





ORIGINAL ARTICLE

Australian graduate radiographers' perspectives and experiences of work readiness

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Abstract

Introduction: Graduate radiographers entering their qualified positions need to orientate and familiarise themselves with a rapidly changing work environment to deliver a high standard of diagnostic imaging services. During this transitional phase, these newcomers also strive to meet self-expectations and workplace expectations. This study was performed to understand the work readiness perspectives and initial experiences of graduate radiographers on beginning their newly qualified roles. **Methods:** The study used a qualitative phenomenological approach to collect data through individual semi-structured in-depth telephone interviews with 14 purposively sampled undergraduate and postgraduate radiographers. The rich data were transcribed verbatim and then thematically analysed. **Results:** Four major themes emerged: (1) preparing to be 'work-ready', (2) initial encounters as qualified radiographers, (3) personal and professional challenges and (4) support strategies and advice for new graduates. **Conclusions:** New graduate radiographers face many personal and professional challenges but agree that they thrive in supportive collegial environments. Most participants had a high perspective of their work readiness strongly related to their clinical placements as students, workplace familiarity, support networks and coping strategies. Further review into individual workplace orientations by organisation leaders may benefit the immersion and enhancement of graduate radiographers' initial experiences in their new role.

Introduction

Work readiness is a contextual multidimensional construct centred around potential success in the work environment. It is indicated by the extent to which a person possesses specific skills, knowledge and attributes.¹ Graduate radiographers' work readiness entails delivering optimal diagnostic imaging services through professional competence within a rapidly changing environment without compromising the care and safety of the patient.² To qualify for the role, radiographers are expected to complete a higher education qualification.

Radiography education in Australia is offered as a 4-year bachelor's degree (undergraduate) or a 2-year master's degree (postgraduate) in medical radiation

science with incorporated work-integrated learning (WIL) components.³ Similar to other allied health professions, each educational institution offers a clinical WIL program where students are immersed in real workplace settings for varying durations, typically ranging from 2 to 36 weeks. During these clinical placement blocks, radiography students are expected to work through clinical competency checklists by practising their hands-on skills in real-world patient encounters. There is no standardised clinical placement model, so the extent to which students are involved is influenced by their year level, theoretical knowledge, individual confidence and willingness to get involved.⁴ Typically, students are closely supervised and increasingly practice more autonomously as they progress through their course and gradually refine

work-ready attributes such as building resilience and maturity, communicating effectively with all members of the multidisciplinary team, developing strong clinical skills and technical knowledge, being able to seek support, growing confidence and embracing responsibility.^{5,6} The quality of each of these clinical placement blocks is highly varied and dependent on the workplace location, the complexity of patients encountered and clinical supervisors' and individual students' attitudes and behaviours. The unpredictability of these variables means that the graduates at the end of these WIL programs have different perceived levels of work readiness despite being given the same learning opportunities.⁷

The current literature on the transition to the professional practice of new graduate radiographers is limited to UK contexts or other allied health professions such as nursing. These authors endorse supportive and nurturing workplace cultures and have reported that newly qualified radiographers typically experience 'reality shock' and lack confidence when they begin practising professionally.^{8–10}

The Medical Radiation Practice Board of Australia (MRPBA) is the national overseeing board that requires qualified radiographers to be work ready and to practice autonomously within the limits of their scope of practice.¹¹ New graduates have reported different perceived levels of work readiness^{7,12} and transitioning from student to qualified radiographer has been expressed as stressful and challenging.¹⁰ This study therefore endeavoured to understand the perspectives and experiences of work readiness in both undergraduate and postgraduate newly qualified radiography professionals in Australia.

Methods

This article stems from a larger study that established student, graduate and supervising radiographers' perspectives and understandings of work readiness, focusing on the transition to the professional work environment. A qualitative phenomenological approach was utilised to get insights into the lived experiences of new graduate professionals.

The data were collected through individual in-depth semi-structured telephone interviews using an interview schedule from October 2020 to February 2022. Pilot interviews were conducted with three undergraduate radiographers who were excluded from the study. Feedback was attained on the questions and the necessary amendments were made. Participants were asked a series of open-ended questions that addressed their experience transitioning into the professional workplace, preparation for the role, previous work and life experiences,

expectations of self and expectations of the workplace, challenges faced, opportunities and support available, workplace culture and advice and suggestions for future new graduates.

Purposive sampling enabled identifying suitable participants to provide rich data on their experiences as they transitioned into their new roles as professionally qualified radiographers.¹³ Recruiting these participants entailed contacting the clinical practice chief radiographer to distribute the information leaflet. Prospective participants contacted the researcher via email, and the necessary arrangements were made to conduct the interviews. Fourteen purposively sampled radiographers who graduated within 2 years at the time of the study and signed and returned informed consent forms were included in the study. Of these 14 participants, ten completed bachelor's degrees and four completed master's qualifications. Their professional clinical experience in qualified roles ranged from 5 weeks to 24 months. Participants were all younger than 30 years old, predominantly between the ages of 18 and 24. Four were male and ten were female. These demographics are consistent with representing a typical cohort of radiography students.

Verbatim transcripts of the audio-recorded telephone interviews that lasted between 30 and 40 min were thematically analysed. Initially, the first two authors analysed the transcripts by reading and rereading the transcripts to identify preliminary codes to construct themes.¹⁴ The remaining authors independently analysed the transcripts, and discussions were held where there were differences in the coding and theme structure until a consensus was reached.¹⁵ The trustworthiness of the study was established through credibility, transferability, dependability and confirmability. Credibility was achieved through triangulation of collected data and literature, member checking during the interviews and reflexivity. A detailed description of the methodology confirms the transferability of the study. Dependability and confirmability were established through an audit trail of the data collection and analysis process.

Results

The participants' years of experience as qualified radiographers ranged from 5 weeks to 24 months. Their workplaces included a combination of public, private, hospital and clinic settings. Thematic analysis of the rich, descriptive data established four major themes as depicted in Figure 1: (1) preparing to be 'work-ready', (2) initial encounters as qualified radiographers, (3) personal and professional challenges and (4) support strategies and advice for new graduates.

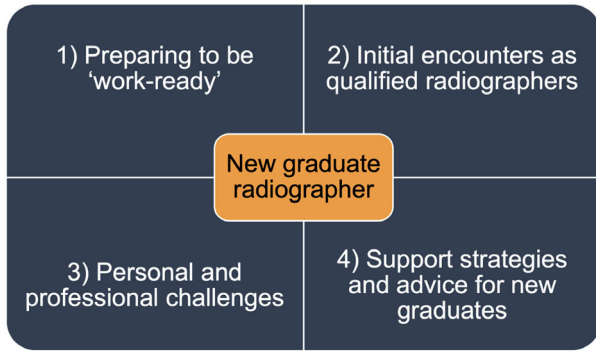


Figure 1. Major themes that emerged from exploring Australian graduate radiographers' perspectives and experiences of work readiness.

Theme 1: Preparing to be 'work-ready'

Participants shared their tertiary experiences preparing them for real-world practice and the learnings and challenges they faced in their novice-qualified roles. Most participants shared that clinical WIL placements during their student training prepared them for their qualified radiographer positions. Typically, participants completed 44–58 weeks of WIL throughout the duration of their tertiary education.

...through clinical placement as a student, I was able to get all the experience ... It's really great because I don't have to think too hard or stress out [now].

(P2)

I find that most complexity comes from the differences in patient presentation. When you spend so long in hospitals and clinics, you get exposure to a lot of different presentations. So, after spending so long in those environments, I think you feel pretty confident that you've seen a very good array of presentations.

(P10)

One participant who was only required to complete 24 weeks of WIL commented that while it was a valuable component of their preparation for the role, they felt underprepared at the end.

Uni and placement definitely helped. I really wish for us, there was more. More time on the floor so we do not have to go into healthcare jobs so unprepared.

(P13)

When newly qualified radiographers were employed at a place they had previously completed a placement, their associated familiarity with the workplace positively contributed to their perception of their individual work readiness.

It's their succession planning at the hospital there to try, if they can, hire the fourth years. They basically kind of already welcomed me as part of the staff. They want us to do well because they want us to get a job there afterwards. And it also helps with- it wasn't daunting for me to start the job there because I already knew everyone, I'd been there for a year, I knew my way around the hospital, what the protocols were, and so it was much less daunting than what it would've been going to a new place.

(P9)

Conversely, those who had not had been to a workplace in their WIL encounters were anxious about the experience post-graduation, feeling as though more time was needed to learn the system of that particular place.

I feel like it is different because some people got placement the entire year at a private clinic, and they only did five weeks at a hospital and didn't do many placements beforehand at a hospital; it's such a different radiography experience... I would be so terrified because there's a lot to know and a lot of techniques that you don't learn.

(P11)

Because I've been there for placement, it's easier to get used to things. Otherwise, it would take me forever to get used to the system.

(P12)

Theme 2: Initial encounters as qualified radiographers

The transition from student to qualified radiographer is an interesting time for new graduates, with one participant saying 'It's been weird. In my first couple weeks, I still felt like a student' (P8).

Because of the differences in attitudes and expectations of each individual, it became apparent that some new graduates required patience and understanding of the novelty of their role while others felt they benefitted from being thrown into the deep end.

I do appreciate when people respect that I'm a beginner and quite slow at doing certain things. It's not like I can just put a learner plate on my back.

(P13)

... the technical side of it was greatly improved because I was thrown in the deep end.

(P14)

Many participants shared their feelings of self-doubt, stating they required time to develop their confidence:

Sometimes I just doubt myself because I feel like I'm not as competent as I should be.

(P13)

I feel like I need at least half a year to be comfortable with everything. Right now, I'm still scared of doing things by myself. I can do it, but I just question myself a lot.

(P12)

Theme 3: Personal and professional challenges

Newly qualified radiographers faced an array of personal and professional challenges. Some participants shared that moving away from family and adapting to change was hard and wished they had networked more in their university years. Administrative aspects of joining professional societies and regulatory bodies and ways of maintaining continuous professional development and professional networks were also regarded as challenging:

I think everyone faces challenges with life transitions in general. I found it really hard, I'm really quite family-oriented, so I found it hard moving away from my family ... and hard to make friends. ... In uni, our professionalism subject kind of talked about it [CPD and professional bodies] but not really. That was well before graduation, and it wasn't really mentioned again. They directed us when to apply to AHPRA for our registration, ... they taught us you need to do this many hours of CPD over this many years and that sort of stuff. But they didn't really give us the resources behind it. I actually sought it out at the hospital. I asked around the department, "what are you guys with? If you had to choose in my position, who would you choose?"

(P9)

I wish I networked a bit more because I didn't think- I really didn't want to believe it was a 'who you know' profession, but it kind of is, and that sucks.

(P4)

Other important things for new graduate radiographers to consider are building relationships with the team as their work environment transitions from temporary student encounters to permanent professional relations.

...developing relationships with them and the doctors and everyone. That's something that I never really bothered with as a student because, you know, you're only there for eight weeks at a time. But now, that's something that's probably the biggest difference about it. All those little things.

(P9)

Training in theatre, fluoroscopy, computed radiography (CT) and magnetic resonance imaging (MRI) was challenging due to time constraints and extracurricular work. A lack of exposure and autonomy in these departments, particularly as a student, resulted in these areas being considered stressful.

Some challenges were probably just getting time in other areas that you need more experience in. I only had a few days in fluoro, and then I was on my own doing all the cases, and that was a bit intimidating... theatre as well. Students don't get much freedom in theatre. Like as far as I was expected really to do most things on my own in theatre. ... feel stressed when going to theatre. You have to do extra to get trained in CT and MRI and all those things.

(P8)

One participant working in a private clinic setting shared that in comparison to their new graduate colleagues employed at public hospitals, their skills, training and independence were accelerated.

When I compare my experiences to friends in the public system, a lot of them aren't in CT at all yet, and if they are, it's quite supervised. Whereas I did a lot of free scanning today with very little reference with my radiographer that was on with me.

(P14)

Orientation of new graduates to their departments varied in terms of structure and content. Some participants were orientated in their new work through an orientation manual and guided tour whereas others experienced administrative complications and struggled with established conventions.

They have an orientation manual, and you have to complete all the things. Day one is getting used to the system, and they introduce you to different wards and take you for a walk, so you know where things are. Everything is really clear, so if you have questions, you can ask them.

(P12)

I think our hospital wasn't the best in terms of learning how the rostering works properly and the payslips and who to go to if something is wrong and what to put in the request book to try and get the shifts that you want and all that sort of stuff. I think people just get so used to doing [it] routine[ly] there that I think they forget that sort of stuff is new.

(P9)

Participants expressed challenges with training students largely due to a lack of guidance for the task. The fast-paced workflow made it difficult for new graduates to give students a go with the pressure to keep up.

We don't really get taught what to do with students. They're kind of just there wanting to learn, and you just teach them what you know. But there's some students too that like to tell people what to do. Especially as a new grad, sometimes they want to tell me what's right and wrong even though it's their first placement and I just don't think that was really acceptable.

(P8)

If you're in a busy practice, I'm not being mean, but I don't feel like students can work at that level. Especially in a big clinic, and you have to keep up. It's hard as a student to do some work because they're just a bit slower. And there's nothing wrong with that, I was a student as well. And I feel honestly very bad about that, but I've got my own responsibilities to keep up with the work.

(P1)

The participants' experiences revealed that many personal and professional challenges are faced on entering their newly qualified roles. Training pathways and workplace expectations significantly differed in terms of structure and supervision. These differences may cause stress or build confidence depending on the individual new graduate's response to their circumstances.

Theme 4: Support strategies and advice for new graduates.

Participants voiced that they valued the support offered by senior radiographers, x-ray team leaders and student clinical coordinators at work, and family and friends at home. Employee assistance programs and buddy systems provided support not only in technical skills but mental health.

In a public hospital, there is a general team leader and a CT team leader. Because I'm new, everyone has been taking care of me and having conversations with me about whether I need help. Not just technical stuff but also mental support. They understand that as a new grad, I'm not friends with everyone, I'm still getting used to things and I'm still learning. Sometimes people may say things that might hurt your feelings. They told me that if I need someone to talk to or if there's any problems or if I'm uncomfortable, I can go to the team leaders or any of the senior rads.

(P12)

They have a whole support network set up at work in terms of, us and our direct family members if needed, get the employee assistance program. We get access to physios and psychologists and all that sort of stuff when we need it. We have one main room in the department where we all congregate in between doing x-rays and stuff, so, often that

will turn into a bit of a; we actually call it the bonfire because we gather around and it becomes a bit of a storytelling opportunity. That too is a kind of support system because it's knowing that it's a shared experience instead of an individual one.

(P3)

Participants appreciated constructive feedback, a supportive nurturing environment and continued supervision to build confidence.

Instead of getting only one supervisor to give feedback every few months ... maybe they can find a few of the seniors to keep an eye out, and when someone is not doing well and needs improvement in certain areas, they can have the power to give them feedback as well. It should be put in a positive way. Not like "you're not doing good enough." "What are you doing here?" More like "for you to improve to be a better staff member, here are the things you can do better." ... I need the work environment to be very friendly; to be very accepting. When I work with other people who intentionally or unintentionally stress me out, I don't really work well.

(P13)

Participants coped by maintaining balanced lifestyles, positive self-talk and focusing on their well-being.

If you have a good lifestyle outside work, you come into work a lot more fresh and you have the ability to think through things.

(P2)

It's the remembering that I can do it and still have that confidence ... I've done this for the last four years [on WIL placements]. I haven't forgotten... It's fine.

(P11)

Participants advised final-year students to prepare through mock interviews, become more independent during student clinical placements, learn about all the required paperwork and most importantly, learn to enjoy the experience.

Learn as much as you can and try to be as independent as you can on placement.

(P11)

... on placement, we did mock interviews because at that point I didn't know I didn't have to interview and at that point, they didn't really know either. The way that they interview at XXX is they use a panel, and that can be hugely daunting when it's a whole bunch of people rather than just one person, so we practised that. Our mock interviews were also with a panel which was good because while they were all people that we knew, it was good to put a little bit of pressure on us to kind of simulate what it would be like... It's your

career, so take some time to actually enjoy it as well and not get caught up in being perfect all the time.

(P9)

Discussion

Most participants felt that their clinical WIL placements, to some extent, facilitated workplace readiness. The holistic nature of clinical placements exposes students to the realities of the job, allowing them to become accustomed to the workflow, protocols, social structure and interpersonal interactions to develop a sense of autonomy and responsibility.^{16–18} Participants' familiarity with the workplace from their student days was noted to positively influence work readiness. Compared to a familiar workplace encountered through clinical placement, adjusting to a new department's routines, procedures and culture requires a more significant adjustment period which negatively affects graduates' perceptions of work readiness.^{12,19} Some participants found developing professional workplace relationships challenging. During their clinical placements, radiography students have a greater focus on situational learning and daily coping rather than developing a sense of belonging and capacity building to assimilate into the work culture they are going to enter once they graduate.¹⁷ These relationships are important in day-to-day encounters with colleagues to be able to build strong support networks in the workplace. Feelings of self-doubt and being unable to meet their workplace's expectations were expressed by some participants. Many of these turned to family, friends or empathetic peers for encouragement and support.²⁰

Participants initially shared feeling like a student, a sentiment iterated in literature, where during the graduate transitional period, there is an equal desire to both hold on and to let go of the student or novice boundary.^{21,22} Studies support participants' gradual immersion into their qualified positions to learn the department's routines and procedures, familiarise themselves with their new environment and discern the workplace's essential 'unwritten' rules.^{23–25} Because of their lack of experience, graduates rely on a slow, analytical and deductive approach to make decisions²⁶ and, with experience, begin to recognise similarities and familiar patterns intuitively or subconsciously.²⁷ However, the increase in the diverse nature of the healthcare system and society and the demand for diagnostic medical imaging services means that the role of the new graduate radiographer is in a flux state.²⁸ In other words, a new graduate has to adapt and immerse in an already evolving complex workplace environment.

Depending on the clinical setting and its context, there appears to be some form of support in the literature for the participant who relished being 'thrown into the deep end' since exposing new graduates to complex and challenging cases better develops their technical expertise and clinical decision-making skills.²⁹ Conversely, some participants shared their feelings of self-doubt around this concept and would prefer being properly orientated and prepared rather than 'being thrown in'. Participants' need for a nurturing environment is echoed in studies where new graduates perceived their level of confidence as low and consequently require a collegial environment to foster their work readiness and ability to handle challenges associated with their new role.^{30,31} Participants' support systems and coping strategies are varied since unique personal life circumstances and individual attitudes and behaviours influence a graduate's capabilities and readiness to work professionally.³² Most participants were "work-ready" and able to implement desirable skills such as time management, resilience and critical thinking.

Due to the qualitative nature of the study, the findings cannot be generalisable but can be used as a baseline study. The findings of this study will assist educators, graduates and supervisors in aiding and facilitating the transition and immersion of these newly qualified professionals into the real workplace environment. This study also illustrates that one type of support system or coping strategy is insufficient in workplace readiness and needs further exploration. A further area of study should focus on the professional development needs of supervising staff at the workplace and their readiness in supporting newcomers in enabling a seamless transition into the workplace environment. Further, similar studies could be conducted with students, newly qualified radiographers and supervisors. From a research design perspective, a mixed methods approach would be beneficial.

Conclusion

The multidimensional construct of work readiness is varied through newly qualified radiographers' perspectives and initial experiences. Clinical WIL placements as students, workplace familiarity, gradual immersion, understanding and nurturing teams, peer support networks and coping strategies contributed to the participants' perspectives of work readiness. There appears to be a mixed opinion on the amount of support currently offered to new graduate radiographers. Some relish being thrown in and working independently whereas others prefer a structured orientation and extra patience in learning the system of that workplace. Further review into individual workplace orientations by

organisation leaders may be of benefit to the immersion and enhancement of the work readiness of new graduate radiographers.

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Conflict of interest

None.

Consent

The publication of this manuscript is approved by all authors, and informed consent was obtained from all participants to use their data.

Ethics approval

Ethics approval was gained by the University of Canberra Ethics Committee (HREC 2020-4751).

Data availability statement

Research data are not shared.

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