

Perceptions of reflective practice among recent Australian radiation therapy graduates

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Abstract Reflective practice has been established as playing a critical role in advancing and improving skills, knowledge and practice amongst professionals. Elements of reflective practice are encouraged during radiation therapy student education, yet improved student engagement may facilitate greater translation of this reflective activity into postgraduate clinical practice. This study aims to identify some of the perceptions about reflective practice among recently graduated radiation therapists and their recommendations for improving student engagement with structured reflection. Further, it is suggested that the learning goals of radiation therapy students and their ongoing professional development goals may be better supported through development of understanding, knowledge and skills in reflective practice among the broader community of clinical radiation therapists.

Keywords: radiation therapy, reflective practice

Introduction

Reflective practice is recognised increasingly as an important aspect of the ongoing professional development of radiation therapists, providing an important means by which practitioners might continuously improve their clinical skills, advance practice and develop their knowledge. Many radiation therapy students receive exposure to reflective processes during their undergraduate training, yet it is not clear whether this continues following graduation. By examining the perceptions of reflective practice amongst recently graduated radiation therapists, recommendations for improvement in the education of beginning practitioners in reflective processes might be identified. Perceived obstacles to the incorporation of reflective activities into the practice of students and recently graduated radiation therapists provide valuable insights useful for university educators and clinical supervisors.

This study aims to determine whether recently graduated radiation therapists perceive that their university studies have effectively developed their reflective skills and whether those skills have been transferred into their professional practice. Factors relating to their education in reflective learning and aspects of their academic and clinical learning environments are examined to determine their impact on reflective activities. While there is a limited amount of existing literature specific to Australian radiation therapy, the results of this project are considered in relation to existing international literature and the evidence base existing for other health professions.

Literature review

In recent years, reflective practice has been recognised as an integral aspect of the continuing professional development of radiation therapists, although there is a distinct lack of Australian literature among the evidence base. Active reflection allows professionals to become competent in those areas of practice that require creative thinking, problem-solving, critical reasoning and contextual understanding, skills that cannot be developed through

longevity of practice alone.¹ Reflection upon practice facilitates the development of critical understanding and meaning: reflective ability is, therefore, considered a key skill possessed by both beginner-level and advanced-level practitioners.²⁻⁴ Increasingly, it has been acknowledged that university programs should incorporate the development of independent learning skills into curricula, thus facilitating the linking of theory and practice through reflection.⁵⁻⁷ In doing so, future practitioners may be prepared with the skills required to engage in lifelong learning.⁸ Learning activities that assist the development of independent learning skills include, amongst others, tasks requiring students to reflect on practice.⁸ Students engage in reflection through a range of activities including self-evaluation, analysis of critical incidents, peer learning, collaboration and journal writing.⁹⁻¹²

Reflection involves the linking of observation, theory and experience to inform and transform future action. The work of early theorists such as Dewey has been expanded by researchers such as Schön¹ to include critical theories of the role of reflection in defining and developing practice. The roles of reflection-on-action and reflection-in-action are considered important aspects of reflective practice by professionals and have been extensively examined as means of developing reflective practitioners.¹ Both reflection that occurs while engaged in an activity (reflection-in-action) and conscious thought and examination following an action (reflection-on-action) are integral in professional development. Arguably, reflective practice is simply learning from experience, whether that experience is one's own, that of one's colleagues or those experiences described in the evidence base. Many practitioners learn adequately from experience without the use of any structured intervention, but it has been suggested that the use of a reflective tool makes this learning more reliable and faster.¹⁰ By no means is it implied that reflective practice is the sole means by which practitioners might effectively learn about their practice.

Numerous tools for facilitating and promoting reflection have been described and analysed including action research,¹³ collabora-

tion^{9,12} and journalling.^{5,6,10,11,14} Of these, journal writing is a common component of undergraduate and postgraduate radiation therapy training courses in Australia. Reflective journalling encourages students to question and explore theoretical or 'classroom concepts' within the broader context and practical reality of the clinical environment.¹⁵ The reflective journal is considered useful in assessing content knowledge, professional judgement, reflection and application of learning.¹⁴ Some radiation therapy programs encourage reflective journalling in the context of maintenance of a professional portfolio, where evidence of learning experiences might include reflective writing, samples of work and written evaluations.

Currently, several Australian universities require radiation therapy students to maintain a record of their learning from experience.¹⁶⁻²¹ This is presented most commonly as a reflective clinical journal or professional portfolio. In the context of this study, the terms 'journal' and 'diary' are used synonymously. In all cases, this record contributes to their overall grade either as a direct piece of assessment or as a hurdle requirement to pass the related unit. It is not within the scope of this discussion to investigate whether inclusion of such reflective activities is the most effective method of teaching or encouraging reflective practice, rather it will be assumed that these mandated activities provide some level of exposure to the reflective process or facilitate the development of reflective skills that might then be transferred into professional life.

In one fashion or another, then, reflective practice as a concept has been experienced by all recent Australian radiation therapy graduates, yet the use of a reflective diary or journal or professional portfolio represents only a small proportion of the continuing professional development activities logged with the relevant professional body.²² Cox¹⁰ notes that, while a number of healthcare professions have adopted active reflective practice into entry-level education, active reflection is rarely incorporated into other aspects of on-going or workplace learning. It is not within the bounds of the current study to explore the level of active reflective practice amongst qualified radiation therapists in Australia; however a key factor in analysing the results will be to assess the 'active' nature of reflective activities reported by recent graduates to ascertain whether the manner in which beginning practitioners learn about reflective practice and its relevance to their ongoing professional development influences the likelihood that they will continue to actively practice reflection as qualified practitioners. Dewey emphasises that reflective thought is active, persistent and careful,²³ and this discussion will therefore focus on active demonstrations of reflective practice rather than more passive dimensions such as undocumented private thought.

Method

Ethics approval for the study was obtained. A convenience sample of recent graduates was identified using established electronic radiation therapy clinical education networks. Specifically, radiation therapy clinical educators were requested to seek volunteers amongst their colleagues of accredited and provisionally accredited radiation therapists of up to five years experience, as this coincides with the approximate time that many Australian universities adopted some type of reflective tool as a mandatory element of assessment.

As no central register exists linking information regarding the employment location of radiation therapists with their alma mater, this approach presented a practical means of contacting a diverse group of recent graduates. It is impossible to ascertain the number of recent graduates who declined the invitation to participate in the study. A two-page questionnaire was distributed

via email to 49 recent graduates who expressed their interest in participating. Participants were invited to complete and return the survey by email or facsimile; in each case, to preserve anonymity, the survey was physically separated from the header information and the header destroyed.

Respondents were required to provide a limited amount of demographic information, to indicate their agreement or disagreement with a series of statements and to provide additional comment if desired. They were asked about their experience with reflective tools as student radiation therapists and their postgraduate reflective practice.

The aim of these questions was to determine whether the reflective journals and portfolios undertaken by radiation therapy students are continued as new graduates in clinical practice, and whether the reflective tool used has changed or evolved. The use of reflective journals and portfolios was a specific focus rather than other reflective tools (such as critical case reports or critical incident analysis) as it was deemed more likely that recent graduates might better recollect these types of assessment. By indicating their agreement with a range of statements relating to factors in the learning and working environments, the possible impact of these factors on the reflective practice of students and radiation therapy graduates was examined. Questions were included to examine the perceived effectiveness of teaching about reflective practice by university educators, the practical usefulness of the mandated reflective tools and the role of factors experienced in the clinical environment. The results of the study were analysed descriptively.

Results

Demographic data

46 recently graduated radiation therapists participated in the project by completing a questionnaire, representing a response rate of 93.8% amongst the population of established volunteers. These radiation therapists were employed in various locations throughout Australia and represented graduates of all of the Australian universities currently providing radiation therapy training programs (Fig. 1). The largest proportion of respondents graduated from the Queensland University of Technology, but all universities were well represented.

Over half of the participants completed their university education in 2005 (Fig. 2). Almost three quarters of participants have less than two years postgraduate experience.

Experience with reflective tools

Participants' experience with reflective tools is summarised in Fig. 3. Over 90% of participants had used a reflective tool as a student radiation therapist. Four had never used a reflective

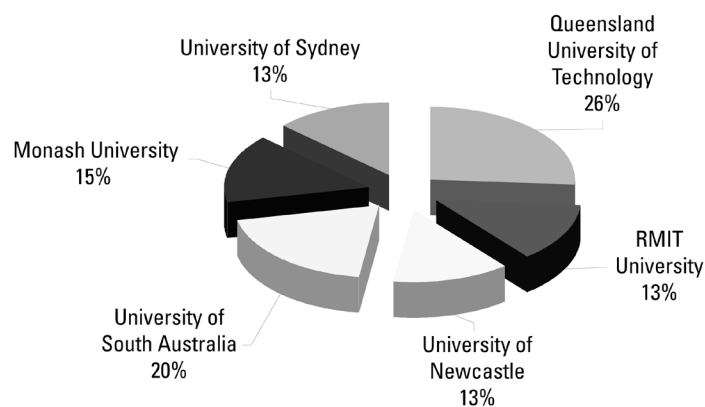


Fig. 1 Participants' alma mater.

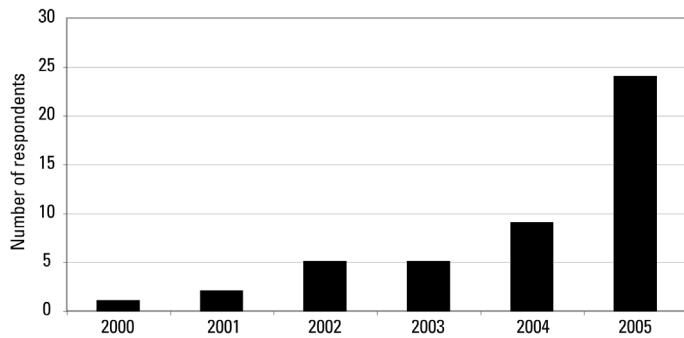


Figure 2 Participants' year of graduation.

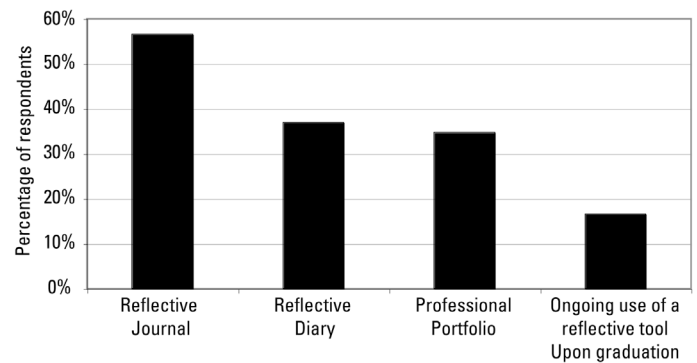


Figure 3 Participants' experience with reflective tools.

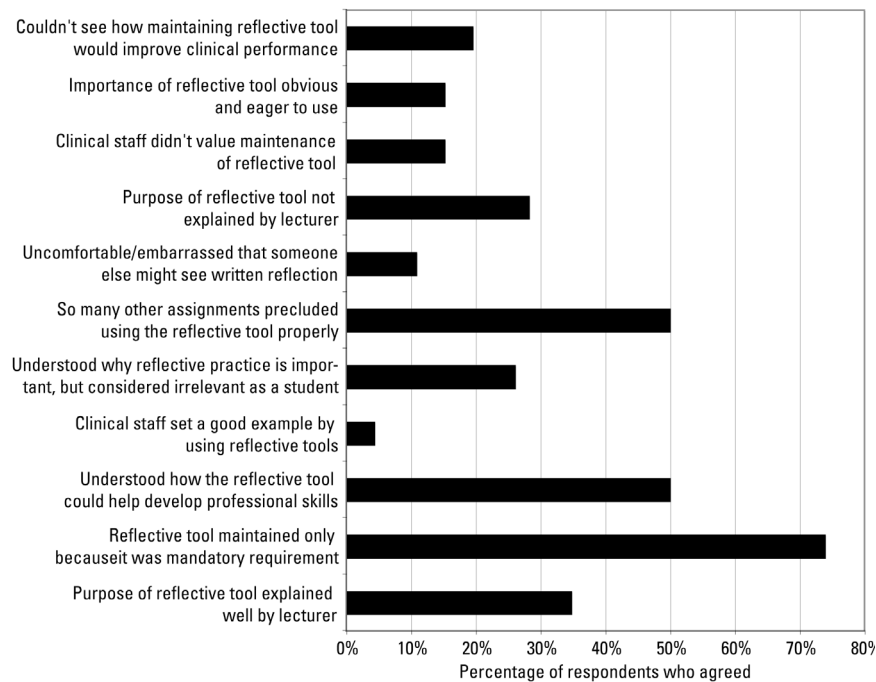


Figure 4 Participants' perceptions of student reflective tools.

diary, journal or portfolio. Of those who reported experience as a student, 56% used a reflective journal, 37% a reflective diary and 35% a portfolio. Several participants indicated that they were required to use more than one type of reflective tool, either concurrently or at different points in their university education.

Despite this high level of usage as students, only 17% of participants continued to use the reflective tool following graduation. Those who continued to use the reflective tool employed during their university education persisted in doing so for an average of nine months following graduation. Some participants resumed the use of a reflective tool at some later point after graduation, with approximately 37% of participants indicating that they currently use a reflective tool; in all cases a professional portfolio has been adopted and two participants also use a reflective diary.

Perceptions of reflective tools used as students

The participants' perceptions of the reflective tools used by them as students is summarised in Fig. 4. Over one-third of the participants agreed that the purpose of the reflective tool used during their university education was explained well by their lecturer. Over one-quarter of the participants responded that their lecturer had not explained the reasons why maintenance of the reflective tool was important to development of their professional skills.

While many participants agreed that they understood how using the reflective tool could help develop their professional skills (50%), over one-quarter of respondents indicated that, despite this understanding, reflective practice seemed somewhat irrelevant to students. Similarly, almost 20% of respondents could not see how maintaining the reflective tool might improve clinical performance. Only 15% of respondents found the importance of the reflective tool to students very obvious and were eager to use it.

Over 70% of respondents indicated they had maintained the reflective tool only because it was a mandatory requirement of their university assessment. Half of the participants agreed that there were so many other assignments to complete as part of their university education that they did not make effective use of the reflective tool. Approximately 11% of participants indicated that they felt uncomfortable or embarrassed to think their written reflections might be reviewed by someone else.

Only two respondents agreed that the radiation therapists encountered during their student clinical placements set a good example of reflective practice in action by using reflective tools in the workplace. Approximately one-sixth of respondents felt that the radiation therapists encountered by them as students did not appear to value the maintenance of a reflective tool.

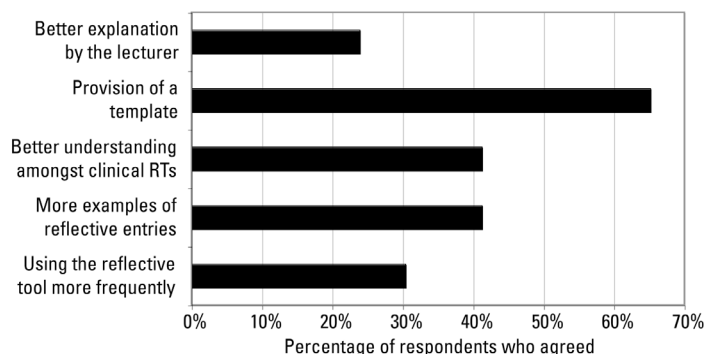


Figure 5 Recommended improvements to student reflective tools.

Recommended improvements for student reflective tools

By selecting options from a list or offering their own suggestions, participants were requested to indicate their recommendations for practical methods by which reflective tools mandated as part of radiation therapy training might be improved. A summary of common suggestions appears at Fig. 5.

Perceptions of reflection as graduates

Respondents were asked to indicate their agreement with a number of statements about their perceptions of reflection as postgraduate radiation therapists. Their responses are summarised at Fig. 6. While over 60% of respondents believed that the use of reflective tools could help improve their professional skills, less than one-third perceived value in maintaining a reflective tool. Approximately 15% of respondents indicated that their ability to make decisions had been significantly assisted by using a reflective tool. Conversely, more than 13% of participants felt that reflective tools were a waste of time and not relevant to the clinical practice of radiation therapists and approximately 10% did not think reflective tools help people learn.

One-sixth of respondents found that their radiation therapist colleagues are open about using reflective tools to help solve problems in the workplace. More than one-quarter of participants felt that their colleagues would say reflective tools are pointless and almost 20% would be embarrassed to use a reflective tool in their workplace. All respondents except one (98%) agreed that good radiation therapists reflect continuously in an unconscious way. Over one-third indicated that they do not have time to spend in maintaining a reflective journal, diary or portfolio. Approximately 10% of respondents believe that reflective tools are an irrelevant concept pushed by academics.

Discussion

The respondents in this study represent a diverse group of graduates from all Australian universities. All completed their university studies between 2001 and 2005 and are employed in a number of different clinical environments throughout Australia. It is reasonable to expect, then, that the participant group provide a level of insight that is both relevant and generally comparable to experiences of current radiation therapy students. The sample selection method employed, while convenient and timely, was less than ideal. This highlights the predicament for researchers attempting to study the Australian radiation therapy population: with no central registry or point of communication, researchers need currently to contact each radiation oncology facility individually and then rely upon one or two key contacts to distribute information and invitations to participate. Further, the lack of information relating to current radiation therapy workforce profiles means it is difficult to establish whether the study sample

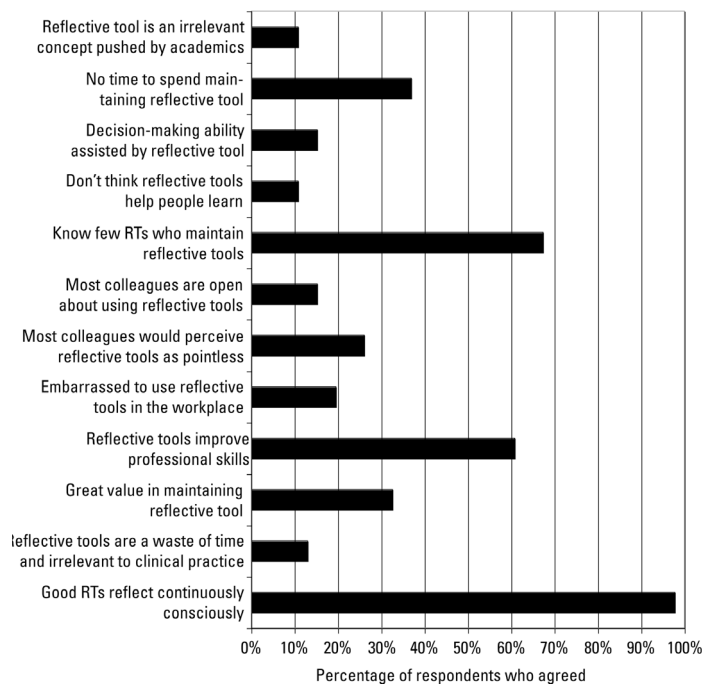


Figure 6 Participants' perceptions of postgraduate reflective tools.

is genuinely reflective of the Australian population of recent radiation therapy graduates: inarguably, the study sample is small compared with this broader population. Nevertheless, the themes and trends identifiable from the responses of the study sample are worthy of consideration.

The results of this study demonstrate that the majority of recently graduated radiation therapists have had exposure to reflective practice during their university education. It appears that, upon graduation or shortly after, many radiation therapists cease to utilise the reflective tools employed during their years as a student. Participants' responses indicate that time constraints, lack of encouragement and support from peers, and a lack of understanding of critical reflective processes may contribute to this change in their reflective practice.

While the results suggest that many recent graduates – although by no means all – resume written reflective practice, primarily in the form of a professional portfolio, comments made by participants suggest some reason to doubt whether this portfolio is commonly used in the context of reflection. While it is true that almost 40% of participants indicated their current usage of a professional portfolio, most of those respondents who made additional comment appeared to view this tool more as a type of résumé or log of clinical activity than as an aid to active reflection, for example:

'Time was allowed during the PDY to make notes on techniques, etc. and keep copies of plans.' Respondent G

'I have included planning case studies of my most interesting and complex plans to showcase my planning skills. Also any conferences I saw...' Respondent P

'An up to date/maintained résumé/file of conferences attended, ideas for projects, etc.' Respondent U

While it is acknowledged that incorporating a résumé or CV and evidence of educational activities is one important aspect of the professional portfolio, this does not, in itself, constitute reflection. It was not within the scope of this study to actively examine the nature of professional portfolios maintained by recent graduate radiation therapists; however, the results suggest that further exploration of the use of the professional portfolio to facilitate reflection among radiation therapists might prove very revealing.

The results of this study suggest that, as students, many radiation therapists did not adequately understand the purpose of the mandated reflective tool and felt explanations provided by their university educators were inadequate. While a large proportion understood how reflective practice and maintenance of the reflective tool might contribute to their skills development and practice, it is concerning that half of the respondents maintained a mandated reflective tool – and, thus, an element of assessment – without a sense of how this assessment aligned with the goals and learning outcomes of the associated unit or subject. Milinkovic and Field⁴ indicate it is essential that radiation therapy students understand the purpose and expectations of the reflective tool (in their case, a reflective journal) to ensure effective use.

This notion is reflected in the suggestions by participants in the current study for improvements in reflective tools used by students, where almost a quarter of respondents recommended better explanation by university teachers of the purpose and use of the reflective tools. Further, almost three-quarters of respondents indicated that their only reason for maintenance of the reflective tool was its prescription as mandated assessment. While there are many aspects to student motivation and engagement in academic work^{14,24} it might be argued that increased understanding of the professional benefits and purpose of reflective practice amongst student radiation therapists may go some way to assisting the routine integration of reflective activity without the need for prescription.

Similarly, it would appear that the acceptance and overt employment of reflective practices amongst radiation therapists in the clinical setting plays some role in encouraging reflective practice amongst student radiation therapists^{5,7} and recent graduates. It is somewhat difficult to judge when the role of reflective practice in developing professional skills amongst radiation therapists gained currency and, similarly, it is undescribed in the literature when deliberate inclusion of education about reflective practice was incorporated into radiation therapy student training in Australia. Very little peer reviewed literature specific to Australian radiation therapy exists and most has been published within the last five years. Given the recent nature of publication of academic literature on this topic, it might be argued that many practicing radiation therapists may have never received education specifically relating to reflective practice. Perhaps recent graduates do not perceive more than moderate levels of acceptance and modelling of reflective practice due to a more generalised lack of exposure amongst qualified radiation therapists. It is worth noting that more than 40% of respondents indicated that their reflective practice as students might have been better supported by improved understanding amongst the radiation therapists they encountered during clinical placement. Future exploration of this subject and examination of the specific value of reflective practice to qualified radiation therapists seems warranted.

In addition to improved explanations by university educators and improved understanding by clinical radiation therapists, respondents made several intelligent and practical suggestions to improve the reflective tools employed as part of radiation therapy student training. Overwhelmingly, respondents recommended that university educators provide students with examples of the relevant reflective tools and samples of effective written reflections. Intuitively, it would seem logical that learners might benefit from illustration of examples of reflective practice in the same way that they review examples of clinical aspects of practice. It has been suggested that the effective use of the reflective diary or portfolio

requires significant metacognitive skills²⁴ which, arguably, may not be fully developed amongst student radiation therapists or beginning practitioners. Some students may require additional support in engaging in reflective activities to better develop these skills⁴ and engagement with illustrative examples provides an opportunity for such support.

A significant proportion of respondents recommended that provision of a template to guide reflective writing may assist student radiation therapists to develop their skills, although one respondent felt that less structure may, in fact, have encouraged greater honesty in his/her reflective writing. McAllister *et al.*⁵ describe extensively the benefits of providing structured guidance to students as a means of developing reflective skills. While only a relatively small proportion of respondents indicate a sense of unease that their private reflections were to be reviewed by someone else (generally the university educator during the grading process), it is nevertheless a point worthy of consideration as a potential hindrance to reflective practice. The notion of confidentiality and privacy for students in undertaking reflective writing as an assessment requirement has been well documented by Australian authors^{4,7,14} with mixed perspectives as to how best to assess and evaluate students' private reflective writing.

The role of written reflective practice by the respondents in their roles as clinical radiation therapists remains somewhat unclear. Most perceived value in reflective practice in improving their clinical skills or decision-making capabilities. Despite this, most do not actively document their reflections. Almost all concurred that unconscious and continuous reflection was a characteristic of good practitioners. Such practice might be aligned to reflection-in-action. While the value of reflection-in-action is well described and critical to reflective practice, reflection-on-action is an equally important aspect of effective reflective practice. The distinction may seem subtle, but the inherent benefit of reflection-on-action should not be understated. The act of writing about a subject is identified by educational theorists as integral to the creation of knowledge and understanding.²⁵ Through writing about an event or situation, the author articulates and explicates their understanding. The written account produced then represents an archival record that, in conjunction with other written accounts, facilitates identification of themes and ideas that may lead to learning that informs or transforms future practice.²⁶ Further, unlike reflection-in-action, reflection-on-action occurs at a time separate to a critical incident or event, allowing for greater objectivity away from the 'heat of the moment'. McAllister *et al.*⁵ suggest that unconscious reflection means that an individual misses out on learning about the generation and consideration of alternative courses of action. While the results of the current study suggest that reflection-in-action might be an important and ongoing practice amongst radiation therapists, it is clear that the role and value of reflection-on-action in improving professional practice is not so well appreciated.

Conclusion

Reflective practice has been identified as critical to advancing professional skills, knowledge and practice. Reflective practice is actively encouraged during radiation therapy student training, primarily through the mandating of some type of reflective writing. Opportunities exist to better support students' engagement in written reflection through provision of better explanation of reflective practice and the prescribed reflective tools. Development of understanding, knowledge and skills in reflective practice amongst the broader community of radiation

therapists would better support the learning goals of students undertaking clinical placement and the ongoing professional development goals of recently graduated radiation therapists.

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