible fitting of reflective statements that may have been overlooked. After the second iteration of coding, the diaries were exchanged between coders. This provided a means of verification, conformability and peer debriefing.^[12] A fifth category was added to the framework, i.e. level 5, which 'shows evidence of reflective practice'.

After the coding of eight portfolios, saturation of data was achieved. Ethical approval was obtained from the Human Research Ethics Committee of the University of the Witwatersrand (ref. no. M120360). Permission was obtained from students to use their portfolios for research purposes.

Results

In the eight diaries reviewed, the full range of levels of reflective practice was found. Three of the eight diaries showed growth in reflective practice over

Table 1. Coding framework^[6-11]

Level of reflection	Description
1a	The student refers to a particular activity/task
1b	The student demonstrates the process of acquiring an understanding of the task
2a	The student refers to achievements experienced
2b	The student has applied a methodical approach using a standard procedure to complete the task, and the detail of the description should be to the level provided in the rubric for the entire portfolio
3a	The student demonstrates an accurate and deep understanding
3b	The student demonstrates insight into his/her own learning process
3c	Acknowledgement of limitations of:
3ci	Self
3cii	Others
3ciii	System
4a	Identifies and challenges assumptions
4b	Understands the importance of context
4c	Explores and imagines alternatives
4d	Reflective scepticism
5	Direct experience, reflection on action and reflection with abstract concept formation

the 3-week period, with levels 4 and 5 being more evident in the second half of the students' clinical rotation.

The majority (108 of 283) of the entries were categorised as level 1a. Twelve examples could be classified as level 1b. The example in Table 2 reflects one student referring to a forgotten consideration of ensuring that a screening tool was reliable and valid. There were fewer reflections ($n=27$) at level 2. The majority of the entries were at level 2a, where students referred to actual achievements experienced. There were only four entries at level 2b. At level 3a, students ($n=16$) demonstrated a deep understanding of the learning outcome. There were a greater number of entries at level 3b ($n=42$), where students demonstrated insight into their own learning processes. The reflections at level 3 were in the limitations of self, others and the system. Problems related to communication and language barriers were often mentioned in relation to the self. In reflecting on others in level 3, students frequently mentioned the role of family members. Sometimes students described an incident in which self, others and the system were linked.

Level 4 reflections demonstrated students' experience of growth. There were a total of 74 reflections across the four sub-levels. Four out of the eight diaries showed a greater progression to levels 4 and 5. The importance of context (level 4b) was recognised frequently as an important factor in healthcare. Students ($n=2$) recounted events with reflective scepticism, as reflected in the quote in level 4b. Not all diaries (2 of 5) displayed evidence of level 5 reflections. Students often reflected on what they had seen and how they would have managed a situation.

Discussion

The results of this study revealed that all student entries demonstrated a low level of reflection. There were not many self-examination entries showing insight, self-awareness and recognition of own and others' limitations. A higher level of reflection (level 4) was evident in 50% of the diaries, with 2 of 8 diaries progressing to abstract formation (level 5). Similar findings have been reported in the literature, where low levels of reflective practice have been attained when student journals were assessed.^[13,14] Learning and practice issues, such as ethical concerns, questioning one's profession and questioning student supervisor behaviours, emerged from the results of the analysis. These findings may have been influenced by confounding factors such as trust between student and educator, clarity of instruction, type of feedback, grading, number of entries and training.

The rural block is unique in our physiotherapy curriculum. Reflection occurs when a situation does not suit normal practice. Hallett^[15] found that the practical element and exposure to a community setting were crucial for developing critical thought. Students should be encouraged to interrogate limitations of themselves, others and the system. No gold standard on how best to assess the levels of reflection exists.^[6] The knowledge that the reflective journals would be read by examiners and assigned a mark may have affected the levels of reflection. The study used eight reflective diaries and attained saturation. This may be owing to the study being in a single institution; future studies may include diaries from other institutions.

Conclusion

Our study demonstrated that physiotherapy students in a rural placement achieve low levels of reflection involving factual, cognitive and competency-related thinking. A minority were able to expand this to reflection that involved elements of critical thought, reflective thinking and reflective practice. Strategies need to be developed to enhance the quality of reflective practice among students.

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- Buckley S, Coleman J, Davison I, et al. The educational effects of portfolios on undergraduate student learning: A Best Evidence Medical Education (BEME) systematic review. BEME Guide No. 11. *Med Teach* 2009;31(4):282-298. <http://dx.doi.org/10.1080/01421590902889897>
- Boud D, Walker D. Promoting reflection in professional courses: The challenge of context. *Stud Higher Educ* 1998;23(2):191-206. <http://dx.doi.org/10.1080/03075079812331380384>
- Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: A systematic review. *Adv Health Sci Educ* 2009;14(4):595-621. <http://dx.doi.org/10.1007/s10459-007-9090-2>
- Cross V. The professional development diary: A case study of one cohort of physiotherapy students. *Physiotherapy* 1997;83(7):375-383. [http://dx.doi.org/10.1016/S0031-9406\(05\)65791-4](http://dx.doi.org/10.1016/S0031-9406(05)65791-4)
- Alsop A. Competence unfurled: Developing portfolio practice. *Occup Ther Int* 2001;8(2):126-131. <http://dx.doi.org/10.1002/oti.139>
- Schön DA. *The Reflective Practitioner: How Professionals Think in Action*. 6th ed. New York: Basic Books, 1983:1-8.
- Mezirow J. *Learning as Transformation: Critical Perspectives on a Theory in Progress*. San Francisco, CA: Jossey-Bass, 2000:1-300.
- Johns C. Framing learning through reflection within Carper's fundamental ways of knowing in nursing. *J Adv Nurs* 1995;22(2):226-234. <http://dx.doi.org/10.1046/j.1365-2648.1995.22020226.x>
- Gibbs G. *Learning by Doing: A Guide to Teaching and Learning Methods*. Oxford: Oxford Brookes University, 1988:27-30.
- Kolb DA. *Experiential Learning: Experience as the Source of Learning and Development*. Vol. 1. Englewood Cliffs: Prentice-Hall, 1984:20-38.
- Brookfield S. *Developing Critical Thinkers*. Milton Keynes: Open University Press, 1987:1-67.
- Lincoln YS, Guba EG. *Naturalistic Inquiry*. Beverly Hills: Sage, 1985:1-416.
- Williams RM, Wessel J. Reflective journal writing to obtain student feedback about their learning during the study of chronic musculoskeletal conditions. *J Allied Health* 2004;33(1):17-23.
- Kember D. Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow. *Int J Lifelong Educ* 1999;18(1):18-30. <http://dx.doi.org/10.1080/026013799293928>
- Hallett CE. Learning through reflection in the community: The relevance of Schön's theories of coaching to nursing education. *Int J Nurs Stud* 1997;34(2):103-110. [http://dx.doi.org/10.1016/S0020-7489\(97\)00001-1](http://dx.doi.org/10.1016/S0020-7489(97)00001-1)

Table 2. Results of level of reflection

Level of reflection	Entries, <i>n</i>	Quotes illustrating level of reflective practice
1a: The student refers to a particular activity/task	1a: 108	'I really should have checked, and this is so basic, how could I have forgotten?' (PF 7)
1b: The student demonstrates the process of acquiring an understanding of the task	1b: 12	'Of all the questions covered in the Denver Screening Tool, our chosen outcome measure, the children here seemed to struggle the most with colours, adjectives and opposites.' (PF 1)
2a and b: Achievements and methods used in the task	2a: 23	'We finally had a meeting with the manager of the sewing room. I am overjoyed at the response – he agreed with all our suggestions and it would seem that he is willing to implement the necessary changes to help improve the working environment of the seamstresses. I have a deep feeling of satisfaction – at last, something is making a difference.' (PF 8)
	2b: 4	'I walked away from the home visit feeling proud of the work I do and the potential impact we can have on community such as this one.' (PF 3)
3a, b and c: Insight, understanding and acknowledgement of limitation of self, others and the system	3a:16	'These figures showed the need for an intervention to impede the increasing prevalence of hypertension and arising complication(s) among the health staff as well as to intervene in empowering those who are already hypertensive to take control and improve their lifestyles.' (PF 3)
	3b: 42	'The best I could do was be compassionate and educate him on his condition and what he has the potential to become if he continues with rehabilitation.' (PF 2)
	3c: 22	'This is when I realised that sometimes this job is not about what you do for the patient alone but also for the people around them.' (PF 1) 'With so many patients to see I must admit that short cuts were taken, which I didn't feel comfortable with.' (PF 8) 'When we went to [a particular] clinic, there were no patients booked for us. This happens so often that [it] really annoys me how the few resources that are available to the clinic are not utilised!' (PF 4) Sometimes students described an incident in which self, other and the system were linked.' (PF 7) 'Throughout the morning, I was increasingly aware of a sub-standard level of treatment given to the patients and was also told that I should not try to learn from what I was seeing because this is community – and things are done differently in community compared to theory. I did not pursue that as I wanted to avoid any conflict (it's only my second day!!!) but felt very disappointed that patients are receiving such poor rehabilitation. I hope that this is not a true reflection of the care being given at the hospital and that today was just a once off!' (PF 7)
4a, b, c and d: Identifying challenges, importance of context and exploring alternatives	4a: 27	'Home-based care seems to bring back the sensitivity to healthcare, he is no longer a cerebrovascular accident covered by sheets. He is a man, who has a family and a community who bear him on their shoulders. He has a life, a soul, a meaning that extends far deeper than his medical assessment. And it is only in this setting that these things come together.' (PF 8)
	4b: 22	'... it is important to them, the patients travel so far just for the treatment they seek and it's our responsibility to make the most of the time we have with them!' (PF 1)
	4c: 16	'Although we wanted to help him for his painful hand, there was a possibility there was an undiagnosed fracture. Therefore we advised him to go to Siloam Hospital for X-ray.' (PF 1)
	4d: 18	'When the children have to write, they have to kneel on the cold and dirty concrete floor and write on their benches. How can this still be happening in a country that is striving to promote equality among its citizens!?' (PF 3)
5: Reflection and abstract formation	5: 4	'I don't think that my siblings, or myself, would give up our dreams in order to look after a parent after a stroke.' (PF 4) 'I learned again how courtesy goes so far. Just simple greeting in your patients' mother tongue, ensures, that they will try to co-operate as much as possible.' (PF 4)

PF = portfolio.