

Becoming a general practitioner in Australia: Transformative learning and threshold concepts

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Background and objective

A previous article presented stories of registrars' journeys through early general practice training. This paper aims to explore in detail two registrars' stories using the lenses of transformative learning theory and threshold concept theory to seek fresh insights into becoming a general practitioner.

Methods

This study explored the experience of 12 registrars undertaking their first general practice term using a qualitative narrative enquiry approach. Two stories are examined in more detail to see if they resonate with the transformative learning and threshold concept theories.

Results

Both theories appear to have resonance with the experiences, as described by the two registrars.

Discussion

The transformative experience of early general practice training can be usefully described by transformative learning theory as a holistic change of 'meaning perspective', and also as learning key threshold concepts. This might help inform future registrars' learning and supervisors' teaching.

IN A PREVIOUS article by Howard et al, stories of general practice training as described by general practice registrars undertaking their first six-month term were presented.¹ This journey or transition is difficult, as the registrar learns to link 'the vast amount of accumulated medical knowledge with the art of communication'.²

The difficulty and complexity of becoming a general practitioner (GP) was articulated eloquently in the stories from the registrars. Our research was based on a narrative inquiry framework,³ which understands that who we are (ie our identity) is an ongoing, evolving internal narrative that is relational, social and performative, developing through interactions over time as it is told and retold.

The journey can be understood from a variety of theoretical perspectives including adult learning theories; professional identity development – social theories such as communities of practice; and transformative learning theories. There were many stories describing the changes or transformation that took place within the relatively short period of six months. How can we understand this change in light of existing transformative learning theories? The role and importance of theory in GP education research has been highlighted recently by Brown et al.⁴ They postulate a variety of different 'roles' or 'characters' that theory can take within a research narrative, including a 'protagonist', an 'ally', a 'harbinger' or a 'mentor'. In light

of their ideas and recommendations, the data from our research are examined using the transformative learning theory⁵ and threshold concept framework⁶ as 'mentors'.

Transformative learning theory, as described by Mezirow,⁵ posits several elements of a transformative learning experience, including a 'disorienting dilemma', which challenges the learner's existing frame of reference or 'meaning perspective'. There is subsequent self-examination and reflection, and a building of competence and self-confidence in new roles and relationships. The 'meaning perspective' becomes 'more inclusive, differentiated, permeable and integrated'.⁵

An alternative and newer theory around transformative learning is the threshold concepts framework originally described by Meyer and Land in 2003.⁶ Threshold concepts are described as 'conceptual gateways or portals that lead to a previously inaccessible, and initially "troublesome" way of thinking about something'. Threshold concepts are those that are central to a discipline or field. They are like 'core concepts' but with a transformative component. They are *transformative* in that they lead to a significant shift in the learner's perception and understanding. Threshold concepts are *integrative*, exposing previously hidden connections or interrelatedness of things within that discipline. Threshold concepts are *irreversible*; that is, once the

concept is grasped, the change of perspective is unlikely to be reversed. The learner is described as being in a ‘liminal space’, which is a quality of ambiguity and uncertainty; on the verge of transitioning to something new (from the Latin *limen*, meaning ‘a threshold’). Threshold concepts are associated with knowledge that is often ‘troublesome’ in a number of ways, including by being conceptually difficult, tacit (ie difficult to express in words) or ‘inert’ (ie understood in theory but not in practice). Meyer and Land were describing their use initially within higher education, particularly economics and mathematics, but they have since been taken up in many fields, including health profession education.⁶

Recent scoping reviews have been undertaken on the use of threshold concepts in medical education⁷ and health profession education.⁸ The latter advised caution on the rapid uptake of the threshold concept framework as the latest ‘go to’ theory in health education, highlighting issues around a lack of definition and rigour regarding the use of threshold concepts. Nevertheless, there has been an enthusiastic uptake of threshold concepts within the health profession education field, including in general practice education.⁹ It appears that the idea of threshold concepts is one that resonates with practitioners and professionals in various fields.

The idea for the re-examination of the data using these two theoretical lenses is to see if the stories from the learners resonate with the theories and therefore whether this might be a useful way of understanding the journey to becoming a GP. By using both theories, we aim to look for areas of difference and complementarity between the two and how this can inform general practice teaching and learning. Improving our understanding might help smooth the path for subsequent registrars. Given the declining popularity of general practice training among newer medical graduates, fresh insights into this journey might point to interventions that could alter this trend.

Methods

Detail on the research method was outlined in the previous paper.¹ In summary, the stories were heard and collected in the form

of interviews, pre- and post-term, and in fortnightly audio-diary reflections from a cohort of 12 general practice registrars undertaking their first six-month general practice term. The registrars were sent a reminder and asked to talk about memorable experiences from their previous two weeks, particularly important learning experiences.

In the original research, several themes were identified within the ‘learning journey’ and in the ‘personal and emotional journey’ of the registrar. In the re-examination of the data, stories of two registrars are explored in detail, including what themes the stories relate to and whether the stories fulfil the criteria of either transformative learning theory or threshold concepts theory, or both.

Results

The patient-centred approach

In these extracts, one registrar tells us a story in one of their reflections and then in the post-term interview about an experience where they learn that the doctor’s decision and plan needs to consider the beliefs and preference of the patient.

This reflection was approximately 10 weeks into the term.

There are some that really stand out. I had a patient who had seen a chiropractor and was asked to get an (magnetic resonance imaging) MRI of their shoulder ... to diagnose a condition of adhesive capsulitis, essentially frozen shoulder. The patient had come into the surgery with this expectation. Now, I had taken a history and examined their shoulder and I had hinted to the patient that it appears to be a frozen shoulder and an MRI possibly won't benefit her in managing this condition. This patient had ... particular significance and attachment that the MRI was essentially her answer. After a discussion with the patient I had suggested that a physiotherapist is probably appropriate. She wasn't open to the idea of trying another health service. And I think she had taken my outright refusal of an MRI as a barrier ... the patient essentially walked out of my room saying I wasn't going to do anything and it's okay. I hadn't, sort of, engaged the patient when she had walked out in anger. Upon reflection I had talked to the supervisor about what I had done, and how I'd managed. And my supervisor was ...

acknowledging of the steps that I had taken. And he had mentioned that we try and make sure that the patients aren't harmed. And an MRI necessarily doesn't involve radiation; so the harm rather than physical is more financial for the patient. Take a history and examine the patient and let them know at the conclusion of the assessment as to what the best point or what method of treatment is. Rather than refusing their concern from the very beginning as they may fail to listen to everything else that comes after ... I think we can commonly encounter situations where the patient's needs and expectations may not align with our own and when we do take a thorough history and examination and approach a condition in an evidence-based manner, this may create differences and it's how we manage these differences becomes the key to this consultation and the doctor-patient relationship. I think that was one of the most, I guess, important learning cases that I had. ...

This registrar then recalled that case in the interview at the end of the term, which was another three months down the track.

I remember the lady came in and asked me for an MRI. And I had assessed her probably in maybe five minutes, but I'd basically reached my conclusion from my examination. She'd come in and she'd said, "I'd like an MRI", and I said "Okay, what's the issue?". "It's my shoulder". "Okay let me have a look". So I had a look and I explained, this is what I'm finding. And it was quite clear. I was saying to this lady, "I'm not gonna give you an MRI. And this is why". And I had turned around, typed on my computer, and I'd turned back around, by the time I'd turned back around this lady was already up and out of the room.

The registrar then talks in more detail about their supervisor’s response.

But I was a bit affected that day so after that consultation I'd gone into (supervisor's) room — the reason why I probably mentioned [supervisor] is because I think he's probably been quite influential in my progression. And I'd gone in there and I said, "(Supervisor) I'm quite upset". And I told him what had happened and then he said, "Okay, you've got a patient in ten minutes, how about you finish

that one. I notice that you don't have anyone after that, we're gonna have a tutorial on this". So I saw the next patient which all went okay and then I turned up in (supervisor's) room and he said, "Right, let's go for a walk". So we went for a walk around the town, a half-an-hour tutorial or a walk-tutorial is a different concept in this situation I suppose, and this is where I think I got to learn from someone who is a lot senior to me about his experiences and his growing and his time and how he's approached these situations and what he's done and what's worked and what hasn't worked.

And the end outcome was that, look it's all clear what you want to do sometimes but it's far more important to also see what the patient thinks is important at that time. He said, "If it's ridiculous and stupid don't do it, if it doesn't harm them you can do it at your discretion, if it doesn't harm you, you can do it at your discretion". In this situation the harm was to the patient's pocket, so basically, they were going to be paying for something that they probably didn't need but they didn't have any understanding of that. Then he said, "It's a negotiation".

Looking at this narrative from a transformative learning theory perspective, we can see that there is a disorienting dilemma; the registrar makes an accurate assessment based on a history and examination, but the patient wants something that the registrar believes is unnecessary, leading to the patient walking out. The registrar talks about being 'affected that day'. He talks to his supervisor about it. The supervisor listens to him (we find out in the post-term interview that he takes the registrar out for a walk to talk about the issue). This is the reflective part of the process, which includes an active physical component, in this case aided by a more experienced colleague. The supervisor reassures the registrar that he has made a thorough assessment by taking a history and doing a proper examination. We do not hear all the things the supervisor said, but we assume he is imparting the wisdom of what he has learnt through many similar experiences over the years. The learning is around the importance of understanding the patient's perspective; that is, becoming patient-centred. Up until now, it has worked

quite well for the registrar to do a thorough assessment by taking the history and doing an examination, working out a likely diagnosis and a plan of what to do. This is what a doctor trains to do. He has not considered what the patient themselves want to do, what their own thoughts and beliefs are. He comes to see that in general practice, this is a crucial part of practising well. The registrar has incorporated this change into his meaning perspective, evidenced by him recalling the learning experience three months after the event.

Looking at this from the threshold concept perspective, we can see several elements that fulfil the criteria. The knowledge is certainly 'troubling' for the registrar. He experiences a liminal space, being guided through by the supervisor. The experience is transformative, and irreversible – he now understands the importance of considering what the patient wants – 'it's far more important to also see what the patient thinks is important at that time'. It is integrative in that it does affect how he practices generally.

Practising safely and independently: Dealing with uncertainty and learning the 'right' approach

In this series of extracts, we follow a registrar over three months as they relate their experiences and feelings about practising independently in primary care.

Pre-term interview (one week in)

I suppose my expectations are that I'm going to learn a lot, which is already happening, but it's going to be a steep learning curve, but a good one, and I think that's really all I'm expecting for this first term. I expect it to be a bit awkward, at times ... and very confusing, but, ultimately, lots and lots of learning.

(The registrar was asked to expand on the term 'awkward')

Awkward because, I think, just in the way that it's awkward whenever you change a job to something that you are not that familiar with; having to get used to the particular way that GPs practice. Pretty much everything's new — the software, your colleagues, the working environment, being one-on-one with a patient, and even the diseases that you're encountering; a lot of them we don't see in

hospital medicine. So ... we don't really know how to treat them until the person comes into the room and we, kind of, have to figure it out.

Four weeks in

I'm now in my fourth week of general practice training and there have been some good parts about the last couple of weeks, and a couple of challenges along the way that have not been as enjoyable ...

But I suppose the thing that I've struggled to get used to is the feeling like a deer in the headlights quite often because of the different presentations that come to GPs, as opposed to when you're a hospital doctor. Some complaints or diagnoses that you see in general practice, you just don't come in contact with them in hospital medicine, so I suppose there have been many, many occasions over the last couple of weeks where I've just felt like I have no idea what I'm doing ...

I've really enjoyed people coming in with a rash or some kind of symptom and trying to use your clinical judgment to figure out what's going on and I almost get a bit of a thrill, as well, when you make an assessment, you think you know what's going on, and then an investigation comes back to, I suppose, show that you were right in your assessment ... It kind of helps with that overall lack of confidence that I've otherwise been experiencing in the last couple of weeks.

Six weeks in

Well, I've been a bit under the weather, which, apparently, is pretty common when you start GP training, so that's been a bit of a challenge and made everything a little bit harder.

I've realised that it doesn't matter so much if you don't know the answer, or if you don't know what's going on with something or someone, but it's all about the approach you have.

Going on from that, it's kind of becoming more clear that, even if you don't know the answer, as long as you have the right approach to the patient in terms of rapport-building; taking a good history and doing

a good examination and planning some investigations and follow-up, it doesn't really matter if you don't have the answers because the appropriate approach will help you find them. And, even if you don't find the answers, that gives the patient some faith that you're doing a good job.

Ten weeks in (following 3 weeks of leave)

I think the most obvious thing that I have noticed this week is how fragile my confidence is in general practice. I think the last time I recorded I was talking about how the gist was that I was getting a bit more confident in what I was doing and feeling a little bit more comfortable, but three weeks away was all it took to plunge me right back to the beginning. Got some borderline crippling self-doubt now. It's not as bad as all that, it's just when you take time away from anything that you're newly working on you can expect to take a couple of steps back and a few things become a bit hazier that were starting to become clear. That's my reflection for the week. I don't expect it to last too long though, given how quickly I started to feel comfortable in the first couple of weeks of this term. I'm sure come next week it'll be a different story, it's just all part of the learning process, I guess.

Twelve weeks in

I think one thing that I've noticed is the past two weeks I've become a bit more comfortable, perhaps consulting my supervisor a little bit less. I think a lot of that comes from not necessarily knowing more or being more skilled, but I think it comes from realising that I don't have to know the answers all the time. And that I don't have to always get the diagnosis or decide on management straight away. It often feels like in general practice there's no time so you do need to do all these things in your fifteen minute appointment. But I guess the thing that I'm becoming more comfortable with is this idea of ongoing continuity of care and getting patients to come back. Our main job in that first appointment is: Is this something urgent? Is it dangerous? Is this something that I'm worried about? And if the answer's yes then obviously you've got to take that further immediately. You've got to send them to the appropriate person or place, like emergency. Or you've got to consult

your supervisor if you don't know quite how to manage them yourself. So, in those kind of situations, definitely there's a bit of a rush to figure out what's going on. But the majority of consults, you can decide pretty quickly that what the person's presenting with, given their history and your examination findings, isn't acutely urgent and you've got time. So, I've been cutting myself some slack a bit more and as long as I feel safe to identify when something needs urgent attention or not, I think the best thing that you can do in that first consult is, of course, be thorough and try get all the information you need and develop a plan. But, I think also developing the rapport with the patient so that they want to come back to follow this up further.

In these stories, we hear the registrar articulating elements of transformative learning regarding learning to be an independent practitioner. The 'disorienting dilemma' is evidenced by the language they use early on – 'awkward', 'crippling self-doubt', 'deer in the headlights'. They describe moments of enjoyment and excitement, along with times of anxiety and self-doubt. Clearly, there is a lot of reflection going on. They then describe feeling more 'comfortable' once they have developed a new perspective or approach. Their description at the 12-week mark of their approach really encapsulates the elements of safe independent general practice; that is, the importance of good rapport, excluding the presence of serious acute illness, taking a good history and conducting a thorough examination, and then formulating an appropriate management plan.

We can also hear features of threshold concept theory. Coming to terms with uncertainty, the 'huge amount to learn' and feeling 'like I have no idea what I'm doing', is obviously troubling for the registrar. There is a period of liminality working through this, at times feeling more 'comfortable', only to then 'plunge (me) right back to the beginning'. They describe coming to the realisation that they do not have to know everything, as long as they have the right 'approach', which includes having a good rapport with the patient, taking a good history, doing an examination, potentially a few investigations and then following up. Learning this ability to deal with uncertainty

is transformative for the registrar and is integrative to their practice.

Discussion

By examining the stories of two general practice registrars in detail, we can see how their experience might correlate with the two transformative learning theories. This does not aim to be representative of learners as a whole group and can only be a recording of that individual's presentation of their recent experience.

Listening to the reflections of these two GP registrars on their first six months of general practice experience, we can recognise elements of both transformative learning theory and threshold concept theory. The disorientation, reflection and subsequent change in meaning perspective is articulated well in the narratives presented. There is a sense that this change is not simply an acquisition of knowledge, or even ways of thinking, but a more holistic profound change in their way of being a doctor. As one of the registrars said, 'So even if I can't pinpoint exactly what I've learnt, I know I've learnt something because I'm no longer the same doctor'.

Similarly, the elements of transformation, irreversibility and integration around learning experiences are described in the stories. There would appear to be several elements of becoming a GP that would fit into the idea of the threshold concept, including becoming patient-centred, learning the 'right' approach and becoming comfortable with uncertainty.

The similarity and potential complementarity of these two theories has been investigated in a study by Hodge.¹⁰ He notes that transformative learning theory is more holistic, and 'calls attention to the place of transformation within the broader life project of adults', whereas threshold concepts relate to a change in thinking regarding a particular body of knowledge. Nevertheless, there are similarities; for example, the 'troublesome' nature of the problem in threshold concepts equating to the 'disorienting dilemma'. In both theories, there is a period of potential disorientation, reflection and 'liminality', followed hopefully by a subsequent resolution or movement into a new way of thinking or understanding.

The transition from hospital doctor to GP is described by those undertaking it, and can be conceptualised in a variety of ways, including as a transformation. This transformation has an overall holistic ‘metamorphosis’, as well as the learning of core skills and concepts. We hear these two elements in the registrar narratives. In this way of understanding, the holistic transformative learning theory and the more granular threshold concepts theory are both valid and useful.

Can we make use of these theories to help registrars navigate this transition? Reflection is an important element within both theories, and this is something that the research project itself encouraged. Involvement in the project was obviously voluntary, but having signed up, the registrars felt obliged to send their responses, and even though at times this felt like a chore, the usefulness of this ‘forced’ reflective process was expressed by several registrars in the post-term interviews. This encouragement of reflection through an audio or written diary could become an option for registrars. All registrars have a training advisor and medical educators who could be the person who could read their reflections. This could contribute to their overall education journey and assessment process through the general practice training program through either The Royal Australian College of General Practitioners or the Australian College of Rural and Remote Medicine.

The importance of supervisors in the transition is highlighted in the first registrar’s story. The story describes the innovative approach taken by the supervisor who recognised the registrar’s ‘disorienting dilemma’ and took him out for a walk to discuss the problem. This method of teaching goes back to ancient Greece and the peripatetic school of Aristotle, where lectures and instruction were given while walking. Although not all supervisors have the time or skills to do this, understanding the difficult transformative process and that there are various ways of helping the registrar negotiate this, might be useful.

Conclusion

In summary, this article has focused on the transformative experience that registrars go through in learning to become a GP.

At one level, this is an individual journey, and all registrars have their own unique story, but there are elements that are common to all. By understanding this commonality, we might be able to help future cohorts of GP registrars as they undertake their own learning and personal journey. The two transformative learning theories that we have used in re-examining the data from our research appear to resonate and help make sense of these data. Further research in this area might help tease this out further and elucidate how these findings can be used in the GP education space, including registrar learning and supervisor professional development.

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Competing interests: None.

Funding: The original research was funded by an Educational Research Grant (ERG016 2018/2019).

Provenance and peer review: Not commissioned, externally peer reviewed.

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Acknowledgements

The research was undertaken with registrars from the two Victorian Regional Training Organisations (at the time). The author would like to acknowledge the generous contributions from those registrars. The researcher who collected the data and assisted in the initial analysis and paper was Dr Christine Bottrell. Dr Jenni Parsons was also involved in the initial analysis and paper.

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