Fostering Participatory Action Research in Higher Degree Research Settings through a transdisciplinary peer-mentoring collaborative

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Abstract

In this paper we take inspiration from Levin's (2003) provocation "can universities ever become a greenhouse for education in action research?" His assertion that creating action research learning opportunities within universities is possible becomes particularly relevant in the context of a changing Higher Degree Research (HDR) landscape, notably in Australia. The increasing emphasis on industry-focused doctorates and the demand for post-doctoral career pathways beyond academia necessitates a deeper understanding of supporting engaged and impact-oriented research training. To address these challenges, we present a reflexive discussion centred around the HDR Participatory Action Research (PAR) Collaborative—a year-long peer-learning initiative designed to cultivate a community of practice on transdisciplinary participatory research among graduate researchers at the [Institution]. This was conducted as a participatory action research project, with a systems-thinking orientation. We articulate lessons learned around the blockers and enablers for training HDR candidates engaged in participatory research to tackle wicked problems and ways to enhance HDR researcher development in this area, including the prototyping of new peer learning and mentoring approaches. By aligning with Levin's emphasis on practical and useful knowledge, we highlight the importance of curriculum design for synchronous and asynchronous hybrid delivery, collective peer learning practices, and transdisciplinary orientations to research as crucial factors for success in action research programs within the academic context. By addressing the evolving needs of HDR training and research cultures, our study contributes to the ongoing dialogue on holistic and integrative research approaches and ways to support them within higher education.
[249 words]

Keywords: action research, transdisciplinarity, doctoral training, higher education, Morten Levin, peer-mentoring

Note on anonymization of article for Peer Review: Where author names were mentioned in the original they have been anonymised and referred to in relation to author order. E.g. Author 1.

Introduction

Since Levin (2003) put forward the provocation on PhD programs in action research, "Can universities ever become a greenhouse for education in action research?," there have been significant global changes to higher education (Altbach et al. 2019). In many cases, this is a result of the massification of higher education, itself an outcome of increasing access to, and utilisation of, pathways to higher education. However, the challenges that have confronted higher education, and are likely to be exacerbated in coming decades, are not solely about meeting the increased demand; rather they are more complex and multi-faceted. Globalisation and internationalisation have meant that higher education is increasingly competitive (Marginson and Van der Wende 2007), as some students have increased opportunities to pursue studies in new environments. In addition, changing legislative agendas and social standards have meant that there is an increased emphasis on access and equity, and increasing support for students from marginalised communities to attend university (Lister et al. 2022). This has brought with it increasing administrative and regulatory frameworks related to the quality of the student experience, and considerations relating to the equivalency of different qualifications (Macheridis and Paulsson 2021). There have also been ongoing concerns regarding the funding of public higher education institutions, along with a perception from some policymakers that universities are no longer just about the public good but must increasingly find ways to fund themselves (Lebeau et al. 2012). Such an approach has led to the expansion of the private higher education sector in many jurisdictions (Liu et al. 2016) at the same time as there is a crisis in the nature and role of academics working within higher education institutions (Currie and Vidovich 2009). Finally, there is the increasing influence, across all facets of higher education, but especially the student experience, of mobile and digital technologies (Bonfield et al. 2020).

Australian universities are facing the same challenges, especially in terms of the requirements for greater accountability for the student experience (Australian Universities Accord Panel 2023). In addition, the sector itself is still recovering from the challenges posed by the loss of international students during the pandemic-led lockdowns on international travel (Likhovtseva 2021). Furthermore, there is an increasing interest in seeing universities as engines for solving problems. In some locations, this takes the form of greater emphasis on inter-, multi- and especially transdisciplinary research practices (Fam et al. 2022), while in others there is more focus on universities remaining close to industry (Faith Valencia-Forrester 2019). In some ways, the challenges faced by universities – in Australia and abroad – have also meant that there are opportunities for re-examining existing practices, particularly in relation to PhD programs and doctoral training in action research (Tanco et al. 2023).

In this paper, our intention is to describe insights from running a year-long peer-learning initiative designed to cultivate a community of practice on transdisciplinary participatory research among graduate researchers at the University of [Institution]— the HDR Participatory Action Research (PAR) Collaborative. We first provide an overview of the PAR Collaborative. Then, discuss relevant literature on doctoral training and action research, with particularly reference to Levin and Martin's (2007) edited special issue in the journal *Action Research,* and recent research since. A description of our methodology, which uses a "story-dialogue method" structured discussion format (Poland and Cohen 2020), drawing on Labonté's (2011) work on "story groups," follows the literature review. This is proceeded by our reflexive story dialogue, providing a structured discussion of key insights from running the PAR Collaborative in 2023. We emphasise the importance of curriculum design for synchronous and asynchronous hybrid delivery, collective peer learning practices, and transdisciplinary orientations to research as three crucial factors for success when creating action research programs in

higher education. To conclude, we align this discussion with Levin's emphasis on practical and useful knowledge to advance insights into the integration of action research in conventional university settings, and offer practical considerations for future directions. By exploring the evolving needs of HDR training and research cultures, our study contributes to the ongoing dialogue on holistic and integrative research approaches and ways to support them within higher education. Taking inspiration from Levin's (2003) provocation, we advocate that "Ph.D. programs in action research" can be housed in universities and emphasise transdisciplinary orientations for doing this.

Context: The PAR Collaborative

The Participatory Action Research (PAR) Collaborative brings together graduate researchers from different disciplines across [Institution] to help shape a community of practice on participatory action research. It is an initiative, started in 2023, and facilitated by the authors of this article (academics in different parts of [Institution]), in collaboration with the Graduate Research School (GRS), as well as participation by faculty and staff from across [Institution] who are involved in the [Institution] Action Research Network. During the year-long pilot, we've been prototyping ways of learning and doing participatory research to strengthen professional development and graduate education at [Institution]. The focus has been peer-to-peer mentoring and learning, informed by structured sessions on different aspects of participatory action research. This idea emerged from requests from graduate researchers engaged in participatory research for a transdisciplinary space to share experiences, learn, and reflect on practice with peers and researchers outside supervisory teams. The collaborative has been run in collaboration with two internationally leading scholars in action research, Professor [Name] (University of [Institution] and Adjunct Professor at [Institution]) and Adjunct Professor [Name] (Visiting Scholar, [Institution]). The diverse background of the PAR leads has created a truly transdisciplinary approach to participatory research.

To date, we've covered a range of topics, including: diverse foundations and genealogies of participatory research across disciplines; methods for data collection and analysis; initiating, convening and maintaining thriving partnerships; ways of embodying and navigating engaged scholarship with communities; ethical responsibilities and quandaries of emergent research; and ways of communicating research to/with the academy and partners. In structure, the PAR Collaborative follows a set rhythm. Over the year, for each month we suggest a 1.5 hour time commitment from participants per week for three weeks, and invites them to a 2.5 hour workshop in the final week, as shown in figure 1:

Fig. 1 Typical week by week structure for the PAR Collaborative sessions for each month

In the first week, students complete online learning activities on Canvas, the learning management system (LMS). In the second week, students complete a reading and reflection on the content individually. In week three, students meet in learning groups of 3-4 students to participate in peer group activities and meetings where they critically engage with and discuss the provided resources. Depending on student location and work commitments, some groups met face-to-face and worked

collaboratively, while other groups worked asynchronously. Finally, in the fourth week, the whole collaborative meets for a hybrid workshop (offered both face-to-face and online) to discuss what they have learned and apply their learning to their own research agenda. There are no assessments; rather the emphasis is on developing a collaborative in which to share experiences and challenges and to develop our various practices as engaged scholars. Building relationships, developing personal professional practice, and mentoring others is the work.

Literature Review

Levin and Martin (2007) edited a special issue in the journal *Action Research* on the possibilities and obstacles for educating action researchers. They felt that one way of doing this is to use the principles of adult education, but noted the dilemma the adult educator would face arises from the nature of action research (AR) because AR is not a single method:

> "AR is a strategic approach to knowledge production, integrating a broad array of methods and methodological approaches in specific ways to create new understanding for participants and researchers through solving practical and pertinent problems and supporting problem-owners' democratic control over their own situation." (p. 220).

The nature of AR does not make it conducive to being taught in a structured adult education program. They also queried whether educational programs could adopt one of the following paths:

1. Teaching someone to be an action researcher through theories and methods.
2. Supporting someone to learn to be an action researcher in practice by working with them.

They felt that action researchers need both research skills and intervention skills. The former could be taught through theoretical appreciation and learning to reflect, while the latter would need training in field studies. From their review of the literature in 2007 they found many ways in which scholars had conceptualized different aspects of becoming an action researcher, such as:

- Process-oriented supervision of students (Reason and Marshall 2001);
- action research as an intervention (Levin and Ravn 2007; Stringer 1999);
- developing a product, such as action research thesis (Coghlan and Brannick 2005);
- explaining the philosophical underpinnings (Carr and Kemmis 1986).

While all of these are useful for helping action researchers, none of them seem to address how action researchers are to be educated. Levin and Martin's view of how action research is learnt required four components:

> ''Our view is that action research is learned in action, in reflections with others, in reflection on what is written (theory), and in discourse, interaction through language, especially written discourse. Taken together, these four components comprise the cycle of action and reflection that describe the progression of action research" (p. 223).

They felt that teaching will not suffice as students must learn to do it too.

However adult learning theory is useful to help action researchers as it "emphasizes the need for learners to be self-directed and autonomous, for the educational process to build on experience, and for the content to be relevant and practical" (p. 225). The focus of adult education to address themes like "planning programs, deriving solutions to social issues or working within organizations to implement change is very relevant to what action researchers do" (p. 225).

Referring to Mezirow's (1990) theory of transformational learning, Levin and Martin (2007) argued that we need to train or educate action researchers from multiple perspectives:

1. Engage them in meaningful social action as they often need to empower others.
2. Provide them with challenges and support to enable them to understand agency and power.
3. Help with scientific thinking so that they can write a thesis, dissertation or report that will be judged or used by others.

Based on the authors reflection needs, they make the following suggestions that can help action researchers at universities:

> "Engage students in explicit cycles of practical action and reflection that connect with existing theory and invite critical thinking. Insist on socially relevant field work that requires the development of action-oriented skills in the field" (p. 226)

They highlight what they found from the articles written by the contributors to the special issue to see what advances have been made in educating or training action researchers, as we've summarized in Table 1.

Author	Contribution
Greenwood (2007)	Greenwood tried to introduce action research in Cornell University through setting up a center for action research (CPARN). Based on his experience with administrators he felt that AR will find it difficult to find a role in higher education unless the institutions as a whole embrace action research. After setting up a program for students to undertake action research as part of their service learning, he found that the administration systems that manage research in universities using a hierarchical rule-based approach will act as a barrier to teaching and using action research to transform university life for students
Taylor and Petit (2007)	Their paper discusses how a master's program developed to teach participation, power and social change created through their teaching activities served as an example of an educational effort to teach participatory approaches.
Grant (2007)	Her article reported on her living experiences of learning action research through doing it.
Etmanski and Pant (2007)	Their article reported on a joint effort between India and Australia to teach practicing action researchers online exemplifying how action research can be taught across cultures beyond academia.
Sankaran et al. (2007)	Their article explains how action research was taught using distance learning supported by online platform to students doing action research as doctoral research in their own organizations in Singapore while attending at Southern Cross University in Australia. Students were all managers or practitioners working in local organizations. This serves as a good example of the effect of bridging theory with practical learning.
Barazangi (2007)	Their article explains how action research was taught to an academic faculty in Syria, empowering researchers who had not previously been rewarded for their research efforts.
Peters and Gray (2007)	This reported on a university doctoral program in collaborative learning targeted at full time professional adults by engaging them in cycles of cycles of action and reflection

Table 1 Contributions to the special Issue (summarized from Levin and Martin 2007)

We now briefly look at how educating action researchers has advanced since the special issue was published in *Action Research* (Levin and Martin, 2007). Vaughan and Burnaford (2016), who carried out a review of action research literature in graduate teacher education between 2000 and 2015 report that a course to teach action research evolved from a one-course model to an approach integrating
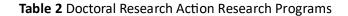
both theory and practice. They found that supporting action research in teacher education programs depended on the goals and objectives of the program. They classified action research education from their review into three themes:

1. As reflective practice, mainly for teachers at the graduate level,
2. As a participatory critical inquiry, to help teachers to be able to carry out critical reflection and critique of schools to implement change,
3. As a teacher leadership program, to implement change in schools and communities at a Masters level enabling them to meet the needs of new roles developed in schools that teachers aspire to move into and to lead.

Other programs found from a brief search of the literature are described in table 2.

Author	Program / Contribution
Walsh, Rutherford and Sears (2010)	An undergraduate program in Western Canada – as an introduction to community-based research with marginalized populations, this included undergraduate students and course instructors from faculties of nursing and social work and members of a local-homeless service agency. The unique feature of the program was that the course occurred within a community setting intended to help learners identify future learning and research opportunities.
Zambo (2011)	An education program at Arizona University – as a signature pedagogy in an education doctorate, this program included a combination of core courses, research courses resulting in a capstone AR dissertation, and ending in a 'research day' with posters, panels and a public roundtable. The aim was to help students to become 'stewards of practice'. Dissertations are structured in six chapters. The authors conclude that this program helped form 'habits of heart' as they took on a challenge that caused tensions, 'habits of hand' through the action research process, and 'habits of mind' by taking personally and professionally mindful actions.
Vaughan, Boerm and Whitehead (2019)	A semester long coursework program for doctoral students in the field of education at Florida Atlantic University – action research was taught among other methods. Students self-selected their projects to collect data and complete analysis within a time frame. Seven students were interviewed from the doctoral program who reported that learning about action research helped them with their dissertations irrespective of what method they chose.
Alpert et al. (2023)	In a recent special issue of *Action Research* on action research pedagogy in educational institutions (Riedy et al 2023), an article by Alpert et al. (2023) discussed how action research helped prepare educational leaders through a doctoral program called 'dissertation in practice' at Northeastern University as part of the Carnegie Project on the Education Doctorate (CPED). The program evolved from its introduction in 2014 to its current form. The course includes seven foundational courses and four research courses and the activities in the course with program learning outcomes. An interesting aspect of the program was that it included a course to obtain IRB approval which is often problematic when using action research.

Table 2 Doctoral Research Action Research Programs

None of the courses in this review of the literature indicated a course or training that helped action researchers across disciplines be taught together on how to meet the challenges of action research across disciplines.

Methodology

In this paper, we reflect on our collective practice in developing and running the first iteration of what we have called the Participatory Action Research (PAR) Collaborative, developed for Higher Degree Researchers (HDRs) at our institution. We use a PAR methodology aligned with the subject matter and an approach to research in which we aim to train doctoral and masters students. For this specific article, we apply the story dialogue method drawing on Labonté's (2011) work on "story groups" to help structure our reflexive sense-making and storytelling. This approach is aligned with and used within action research (Poland and Cohen 2020) and transdisciplinary higher education scholarship (Kligyte 2019).

We began with a structured reflection circle workshop via Zoom and recorded the session to generate a transcript. Prior to the workshop, the core team co-created a list of questions to facilitate the conversation, with "questioning deliberately structured to move from description (what?) to explanation (why?), synthesis (so what?) and action (now what?)" (Labonte, p. 153). To support our reflexive sense-making and alignment of theory and practice, we also all (re)read Levin's (2003) article "Ph. D. programs in action research - Can they be housed in universities?" prior to the session. This helped us to orientate our workshop story dialogue around his provocation: "Can universities ever become a greenhouse for education in action research?"

As part of our broader PAR approach for the PAR Collaborative, we have engaged in, and facilitated, journaling, participatory workshops (including a future creating workshop, from which the idea for the PAR collaborative arose), surveys, and artefact creation with participants and as a core team. However, in this article, we focus on the reflection circle workshop as our key source of data gathering. After conducting the workshop and transcribing the notes, the first author synthesised the dialogue and formulated this into structured discussion within the article. We then met again to discuss and draw out key insights, alongside relevant theory and scholarship, and the second and third authors formulated these further across the article discussion sections. Finally, each author took turns reviewing and editing the article. The section that follows puts forward an edited version of our dialogue, based on the transcript from the zoom recording, with adjustments made by each of the authors to ensure accuracy, readability and remove repetition.

PAR Collaborative Reflexive Discussion

In the sections below, we present the results from the story dialogue method. The transcript generated from our discussion was analysed and below we describe the themes that emerged. We have grouped these into three main areas: why we started the PAR Collaborative, what worked well, and what was challenging. In all cases, we have tried to let our own reflections speak for themselves.

Why we started the PAR Collaborative

The first prompt asked us to consider why we started or joined the PAR Collaborative. We reflected on the varied reasons we started and participated in it, beyond that the idea emerged as an opportunity in the initial future-creating workshop. These reasons ranged from "finding your own people" to supporting our own higher degree research (HDR) students, as well as identifying an opportunity to support broader systemic shifts at [Institution] to amplify impact-oriented research through a transdisciplinary action research orientation, as the quotes illustrate below.

Finding your own people:

This theme emerged after a future-creating symposium in which an experienced visiting action researcher, Professor Mary Brydon-Miller, spoke about their work to a group of [Institution] action researchers. This led to recognition that, while there might be limited opportunities for like-minded

researchers within a specific faculty, there were opportunities to network with those with similar research interests across the university:

> **Author 2:** I think academia is often about… finding your own people … I didn't know anyone else, really, doing action research [at [Institution]]. And [at the Symposium] I discovered this wonderful community of people who wanted to talk about action research. And I was like, hey, you guys are my people!

> **Author 4:** When I came to [Institution], I didn't find anybody. We're doing a lot of action research, although I met people in education who would go use action research and action learning. So, when Mary said she was visiting I said, wow, this is a great opportunity to introduce action research across [Institution].

> **Author 1:** When I heard about the plan for the symposium, I thought, "oh cool, action research community at [Institution]. Amazing!"

Supporting our own HDR students

Another theme that emerged from the transcripts was the desire for the organisers of the PAR Collaborative to support their own HDR students. This was motivated by wishing to provide them with the best possible student experience – while also recognising that to do this, it was necessary to go beyond our own areas of expertise, and instead leverage the needs of the whole community:

> **Author 1**: A couple of my current PhD candidates are also doing action research projects. It was a clear insight from the future creating workshop, from HDRs and supervisors participating - that desire for more support for HDRs doing action research was easy to action. While there were lots of great insights that came out of the symposium, many required different kind of supports … the HDR dimension felt like high potential for impact within a sphere of influence that I could be part of, so that felt like a good starting point for extending action research at [Institution].

> **Author 2**: I had a student who was very keen on an action research approach to his data collection, and I wanted to show him the diversity of the methodology. He also wasn't coming from an education background, so this was ideal for that.

Systemic shifts in the higher education landscape

The authors recognised that there were ongoing shifts in the higher education landscape, especially at their institution:

> **Author 1** When starting to develop a community of practice with HDRs, we talked about how we could use this to also build relationships across disciplines/Faculties, including with HDR supervisors, and to action other ideas that came up in the symposium, such as enhancing ethics review processes that support action research. And with this, create shifts within the [Institution]'s research ecosystems around the valuing of different modes of creating new knowledge to address complex challenges, particularly around emergent practices, including arts-based research, and transdisciplinary approaches.

The need for transdisciplinary approaches

This PAR Collaborative is situated within the growing need for transdisciplinary approaches to address complex and wicked challenges, and emphasises the importance placed on transdisciplinarity at [Institution]:

> **Author 3** I also think there's a growing awareness about the need for transdisciplinary and [action] research… So, I think for me, if you're actually interested in tackling the complex wicked challenges facing our cities and society, you cannot do that in a silo. You need to talk to people that are outside of your discipline, because there is no problem of substantial impact potential that can be dealt with within a single discipline. That may be

a bold statement, but I can't actually think of a single, big complex, wicked challenge that you could tackle without talking to and working with people in other disciplines.

So, for me, I was super excited to work with [Author 1] both to put on the [Action Research] Symposium, but then also the idea to keep working on this with all of you. This idea that we're coming from multiple faculties, different perspectives … I think we all bring something so different to the team. And I found [that] super exciting.

What worked well?

The second prompt for the story dialogue was about the successes of the PAR Collaborative. There was a lot of agreement about the value of peer support and mentoring (for our own upskilling as well), and also the repeating structure of the program.

Peer support, peer learning and mentoring.

The peer learning structure, and especially the small group meetings, was a core feature of the PAR Collaborative, including transdisciplinary orientations of peer learning within the collaborative, so it's unsurprising that there was a strong emphasis on this in our discussion. We reflected on peer learning in the group as well as our own peer learning as part of the PAR collaborative and our experiences during our PhDs. This is one aspect that was common with previous AR programs in higher education:

> **Author 4:** Yes, the peer learning is important, that's what happened when I did my PhD in Singapore and out of the 26 student managers in Singapore, who started this, the four of us who were supervised by Bob Dick, and Alan Davis, we formed our own peer support group. We used to meet like an action learning set every month, and we were the first to graduate in the program in 3.5 years. And we were all working 70, 80 hours a week in Singapore, as very senior managers in industry. Bob and Alan said, the only reason you guys managed in 3.5-4 years is because you formed that peer group … all of us were from different disciplines, a banker, an engineer, a manufacturer.

Alongside transdisciplinary learning amongst members from different disciplines, we witnessed the value in peer mentoring across different levels of candidature:

> **Author 4:** Yeah, mentoring across the [different] levels [of candidature]. I did observe that there was mentoring between the senior researchers or the researchers who are almost finishing and those in earlier years of candidature.

Upskilling ourselves at the same time

While there was identifiable peer learning directly amongst HDR participants, there was also peer learning amongst the facilitators of the PAR Collaborative. It was one of the reasons most of us were interested in forming the PAR Collaborative - it offered a chance to further develop our own knowledge and practice as action researchers, as well as to extend our own professional networks:

> **Author 2:** You're always looking for ways to do two things at once, right? And I thought, here's a chance for me to upskill and do some really good methodological work, but also help my student develop their own understanding of the methodology.

> **Author 3:** I viewed this both as an opportunity for me to develop some of my own skills, because, as we all know, I've been quite open about the fact that I came to action research kind of sideways. When I met [Name], I realized I'd actually been doing [PAR] for years under the umbrella of just participatory planning engagement. So the literature is new for me, but the actual approach is something that I've been doing for years. It was a real awakening!

In our dialogue we also reflected on peer-learning in an expanded sense amongst us, HDR candidates and others at [Institution]:

> **Author 1:** In our discussion so far, we've been focusing on the peer learning amongst the HDR group. But, we've also invited in different academics from across the unviersity, and

have been expanding that sense of a learning community at [Institution] through the PAR Collaborative. I feel that was important.

Author 3: Yes, we're expanding what we're thinking about in terms of peer learning. I mean, for me, there was a lot of peer learning, even amongst the four of us.

Author 4: Yeah, I, agree, totally.

Author 3: And I think that that's something that can't actually be underestimated in terms participation in this type of teaching and learning exercise … for me, I certainly got a lot of exposure to the literature from those of you that posted on that … and even in terms of how we all take different approaches to action research in our own research, and listening and learning to how you and all our guests are thinking about and implementing a variety of different strategies, I thought, was interesting, but also a learning activity, for myself.

It takes a village (to supervise an AR thesis…)

One of the benefits of this process, we reflected, is that it brings in a community dimension in supporting HDRs. This related to our own sense of "finding one's people" that we reflected on earlier:

Author 3: I had a PhD student that was wanting to do an action research approach and I thought this would be a great way to collaboratively engage him in a process where he could learn from his peers across other sectors, because the issue that he's tackling is quite a complex urban challenge, and I think interdisciplinary and transdisciplinary thinking is really important for those kinds of issues.

Author 2: You know the saying 'it takes a village to raise a child'. … and of course, I'm not taking anything away from supervisors - if you get a good one, you're probably going to be alright for your PhD. But if you get a bad one, you are probably not.

Author 4: Yeah, you are in trouble.

Author 2: Whereas by having something like the collaborative - I keep calling it the collective, because I think there is an element of collectivism there as well - but having something like the collaborative, we ameliorate the bad without taking any of the good away.

The importance of a structured approach

The importance of the structuring of the PAR Collaborative sessions emerged as a key element of its success. Part of this was the four-week model, with proposed activities for each week. The year-long approach, in which we held eight live workshops (eight modules following the four-week structure), was also seen as important:

Author 3: This idea of building rapport and creating space to think guided the way that we, for the time of the PAR Collaborative, structured the four-week process - where there were lots of touch points that encouraged them to do a little activity, think about it, do another activity, think about it, get together as a group, discuss it, think about it, and then come to the in-person or hybrid workshop where they discuss some more, and they did more thinking, and they discuss some more.

Author 1: Yes, I think as well, the four-week structure supported a looped reflexive practice - combining theory and practice, and reflections on experiences in the field, in ways like Levin discussed - and that pace was effective.

Author 2: And the length of it, the fact that it goes for most of the year. The fact that we scaffold peer groups, and then meet together. I think that's important … perhaps we're suggesting a more structured approach for HDR supervision, particularly relevant for action researchers.

Challenges

The final part of our discussion examined our thoughts on the challenges related to the PAR Collaborative. These were diverse, and included challenges related to the transdisciplinary nature of the collaborative, academic workloads, and the difficulties of working with a student body that had different levels of experience and expertise.

Tensions with transdisciplinarity

One of the tensions that is yet to be addressed by universities, in relation to growing the support for transdisciplinary practice and higher degree research in this space, is the way of determining academic contribution and escaping the traditional siloing of academic work. This often manifests itself through the Key Performance Indicators (KPIs) expected of academics. Fields of Research (FoR) codes get allocated to research published in Australia. Some faculties have insisted that academics should only publish in journals with FOR codes that align with the faculty itself. There is also currently no FOR code for transdisciplinary work. This can prove a challenging factor for academics, including postgraduates, seeking to engage in transdisciplinary work:

> **Author 1**: The KPIs often don't reflect the kinds of practices that would support action research or transdisciplinary practice. Although there is a shift in emphasis to impact by the Australian Research Council which influences the way that one articulates the value of knowledge creation and impact outcomes.

Another key tension was perceived blocks. While policy might not actually prevent transdisciplinary practice, perceptions around how policy might play out through different behaviours was raised as a barrier towards transdisciplinarity. For example:

> **Author 3:** I wanted to make a point about the ethics and the perceived sort of block that ethics is putting up. It aligns with the discussion in the [Levin] paper - where it talks about the sort of peer policing activities, peer power, and how this is used to force us, to make us do things within the disciplinary norms ... for lack of better word - methodological norms. Levin talks about the paradox between universities being about creating new knowledge, and then us in fact, policing ourselves to stay within silos. I think we see that happening in the ethics process in some Faculties because action research is a non-traditional research methodology in those disciplines.

Academic work loads

Another key challenge we faced was around academic workloads:

> **Author 2:** I was trying to work out how we could have made [the PAR Collaborative] better, and I was like, imagine, if this was a subject, and we were all coordinating the subject, and that counted towards our teaching load ... We value it. We see the importance of it, but it's got to fit around everything else ... so the practicalities of time and space and resources just didn't work for us as well as I would have liked them to.

> **Author 1:** Other challenges, echoing others, were time-based ones for me too: We were going to do an end of year symposium at the finish of the PAR Collaborative, but that then requires someone to facilitate and organize it and we didn't have the time amongst our other commitments. Also, we had all of these aspirations about the broader research project. But we all have limited time and energy, so thinking through how that might be supported at different institutional levels is a challenge.

Different levels of student experience and expertise

Time was also a consideration for students, in terms of their capacity to participate. We noticed differences with participation between those who were in earlier stages of the PhD compared to those in later years, where they might be focusing on field research or writing up and therefore preferred attending only when the topic was directly relevant to them:

> **Author 1:** What I observed was that where some of the participants were further along in their thesis and doing field work … they approached the PAR Collaborative more as something to dip in and out of, rather than attend all sessions and build community.

Future Directions

As we wrapped the discussion we looked to the future and how the lessons learned in our first year of running the PAR Collaborative could help us improve the delivery in 2024, and also what our experiences mean in the context of the changes to higher education in Australia right now. A few key themes emerged. The first focusing again on how action research enables and facilitates transdisciplinary research; aligned with that was the discussion about the shifting landscape in higher education in Australia and how these changes may mean this is the time for action research to emerge as a more mainstream approach to address the wicked challenges we are facing in our cities and in society. This further aligns with the discussion that this shift could facilitate a new way of supervision that is less common in Australia than in some other parts of the world - cohort projects, which enable larger, more complicated, practical, industry-focused investigations through a team approach to the research. Finally, we discussed how we could further improve the strengths of the program - peer learning through deliberate dialogue prompts, further supporting reflexivity, and the importance of the deliberate team assignments which facilitated the transdisciplinary group discussions and peer learning opportunities throughout the year.

Transdisciplinary dimension and action research

A core dimension of our PAR collaborative was the transdisciplinary orientation. This played out in a number of ways and popped up in our discussion throughout. By having multi-faculty participation and a partnership with the Graduate Research School, the PAR Collaborative was a genuine pan-university initiative aimed at attracting PhD candidates from across [Institution] to join this voluntary extra-curricular training program. The aim was on training the next generation of researchers in ways that will support them in addressing complex challenges and working across silos, as we highlight in these excerpts:

> **Author 3:** I think action research, in some fields, challenges the discipline across the board - both as a research activity, but also as an educational activity. Training the next generation of practitioners with that skill set is important to addressing these pressing complex global challenges, but to also create ambassadors for change and action.

> **Author 1:** Yes, transdisciplinary training for the next generation of people wanting to work on complex challenges is important, whether they're going to be working in academic positions or in research positions in different fields, industries, or sectors. This also aligns with what [Author 2], you raised on the issue around growing impact-oriented university-industry partnerships and partnerships with community. Although this is sometimes criticized, participatory forms of action research are well aligned for ethical transdisciplinary practice and partnerships.

A change in supervision models

Future directions in the HDR education landscape include the shift in emphasis towards industry-funded PhDs in Australia and this opens the possibility of discussion around cohort projects, in which multiple PhD candidates from the same organisation engage in a PhD project. While this shift has been on-going for decades in different universities, the different discourse and funding landscape in Australia emphasising industry PhDs provides an opportunity to rethink the role of action research and participation with industry, government and community as part of the PhD journey. As we discussed in these excerpts:

> **Author 3**: I have to believe that the growth of the industry doctoral program is both a reflection on [Institution]'s willingness to accept transdisciplinary thinking and work

happening in Europe. There, you do a PhD and it's not necessarily assumed you're going into academia. Overseas there's that growing link between changes that are happening in industry as well as the changes that are happening in academia; these are now starting to impact Australia. We're at this unique position in time, where they're aligning.

Author 4: [In the past,] I think professional doctorates died because of the fee. But now that [Institution] has accepted industry ... in a kind of way they are accepting that PhDs can be done using practitioner methods. So, I think [Author 3] is right. The moment is arriving.

Author 3: This idea of cohort projects, that, as we're tackling these wicked problems, developing a team of students to address those problems, each taking first lead on a particular aspect of it. But still, all of them working together in a collaborative way to address the challenge as a group. I thought that was a really interesting possibility, because that is something we don't do. In our school every research student has their own project.

Author 4: Yeah, very individualised.

Author 3: Right. Everyone just works separately. I'm intrigued by how the action research approach could facilitate this move towards cohort projects in doctoral study. We are at this unique place and time with where academia is, and where industry is in Australia, specifically, that we have this opportunity to create a Y-junction. That when PhD students start, they have an opportunity now to do this sort of collaborative, cohort-driven research. And if action research is embedded in that kind of work maybe this is the opportunity in which action research finds legs.

Author 1: Yes, I've actually just started supervising a cohort based HDR project, where they are using action research, and am applying various elements we explored last year in the collaborative in the supervision process.

Supporting peer learning and reflexivity

We discussed future directions to support peer learning through dialogue processes and reflexivity. Our discussions are illustrated by these excerpts from our dialogue:

Author 4: Perhaps one of the ways we can do this is, is what we used to do when we had a group working together at the start of the session - each participant shared something about their research plan. What happened? What did not? How does the material relate their own research? Every session, they have this kind of reflection so that they get into the practice of doing that. Instead of asking individually, we can have a dialogue process, and everybody chips in a bit. We used to call it learning cycles.

Author 1: Yes, maybe something we can emphasize a bit more upfront is the personal individual reflection process. We've got it throughout the canvas [learning management site] module - different points to reflect via open discussion questions, responses to readings, and different prompts and things in different ways. But one thing I've noticed is that some people really benefit from having a reflection journal structure, like a really simple one to follow, to support doing a reflective practice.

We also reflected that one of the elements that potentially contributed to the success of the peer learning is consideration of how teams were partnered up:

Author 3: I remember [Author 1] and I took quite a bit of time and thought into putting together who was going to be in what groups. Because we had [the Expression of Interest] list quite early before the session, we were able to make the effort to pair people from different faculties in those teams, and make sure that it really was very transdisciplinary in terms of the various types of approaches and projects that were being presented.

Conclusions

This article builds on Levin's provocation: "Ph. D. programs in action research — Can they be housed in universities?" We describe our experience in establishing and running the PAR Collaborative, an HDR peer-learning and training community of practice, articulating opportunities and challenges of supporting action research across disciplines. In accordance with Levin and Martin's (2007, p. 223) emphasis on four components of learning action research, the PAR Collaborative was based on learning in action, having space to reflect with others, engaging with theory together, and discursive engagements through language, including written forms via the canvas site, sharing their work, and in live discussions. Our story circle highlights that the PAR Collaborative plays a role in fostering academic communities and enculturation or "finding your own people" amidst changing higher education environments and addresses the need for different supervisory models and forms of academic integrity that support engaged and transdisciplinary research which can foster rigour and relevance (Coghlan, 2024). When working with various action research learners, who are in turn working with different partners in co-generation processes, there are a range of tensions in complexity and clarity that unfold (Karlsen, 2024). What worked well, from our perspective as supervisors and facilitators, was the peer support and peer learning approaches used, the upskilling of ourselves (as supervisors), ways in which a collaborative can support the wider needs of an action research thesis, and the importance of a structured approach to the collaborative model. Some of the challenges related more to broader tensions of transdisciplinary practice and action research within our changing Higher Education environment. While there are lots of opportunities in Universities becoming more impact-oriented, there are tensions around self-policing, academic work loads, and how one supports varying levels of learner expertise, particularly in an Australian Higher Education environment where compulsory subjects in methodological training are not the norm.

We arrived at a range of future directions, including changing supervision models that support transdisciplinary practice, and the role that a community of practice, such as the PAR Collaborative can play. In particular, how a structured community of practice with peer learning can support reflexivity and confidence of graduate researchers. The PARCollaborative contributed to practical and useful knowledge as the students were able to learn about different approaches from the facilitators and from other students during the sessions. The students were also able to explore a systems approach through the sessions such as Habermas' three worlds promoted by systems researchers. The facilitators came from from the different schools at the institution (transdisciplinary, education and built environment), each bringing their own perspectives and approaches from their respective disciplines. Similarly, the guest lecturers who presented at the workshop were also chosen from a range of different disciplinary backgrounds. (Example?) Students also learnt how to present their work in traditional and non-traditional ways, as some of the students came from creative disciplines.

Our findings contribute valuable insights into the complexities of conducting transdisciplinary graduate research with participants through discussion of the challenges and successes encountered in the PAR Collaborative. We highlight the role of collective peer learning practices, transdisciplinary orientations, structured blended learning and reflexive practice alongside action as successful dimensions to be expanded on in the future. This aligns with, and extends, Levin and Martin's (2007)

emphasis on incorporating cycles of action and reflection alongside engaging in theory and field work with students to support their education in action research. The PAR Collaborative offered a reflexive space to support students to engage with agency, power, social action and critical thinking to support both action in the field, with others, and write a thesis. In conclusion, this paper advances the discourse on the integration of action research in conventional university settings, offering practical considerations for future training directions and lessons learned from implementing education and peer-mentoring PAR initiatives.

Our efforts to bring action research across disciplines has also been recognised by the top management of the institution as it aligned with their desire to promote more collaborative research and was identified as one of the emerging networks by the institution. We will also be able to highlight our work outside the institution later this year, as we will be hosting an international action research conference at [Institution].

Declarations

Ethical Approval
All the authors provided informed consent for the recording of the discussion and use of their responses in the article. They also all reviewed the article before submission. Approval was obtained from the local ethics committee: UTS HREC Ref. No. ETH23-7948.

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The authors declare no competing interests.

Data Availability
No datasets were generated or analysed during the current study.

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