

## Original Article

# Reflective journals in clinical practice for radiation therapy students

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## Abstract

Reflective journals have been used as an assessment tool in clinical practice, in the fully integrated context directed learning (CDL) undergraduate program at the University of South Australia, over a period of five years. This paper reports the commonest issues evidenced within the year 2 and year 3 reflective journals. The results confirm that these are linked to the stage of development and experience of the students in both academic knowledge and clinical practice. Quotations from the journals give an insight into students' experiences of both emotional and practical skills development.

## Keywords

Reflective journals; problem-based learning; clinical practice assessment; skills development

## INTRODUCTION

A reflective journal is a record of feelings, impressions and thoughts. The journal is used to encourage self reflection in order to plan for future practice and evaluate the effects of change.<sup>1</sup> The process prompts thinking aloud and entering into a discussion with oneself about events and experiences that are impacting on professional practice. Reflective journals are currently being used in a variety of settings to enable students' to give meaning to events and experiences in order to construct their own learning goals. Journals allow the individual an alternative way of looking at the learning situation to enable change.<sup>2</sup> Journal writing reflects the philosophy that students actively engage in and have control over their learning rather than passively accepting information.<sup>3</sup>

Reflective journals are valuable documents as they give insights into radiation student learning by:

- identifying individual students' needs and giving facilitators the vehicle to extend the students' views of themselves and their world,<sup>4</sup>
- giving feedback to the university about the clinical environment for each student,
- allowing the students' to explore their responses to the confronting and emotional side of professional practice,
- providing students with a means to track their development of clinical and technical skills,
- developing the students' understanding of their level of communication with both patient and the radiation therapy team to which they have been assigned,
- encouraging problem solving and the development of critical thinking skills in the students as they develop strategies to cope with each situation as it arises.

While the benefits of using reflective journals have been presented over the past two decades, little objective evidence exists to support the use of

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reflective journals as learning tools within allied health professional training. One of the criticisms of reflective journals has been that students (nursing) only use the elements of reflective practice that will result in improved patient outcome rather than improved technical practice or competency.<sup>5,6</sup>

The undergraduate radiation therapy students at the University of South Australia are enrolled in a three year Bachelor of Medical Radiation. This is a fully integrated context directed learning program based on problem-based learning (PBL) principles.<sup>3</sup> Context directed learning (CDL) is an innovative teaching and learning methodology that is student centred. This mode of education is based on the use of real life clinical scenarios from which the students work out what it is they need to know, i.e. what knowledge is required and where this might be accessed. Students then apply this knowledge to the scenario provided. The role of the teacher is to facilitate the group processes and encourage a broad based consideration of the scenarios, rather than limiting answers to right or wrong. In year 2 and year 3 of the program the students also undertake 14 weeks of supervised clinical practice in radiation therapy departments in both the private and public sector.

The CDL program was successfully introduced in the Bachelor of Medical Radiation in 1997. Informal feedback from students (written and focus groups) and staff has overwhelmingly indicated a high degree of satisfaction with this teaching approach.<sup>7</sup> As students became familiar with this learning process, an obvious disparity was evident between university based assessment processes and assessment processes used in the supervised clinical practice sites. The university assessment process includes group skills as well as individual assessment in theoretical examinations. This led to a discussion with the clinical supervisors and students as to how best to make assessment methods reflect student centred learning. One of these changes was to introduce a reflective journal with the aim of giving students some “control” over their learning goals within the supervised clinical placement. In essence students negotiate with their clinical supervisor realistic, challenging and achievable learning goals for each week of clinical placement. The reflective journal is a written document where students are asked to record their experiences, based on each 7 week block of

clinical practice. The journal plus a summary of the journal entries is then submitted for assessment. The aim of this paper is to report the commonest issues recorded within the year 2 and year 3 reflective journals concerning clinical practice.

## METHODOLOGY

This was a retrospective observational study of year 2 and year 3 radiation therapy student's reflective journals. The study included second year and third year undergraduate students enrolled in the Bachelor of Medical Radiation (radiation therapy) in 2003. In 2003, the total number of students enrolled within the radiation therapy program were 24 in year 2 and 16 in year 3. There were no exclusion criteria.

All enrolled students were required to keep a reflective journal as part of the assessment in the courses Medical Radiation 201A (year 2) and Medical Radiation 301A (year 3). The journal entries were required to reflect the feelings, perceptions and events that each student experienced during seven weeks of clinical placement. At least two entries per week were required. In addition, an 800 word retrospective summary of the entries was required to be submitted with the reflective journal. The summary was requested to reflect the students' feelings and personal development over the seven weeks of clinical placement. The students received both written and verbal information and guidelines on the requirements for writing, submission and assessment, including a sample mark sheet, for the reflective journal at the commencement of the courses MR 201A and MR 301A. The course coordinator read all journals and the summary was formally assessed according to set marking criteria (appendix 1).

## DATA MANAGEMENT

Students submitted their reflective journal and the 800 word summary on completion of the clinical placement at the end of the academic year. This was the last clinical placement for the year 3 students before graduation. One assessor then reviewed the 800 word summary using the prescribed marking criteria. The current assessment criteria were developed in consultation with the CDL team and has been modified over a period of 3 years as experience in assessing reflective journals increased. In

addition feedback from students also contributed to modifications. All comments provided by students throughout the reflective journal were read. The 800 word summary was then analysed for key issues. Following the analysis of all summaries, the key issues were then collated into themes.

Three major themes were identified: knowledge, confidence and professionalism. The key issues within the knowledge category included reference to knowledge, technical skills, literature, theory from facilitated tutorials in University and self directed learning, linked to practice and occupational health and safety. The key issues within the confidence category included reference to environment (equipment, atmosphere, staffing and décor), patient care, assessment, confidence, competence, personal emotions, stress, feedback, and experiences of different departments. The key issues classified under the professionalism category included career, teamwork, professionalism, professional development, critical analysis/thinking, flexibility/adaptability, efficiency, problem solving, motivation and effort. The frequency of key issues within each category was then calculated and reported as a percentage of the total number of key issues for both year 2 and year 3 students. The results were analysed descriptively as a percent. Despite the data being presented as frequencies, the data was essentially qualitative and simply categorised into broad areas identified within the summaries presented by the students, rendering parametric statistics inappropriate.

## RESULTS

All enrolled year 3 students (n = 16) completed the assignment. All enrolled year 2 students (n = 24) completed the assignment but only 23 journals were available for review. One second year student did not submit the assignment so that journal was not available for analysis. A total of 1002 key issues were identified in year 2 journal summaries and a total number of 801 key issues were identified in year three journal summaries. Table 1 present the frequency of comments categorised into key issues for students in year 2 and year 3. The key issues were then collated into three broad themes: knowledge, technical skills and professional issues. Table 2 presents the frequency of comments in these three broad themes for students in year 2 and year 3.

**Table 1.** Frequency of comments categorised into key issues

Key issues	Year 2 No. (%)	Year 3 No. (%)
Knowledge	103 (10)	130 (16)
Technical skills	184 (18)	87 (10)
Environment	107 (11)	75 (9)
Communication	153 (15)	75 (9)
Confidence	78 (8)	57 (7)
Patient care	93 (9)	76 (9)
Emotion/stress	78 (8)	86 (10)
Teamwork	48 (5)	39 (5)
Professional development	91 (9)	110 (14)
Career	30 (3)	37 (5)
Professionalism	37 (4)	29 (4)

**Table 2.** Themed frequency of comments

Collated issues	Year 2 No. (%)	Year 3 No. (%)
Knowledge	287 (29)	217 (27)
<ul style="list-style-type: none"> <li>● knowledge</li> <li>● technical skills</li> </ul>		
Confidence	509 (51)	369 (46)
<ul style="list-style-type: none"> <li>● environment</li> <li>● communication</li> <li>● confidence</li> <li>● patient care</li> <li>● emotion/stress</li> </ul>		
Professionalism	206 (21)	215 (27)
<ul style="list-style-type: none"> <li>● teamwork</li> <li>● career</li> <li>● professional development</li> <li>● professionalism</li> </ul>		

## DISCUSSION

The comments provided by year 2 and year 3 students appear to be very similar when categorised purely by frequency, as indicated in Table 1 and Figure 1. However, allocating comments to key issues and broad themes was often difficult as a number of ideas could be presented within a single comment which may lend itself to inclusion within more than one key issue or theme. While a number of comments attributed to key issues or one of the three broad themes were similar between groups, the nature and specific comments demonstrated clear qualitative differences between the two groups. The most obvious reason for the qualitative differences between the comments provided within the reflective journal summary for year 2 and year 3 students undertaking clinical placement in radiation therapy, is likely to be the stage of educational development

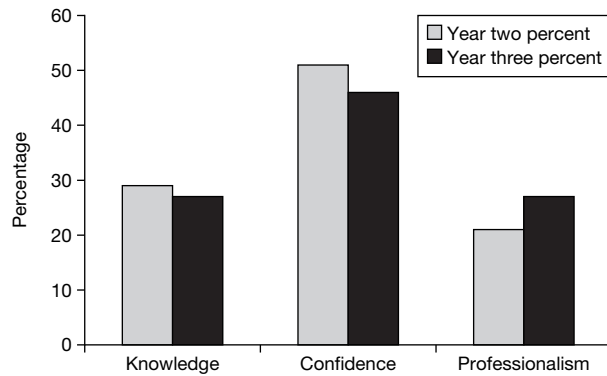


Figure 1. Frequency of themed comments

and professional maturity of the student in terms of specific knowledge and clinical ability.

The three commonest issues identified by the year 2 students were technical skills, communication and environment whereas the three commonest issues identified by the year 3 students were knowledge, technical skills and professional development. Comparison of journal entries by students from each year level will be used to demonstrate some of the qualitative/contextual differences in each of the key issues identified.

### Knowledge

The year 2 students were aware of how much knowledge they still needed to become a competent and knowledgeable radiation therapist.

*I am looking forward to my final year of university as I feel that although I am quite competent in what I already know there is still a lot for me to learn. Y2 (year 2)*

*One of the highlights from in mould room was being able to use the various tools that are needed for making casts and shielding trays such as the lathe and using drills that I had never used before. I found that I was quite competent at handling myself. . . as it was a completely new environment for me. Y2*

*I have been feeling this week that at this stage of the year (end year 2) I should be at a certain level, which I feel I am and now I need to be able to act on the knowledge and skills that I have learnt. Y2*

The year 2 students appear to prioritise their learning efforts on mastering the technical aspects of radiation therapy equipment. A number of

comments suggested that students felt they needed to master this aspect of radiation therapy skill as a basis for then applying knowledge and mastering interpersonal communication issues between staff and patients.

*I commenced as a person lacking confidence in my ability to communicate with patient and staff and technical ability. At the finish I had gained much more experience with increased confidence in social and technical abilities. Y2*

The comments provided by year 3 students suggested that once they had reached a level of competency with the technical aspects of the equipment associated with radiation therapy treatment planning and provision, a broader learning focus was able to be undertaken. Comments indicated that students recognised the need to apply this technical knowledge in a range of specific patient situations, adapt to rapid and unexpected changes within the treatment and the broader health care environment and began to appreciate the need for effective interpersonal communication between professional therapist team and patient.

*The academics that I have been taught has helped me to consolidate my knowledge and has allowed me to apply what I have learnt in the clinical setting. Y3 (year 3)*

*I have developed my skills to a standard that I am content with, and have found that going interstate has made me open my eyes to various techniques and the assorted workings of the department. Y3*

*...with dramatic improvements thanks to the combination of medical imaging, 3D simulation and treatment beam shaping, not forgetting the recent advances in respiratory gating. I believe that patients being treated with this technology are getting the best treatment available. Y3*

*Fortunately through these last two placements my learning has been nourished through the supportive nature of my surrounding environments. For this reason, I have been able to take control of my learning and expand my ability or knowledge to think laterally and problem solve. Y3*

### CONFIDENCE

One of the most obvious qualitative differences between the year 2 and year 3 students was apparent in comments concerning the level of confidence

within the radiation therapy clinical environment. Comments provided by the year 2 students suggested two main concerns; a lack of belief in their ability to operate effectively within the clinical team and the impact of personal communication from radiation therapy staff upon their confidence and performance. A number of year 2 students comments indicated that they were very conscious of their lack of technical ability and were concerned that they were a burden to a busy short staffed department.

*Although I still have a lot of work ahead in the communication skills aspect I feel I have improved considerably since my first clinical placement. Y2*

*These seven weeks have been a chance for me to feel more comfortable in the clinical setting and to contribute more so I don't feel in the way any more. Y2*

*I am working as a team member and not so much of a 'tag-a-long- annoying student. Y2*

The impact of staff comments, both negative and positive were shown to have a direct affect upon confidence and motivation to learn within the clinical environment.

*Negativity from staff has left me feeling unsatisfied with my experience. Y2*

*Positive feedback from the RTs' also makes you feel much more confident and positive about your learning. Y2*

*. . . got some good feedback from the staff. . . made me feel like I was on the right track. Y2*

*When staff make an effort to help you out, you enjoy yourself and learn from what you are doing. Y2*

The year 2 students appear to be becoming confident in their conversations and interactions with patients and a number of comments highlighted the positive effect of specific patient comments and feedback on their performance. Dealing with and responding to the emotional consequences of radiation therapy featured commonly within comments from year 2 students. This was especially true when the patient was a child or the same age as the student.

*I have experienced working in a very stressful situation. I was very sad and depressed but I learnt to be strong and face the problem directly and find the solution. Y2*

*I have learnt so much from the patients I met, their pain, sorrow and struggles to deal with cancer. Their determination to fight it and live a full life. Their sense of humour at such hard times. Their strong and solid careers. They all have given me so much inspiration and making me a much better person than I am. Y2*

*. . . I developed a soft spot for him as he reminded me of my grandparents. Y2*

*I was putting too much pressure on myself, I work a lot better when I am not so stressed. Y2*

The year 3 students commonly reported that they felt confident and competent to begin practicing as a radiation therapist. There were fewer comments specifically reporting concerns about the clinical environment or strategies for working within a radiation therapy team. Comments begin to appear indicating that students felt much more comfortable and took pride in relating with the patients and staff. Overall comments indicate that third year students, felt that they had reached a competent level of mastery of the technical requirements of radiation therapy, and could now enjoy the new learning opportunities and interactions with staff and patients.

*Being a third year student, it appears to me, that it is not so much pressure that's put on you, but more so encouragement and recognition of your capabilities and the "push" to gain as much experience as you can. Y3*

*Even though I had some problems in the beginning, everything seems to have worked out in the end. I have learnt a lot in the seven weeks. I have built up my confidence, improved my technique and communication skills. Y3*

*All of these accomplishments have made me a more confident and competent graduate. Y3*

*Reflecting from the beginning of my journal where I would try to talk to the patients and remember them, I can see a progression to the end where it just seemed to happen naturally. I can see now that I have progressed from a student trying to learn, to just a competent radiation therapist. Y3*

*I think there will be many more patients I will grow fond of and will have to deal with the pain when they become unwell or pass away. Y3*

*It is the sad part of being in RT however, we must remember that we are able to provide them help through their time in need, which makes our work greatly worthwhile. Y3*

*I was very relieved after I had completed my sixth and final set-up for the year so I think a lot of pressure was taken off my shoulders. I then started thinking that I could relax and enjoy the remaining three weeks of clinic whilst still learning and improving my skills. Y3*

## PROFESSIONALISM

This was an underlying theme for all the students as they commented on their observations of the interactions of qualified staff with patients, other staff and students. There was recognition of the required ethical practice and development of their own ethics. The year 2 students recorded that they were learning to take control of their own development with appropriate behaviour and a holistic view of the patients and career. For many of the second year students, reflecting upon this clinical placement specifically affirmed their choice of radiation therapy as a career.

*I have personally begun to recognise aspects that I exhibit that can be destructive when interacting with other. Y2*

*I have learnt that you have to try and compromise between taking charge of your leaning and being eager to participate but also know when it is best for you to simply stand back and observe. Y2*

*I now realise that knowing how dependent these people are on your skills, and how your personality can brighten their time during treatment is the greatest thing about RT for me. Y2*

*I have continued to develop such enthusiasm in lifelong learning, refining and building my character and competence in the profession of radiation therapy. Y2*

*The times I've spent in clinical this semester have been mostly fun, always interesting and very educational. I've*

*learnt a lot about the job, my ability within the profession and also myself as a person. Y2*

*Being involved in clinical placement certainly helps to reinforce to me that I am studying something that I am interested in. Y2*

*What a relief to find out that, yes, this career is going to work for me, just as I am going to work for it. Y2*

*I was confident that RT was the right career choice for me. Y2*

As the year 3 students neared the completion of their course comments reflected their belief that they were accepted as team members and this had an overall effect on their opinion of radiation therapy as a career as well as their professional development and professionalism. A number of comments reflected satisfaction with skills development and relationships with staff but also indicated a degree of frustration as they felt ready to commence work as a radiation therapist but were still constrained by being a student.

*I believe that I have accomplished a great deal and now have the knowledge, skills and experience to commence my working career in radiation therapy. Y3*

*I have developed an appreciation for my individual learning styles and now feel ready to embrace this career and my future in radiation therapy. Y3*

*I agree that I have a great deal more to learn especially during my PDY year, and I will continue to develop professionally in the future to become the best Radiation Therapist I can be. Y3*

*I was able to develop new skills in treatment and planning at both departments and developed positive working relationships with all staff. Y3*

*I prefer to participate actively in the teamwork, in comparison to standing on the outside and observing. And having been delegated into this role of the onlooker at times during my placements, I have found it difficult and most frustrating to accept these limitations of being a student. This has led me to conclude that I am developing beyond my role of a student and have approached the stage where I am ready to make the transition into a qualified radiation therapist because I am seeking fulfilment and responsibilities associated with this full time profession. Y3*

Year 3 students also reflected positively about their choice of career but also recognised the broader nature of allied health professionals.

*I chose radiotherapy for the right reasons and studying this course has truly been an enriching experience, as there is nothing more rewarding in life than being able to help people! Y3*

*Having completed this course, I truly believe that RT is not a career that is suited for everyone, you really need the right attitude and personality to become a good radiation therapist, as not only are we health professionals but we also have to take on other roles, such as counselling, and providing support to patients, educating patients about their skin care, diet etc. . . as well as play a part in the education of students. Y3*

*I feel a great deal more confident about entering the work force after experiencing different areas and situations within the clinical environment, and now believe that I have a very wholesome view of Radiation Therapy as a career.*

*I believe that the last seven weeks of placement have prepared me well for starting my career in Radiation Therapy. Y3*

*It has marked the end of an enjoyable time as a student and the beginning of what I hope will be a long and successful career in radiation therapy. Y3*

The comments provided by radiation therapy students provide an explicit way of understanding the actual experiences students undergo at any particular time in their program. All health care students are encouraged to work through and solve problems for themselves and engage in critical thinking and analysis.

The journals gave the clinical coordinator a personal insight of each student and knowledge of their professional development. However the findings from this research were predictable in that the year 3 students had more exposure to clinical placements and at the stage of analysis of comments had completed the academic curriculum.

## CONCLUSION

The aim of this paper is to report the commonest issues as evidenced within the year 2 and year 3

reflective journals concerning clinical practice. The results highlight the specific concerns of year 2 and year 3 students in the Bachelor of Medical Radiation, Radiation Therapy Stream, at the University of South Australia and confirm that these are linked to the stage of development and experience of the student in both academic knowledge and clinical practice. The journals have given an insight into the students' experiences from both emotional and practical skills development and will continue to be used as one of the tools of assessment in the clinical skills area.

*Keeping a journal has allowed me to record all my experiences as well as enabling me to express how I have been feeling through out my time on clinical placements. Looking back on my experiences, I am able to learn from my mistakes, improve on my weaknesses and make the most of my strengths.*

*I have been able to analyse not only my methods of communication, but how I work as a professional in the clinical setting. This also encompasses the way that I am able to learn, my work ethics and how I handle patient care. Y3*

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**APPENDIX 1**

University of South Australia  
 School of Health Sciences – Medical Radiation Program  
 Medical Radiation  
**REFLECTIVE JOURNAL MARK SHEET**

Student's Name: \_\_\_\_\_

<b>Elements</b>	<b>Developing</b>	<b>Functional</b>	<b>Proficient</b>	<b>Advanced</b>
Evidence of 2 substantive calendar entries per week  [20]	No evidence of 2 calendar entries per week shown  [0–5]	Little evidence of 2 substantive calendar entries per week shown  [6–10]	Some evidence of 2 substantive calendar entries per week  [11–15]	2 or more calendar entries per week which include challenges, achievements & solutions  [16–20]
Reflective summary				
Clear, concise & well structured writing style  [10]	Description of content is cumbersome and/or difficult to understand  [0–2]	Some descriptions of content are clear and easy to understand  [3–5]	Most descriptions are clear, concise, organised and easy to understand  [6–8]	Demonstrates clear and concise descriptions of content, with an introduction, body & conclusion  [9–10]
Summarised journal with evidence of self reflection  [50]	Journal does not include reflection on the student's own stage of development. No evidence of self reflection of the student's own role and their level of comfort in each situation  [0–12]	Minimal reflection on the student's own stages of development. Some evidence of self reflection of the student's own role and their level of comfort in each situation  [13–25]	Adequate self reflection on the student's own stages of development. Self reflection shown but needs further application to their own development and level of comfort in each situation  [26–38]	Detailed reflection on the student's own stages of development. Demonstrates an understanding of their own role and their level of comfort in each situation  [39–50]
Demonstration of appropriate wider reading and application to the journal and journal summary  [20]	Very little demonstration of wider reading and referencing shown  [0–5]	Minimal wider reading demonstrated. Some references included but little applied to journal entries  [6–10]	A range of wider reading demonstrated. Some references included but little applied to journal entries  [11–15]	Comprehensive wider reading with appropriate & detailed application to journal entries  [16–20]
Correct referencing	Correct referencing of this assignment is imperative Pass/Fail component			

COMMENTS:

Total \_\_\_\_%

Signed:.....Date:.....