Changing and Sustaining Transdisciplinary Practice Through Research Partnerships

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Introduction

Although transdisciplinary practice has been strongly advocated as an effective approach to working with children and families, practitioners continue to experience barriers to changing practice, and difficulties challenging the self. These personal-professional challenges can make transdisciplinarity difficult to sustain. Accordingly, in this chapter, we suggest some possibilities for working with research partnerships as a means of changing and sustaining transdisciplinary practice, especially in relation to personal-professional challenges. We discuss some of the benefits and drawbacks of using case study methodologies, and, the potential of action research methodologies for supporting the sustainability of transdisciplinary practice.

Transdisciplinary Practice in Early Years Services

In recent years there have been persistent calls from policy makers, practitioners and researchers alike, for transdisciplinary practice in early years' services to address the 'wicked problems' (Moore 2008) facing contemporary families. In Australia, the term *early years' services* incorporates a wide range of supports available for children from birth to five, and their families. These supports include early education and care services (e.g. pre-school and playgroups, centre-based and home-based childcare), health (e.g. maternal and baby health clinics), and allied health (e.g. speech and language pathology and occupational therapy), early intervention and disability services, and child protection. These services vary considerably, for example, in terms of:

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- their primary focus—the child or family;
- whether they are universally available or targeted towards particular groups;
- whether the emphasis is on prevention or emergency/crisis care;
- their organisational, auspice, regulatory, legislative and funding and accountability arrangements and requirements (e.g. privately, philanthropically or publically funded); and
- the degree of professional expertise of those delivering the service, from highly qualified (e.g. speech language pathologists), to minimally trained workers (e.g. home-based childcare).

Traditionally, practitioners working in early years' services have tended to work in silos, bounded by their disciplinary and/or epistemological focus (health and early intervention, for example, are typically science based, while education and family support are typically social science based) with little coordination or collaboration across service types, either at the professional or organisational level. This lack of connection and coordination between services has real life implications for the children and families utilising those services. This is especially so for families facing challenging circumstances (such as those with a child with disabilities, or where a parent has substance abuse or mental ill-health issues) who may require the support of multiple services. These families, in particular, have to navigate complex service systems—each with their own rules about accessibility, criteria for funding, and expectations about child and/or parental involvement (Moore 2008). Families also often have to repeat their 'story' multiple times to each professional they meet and negotiate the consistent implementation of these plans across all services that their child accesses. However, over the last decade or so, there has been growing recognition of the complexity of contemporary early years' service delivery and greater recognition of the holistic nature of children's development and well-being. This recognition has led to strong advocacy, internationally, for early years' services and professionals to work in integrated and collaborative ways to provide children and families with a more holistic, coherent experience (Lewis 2010; Nichols and Jurvansuu 2008; Stöbe-Blossey 2013; Uniting Care Burnside 2007).

In the early years' field, inter-professional practice is often conceptualised on a continuum from *multi-disciplinary* (the least integrated), through *inter-disciplinary*, to *transdisciplinary* (the most integrated approach). In this chapter, for consistency with other authors in this volume, we use the term *transdisciplinary practice* to refer to ways of working that are based upon collaborative and cooperative approaches across and between professionals from different disciplinary backgrounds, such as allied health, early childhood education, and family support (Moore 2008). A key characteristic of transdisciplinary approaches is the 'pooling' and exchange of inter-professional knowledge and skills across "disciplinary boundaries, to maximise communication, interaction, and cooperation among the members" (McGonigel et al. 1994, p. 103).

The Complexity of Transdisciplinary Approaches

Despite some cautions (Hughes 2006; Wigfall 2002), an extensive body of international literature (including special editions in at least two journals—*Educational and Child Pschology* (2006) and *Early Years* (2013)) is building a strong argument for the benefits of transdisciplinary work. Not only can the pooling of diverse knowledge and expertise create innovative, and efficacious ways of working with children and families, it can lead to more holistic, cohesive and consistent experiences for children and families (see for example: Burlington 2010; Warmington et al. 2004; Wong and Sumsion 2013).

Despite these benefits, transdisciplinary work is very complex. A number of external, organisational and personal factors as well as issues related to frontline teamwork have been identified as likely contributors to effective transdisciplinary teamwork (Wong et al. 2012). However, to provide a context for findings from our own research, we will focus here on research literature relating to ways that personal-professional factors seem to be implicated in supporting or challenging the sustainability of transdisciplinary approaches. In relation to facets supporting the sustainability of these approaches, existing research has highlighted the importance of team members having a clear understanding of, and ability to articulate their own and others' professional expertise, professional values and motives (Edwards 2009); the capacity to be reflective and reflexive (Atwool 2003); and a willingness to build and maintain relationships within the team (Hudson 2007).

At the same time, evaluations of the use of transdisciplinary approaches in early intervention settings have identified a number of personal-professional challenges, including: teams having unclear definitions or lacking shared understandings of taken-for-granted terms, which can lead to uncertainty among professionals about what is expected, and how to facilitate a transdisciplinary approach (Blue-Banning et al. 2004; Kurrajong Early Intervention Service 2008). In addition, overcoming perceptions of differences in professional 'status' among transdisciplinary team members (Colmer 2008) can pose a major challenge to the effectiveness of these teams. These perceptions can contribute to uncertainty and fear as status and entrenched hierarchies privileging 'scientifically-based' disciplined are challenged in transdisciplinary models (Baxter and Brumfitt 2008).

We now move on to a discussion of the strengths and drawbacks of case study methodologies, then, provide a case study in which research partnerships were used to identify and begin the processes of transdisciplinary practice in early years' services.

Case Study Methodology

Case studies can be of particular value in understanding the complexity of transdisciplinary work., and have been used (for example), in relation to healthcare and social work (Freeth 2001; Hudson 2007, Sengupta et al. 2003), as well as early years' services (Jackson 2013; Payler and Georgeson 2013; Wong et al. 2012). Case study

methodologies enable researchers to undertake "deeper examination of a smaller number of participants' 'participation in action'" (Payler and Georgeson 2013, p. 385), and, are useful for "coherently linking applied analysis of [a] project with the broader themes and concerns evident from the existing evidence base" (Sengupta et al. 2003, p. 58). At the same time, case study methodologies have been criticised on the grounds that they are not generalisable, and may lack validity. As Flyvbjerg (2006) argues however, for research that seeks to learn, rather than to prove or add to (what is considered) 'scientific knowledge', case study methodologies have much to recommend them to researchers. In particular, he argues for case studies as a way of generating valuable "concrete, context-dependent knowledge" (p. 224) and relaying powerful examples.

Case Study: A Supported Playgroup Program

Research Context

Our first case study concerns a mobile supported playgroup program. In Australia, supported play groups are considered a financially and substantively effective medium for providing play-based early intervention to specific communities of families and children (Jackson 2013). These communities might include families who are socially isolated and/or disadvantaged, or, where there are mental health and/or disability issues (with either the parent or the child). Supported playgroups are usually initiated and facilitated by a paid coordinator and other professional staff and funded from government sources (Jackson 2013).

The supported playgroup program we discuss here was established in 2004 by SDN Children's Services organisation and the New South Wales Department of Community Services. Its purpose at the time of the case study, was to provide a non-stigmatising, development-enhancing group-play experience to families living in the local area, who had concerns about their child's development. The program model was also designed to assist families to access information and advice about their child's development, along with assessment, diagnosis and therapy options (but, importantly, not to provide therapy itself). In order to facilitate a seamless and coordinated experience for children and their families, and to make the most of limited funding for different professionals, the program was designed according to best practice transdisciplinary models drawn from early intervention literature.

The original team model was made up of two 'qualified' professionals—either an early childhood educator or speech therapist; and/or an occupational therapist. Later, as additional funding became available, a 'play assistant' role was added. The person in this role was usually a student, studying social work, early childhood education or occupational therapy. A maximum of seven families attended per two-hour group session, so that the team could provide effective support and strategies to families. All resources for the groups were transported between the two sites in a specially modified van (hence 'mobile' playgroup). Each team member was jointly responsible for planning the program, implementing practices, talking with and supporting parents,

cleaning, unpacking and packing away the play session into the van, and taking part in reflection sessions and any follow-up of information or contacts for families. In addition, a 'play leader' (usually the early childhood-trained professional) was generally responsible for implementing program structures with families (such as organising and documenting goal-setting meetings and exit planning).

Research Design

The purpose of the study of the playgroup program was to explore and document its transdisciplinary approach in practice, with a particular focus upon the role and experiences of early childhood professionals. As in the model informing the playgroup program we discuss here early childhood educators (hereafter referred to as 'educators') are often included in play-based early intervention teams, along with allied health professionals and family support workers. Educators bring particular skills and expertise in relationship-building with families, using group and individual perspectives in relation to children and their development, and offering play experiences that are enjoyable and skill-building (Press et al. 2012). Despite the importance of these abilities to the effective operation of supported playgroups, there is some evidence that the status of educators within the hierarchy of professions involved in early intervention work remains relatively low (Colmer 2008).

To explore and document educators' experiences of the transdisciplinary practice in the supported playgroup program, we used a case study methodology. Data was generated via participant observation of play sessions ($n = 10$), and reflective practice sessions ($n = 4$), along with individual interviews with four past and current team members (an occupational therapist, speech therapist, and two early childhood educators). All participants are female, and had completed their qualifications in Australia. The participants represented diverse cultural backgrounds and ranged in age from early 20s to 50s.

Given the largely exploratory and descriptive nature of the study, our data analysis strategy was based upon simplified principles of grounded theory (Miles and Huberman 2004). Textual data from interviews, transcripts of reflective practice sessions and observations were coded line-by-line, then codes were grouped into a smaller number of thematic categories that represented the combined content of the data. We then interpreted these categories in light of our literature review, highlighting areas of convergence, as well as new findings, in our data. Selected findings relating to personal-professional challenges of transdisciplinary practice are presented here – additional findings can be found in Cumming and Wong (2012).

Findings of Supported Playgroup Case Study

Our intention in this discussion is to briefly illustrate some of the personal-professional challenges of transdisciplinary practice, and to consider how effective

our research approach was for assisting the supported playgroup program team to understand their practice. Three key findings relating to personal-professional challenges are discussed—those relating to the value of a common philosophy amongst transdisciplinary team members; those relating to professional roles and boundaries; and the role of discourses of scientific credibility.

Sharing a Common Guiding Philosophy

Findings from interviews, participant observations and reflective practice sessions suggested that members of the supported playgroup team understood that transdisciplinary practice was about: *having different skills that we use together*, and that this approach was valuable because: *you can learn from anyone, no matter who it is*. Team members also perceived that sharing a common purpose in their work helped to create a sense of connection with other team members:

> It's like you share a common goal in a way for the child and the family,whatever it might be... because we have that overlapping philosophy about the respect for the child as a person on their own, it just really helps to know that you're working towards the same things a lot of the time.

These findings confirmed the value of transdisciplinary team members sharing a common guiding philosophy, and a commitment to working respectfully with families and children (Siraj-Blatchford and Siraj-Blatchford 2009). Despite having some shared understandings of what transdisciplinary means, and (what the participant quoted above refers to as an) 'overlapping philosophy' in relation to the focal subjects of transdisciplinary practice (that is, the children and families), there were unspoken, yet markedly different philosophies relating to the key medium of the playgroup—play itself.

The speech and occupational therapists for example, saw the observation of play as useful both for reflecting a child's current development, and as a tool for therapy to develop specific developmental tasks. Play could still be fun and child-directed; however, its main purpose was as a medium through which an observed deficit could be addressed, or a specific skill acquired. Educators on the other hand, whilst also discussing the value of learning about children's abilities by observing their play, looked at the children's interests, strengths and needs, and used this information to better facilitate activities to engage the 'whole' child. This meant creating experiences to facilitate and extend children's abilities, without directing children to play in certain ways to 'fix' a problem, or to do activities that allowed children to practice certain skills.

Although the allied health professional team members seemed to value play as a medium for therapy, there was less value ascribed to those playing with children:

> It's good to have the assistant there to see things that I'm not able to see, the assistant's the one down there playing, and with the children... (Allied health team member 1)
> It's good for [the play assistant] to be there to develop and keep play going while therapists or teachers are busy with parent explanations and issues and modelling techniques... if therapists or teachers are discussing complex issues with parents, you need to know that if

> the assistant is free that they can take care of what the children are doing etc. (Allied health team member 2)

In these fragments, play facilitated by the assistant was relegated to the floor, a background activity to be undertaken whilst the professionals conducted 'important conversations' above. Play was also downplayed as unskilled, and presented as a something that 'children do', rather than a meaningful core element of the early intervention setting. These examples of practitioners sharing a broad commitment to families and children, while at the same time having divergent philosophies of play, demonstrates the importance of interrogating taken-for-granted terms that may have vastly different purposes and connotations for professionals from different disciplines. Without ongoing, and carefully facilitated consideration of these difficult yet pivotal concepts, it is easy to see how a transdisciplinary team might never realise the potential of new, integrated knowledge (McGregor, Transdisciplinary knowledge creation).

In addition, this case study highlights a little-explored challenge concerning the place of the non-professional in the transdisciplinary space. Transdisciplinarity assumes professional knowledge, capacity, reward, dispositions and so on, that are not necessarily present, or wanted, in a non-professional team member. Yet, budgetary constraints on early intervention teams (such as the supported playgroup program we have discussed here) may mean that non-professional team members are necessary to the operation of the services. Given the inclusion of non-professional staff in transdisciplinary teams in other early years' services, there is evidently a need to address the effects of unequal power relations (and other barriers) so that the value of the professional and practical wisdom they bring to the team is not diminished.

Professional Territories

Many researchers exploring transdisciplinary practice have highlighted the challenges of overcoming "professional territoriality" (Axelsson and Axelsson 2009, p. 321)—that is, "having 'jurisdiction' over their field of work", and "dominance over other professions within the same field. If the boundaries are unclear or disputed, this may lead to struggles or conflicts between different professional groups." This concept of professional territoriality was evident in our study of the supported playgroup program, where team members continually identified primarily with their own discipline (i.e. speech therapy/early childhood, etc.) rather than as early intervention professionals who were drawing upon the 'pooled' expertise of the team. For example, one educator noted differences in binary terms:

> The early childhood practitioner versus the therapist is about having the skills at looking at the big picture of the environment versus the individual. It's holistic versus targeted to their individual interests.

Similarly, one allied health professional team member noted that: It's always good to have different practitioners so parents can have the points of view directly . . . We all have different perspectives, we focus on language, or we focus on building postures and sitting.

Team members were also uneasy and unconfident about applying each other's strategies when they themselves did not have the requisite background knowledge to substantiate it:

> Multidisciplinary relationships are relatively easy, but transdisciplinary is much harder. . . because you can never know as much about another field as you do about your own. . . . Being transdisciplinary is about. . . whatever discipline you are, if the speechie recommends a strategy we all do it, and vice versa. It's hard when you're talking to parents about a strategy, or modelling it, I would prefer [the OT] or [the early childhood teacher] to do it [if it was their strategy] because they know.

In the same way that we argued for the importance of discussing key concepts (in the previous section), the examples of professional territoriality above suggest that without explicit conversations about how discipline-specific knowledge or perspectives are pooled and applied, professionals of different disciplinary background working within the same intervention setting could remain siloed, rather than becoming part of a new transdisciplinary space.

Discourses of Scientific Credibility

A further point relating to the shaping of professional territories is illustrated by the following fragment from an interview with one of the early childhood educators working in the supported playgroup program:

> For families with children with ongoing high support needs or a disability it's very much about diagnosis. The speech therapist gives the team credibility to give valuable information that they [families] will believe. The speechie backs up and supports the play leader and there is a professional understanding about each other, but being a therapist means you have more credibility because you can diagnose. Our credibility as early childhood practitioners is less because we can't diagnose. The strategies might be the same, but the speechie has the credibility of being able to assess a child. It was so important to have the speechie because she could give them [families] real things to do that were valuable to them.

Here, it is evident that professional territories may be structured hierarchically according to discourses of scientific 'credibility', as well as shaped by disciplinary 'boundaries'. In this case, the assumed primacy of speech therapists is reinforced through the educator's assumption that the credibility of her own discipline is less. This positioning of educators as less credible than speech therapists, supports claims that a history of relatively low levels of qualifications coupled with the dominance of 'mothering' discourses, has resulted in the early childhood profession being constructed as a 'common sense' activity rather than a highly skilled professional practice—even amongst early childhood professionals themselves (Osgood 2010; Vincent and Braun 2011).

In addition to highlighting a taken-for-granted hierarchy that positions speech therapists as having the greatest credibility (due to their ability to 'diagnose'), this fragment demonstrates the enculturation of families to professional hierarchies, and the power of 'the diagnosis'. This finding supports calls made in other literature (Worrall-Davies and Cottrell 2009) regarding the importance of including families

in efforts to create transdisciplinary space, and to challenge professional territories that families and practitioners may all be implicated in shaping and reinforcing.

The findings from the research study with the supported playgroup program illustrate the usefulness of case studies for identifying facets of the complexity of transdisciplinary approaches in practice. However, case studies are not necessarily useful for transforming and sustaining transdisciplinary practice. We argue that if researchers want to have a greater impact on supporting transdisciplinary ways of working (see Penker and Muhar, What's actually new about transdisciplinarity? Or how scholars from applied studies can contribute and benefit from learning processes on transdisciplinarity), then they have a role to play beyond merely producing research findings, or developing professional development materials. Accordingly, in the following sections, we discuss some of the possibilities for changing and sustaining transdisciplinary practice through research partnerships using collaborative action research approaches.

Developing Research Partnerships

Collaborative action research projects (ARP) involve stakeholders in real-life problem-oriented applied research that is socially, culturally and materially relevant. The purpose of an ARP is to support and empower practitioners, in collective communities of practice, to integrate knowledge from research and practice wisdom into their professional practices, in a continuous cycle of action and critical reflection (Kemmis et al. 2004). Therefore it is through collective, negotiated processes that ARPs bring about change in ways of thinking and practicing. Further, with ongoing commitment and support from team members, as well as their organisations, the community of practice can continue even after the most active phase of involvement with researchers is complete. It is therefore both the research process, and the legacy of a community of practice, that makes collaborative action research projects (arguably) one of the most influential ways that researchers can contribute to sustainable transdisciplinary teams.

Action research methodologies have been used successfully by researchers to support the development of early years' integrated services (for example, see Murdoch Children's Research Institute and The Royal Children's Hospital Centre for Community Child Health 2013). Below, we outline an action research project that aims to sustain transdisciplinary approaches. This project is currently being undertaken by the second author with her colleague Frances Press, and The Infants' Home, in Sydney.

Case Study: The Infants' Home

Research Context

The Infants' Home (TIH) initially opened in Sydney in the late nineteenth century as an orphanage, and is one of Australia's longest established early years' services.

A not-for-profit organisation, TIH currently operates as an integrated early years' service with a particular focus on supporting vulnerable, marginalised and/or disadvantaged children and families. Amongst the services offered by TIH are family day care and centre-based early childhood education and care, early intervention and family support. The Infants' Home is also partnered with a medical centre and other community family support services (such as a women's support group).

The Infants' Home has multiple professionals on staff, including early childhood educators, speech and language therapists, occupational therapists, an art therapist and psychologist. Sandie and Frances have been working with TIH for 3 years, documenting the organisation's 'journey' towards transdisciplinary (see Wong and Press 2013). During this period it has become clear that, although the management and team at TIH were committed to transdisciplinary ways of working and striving to transform their practice, a number of challenges persisted. In particular, challenges relating to professional identity and perceived inequities in working conditions, seemed to be compromising the ability of the TIH team to work in effective and sustainable transdisciplinary ways. In order to mediate these complex dynamics, it seemed that there was a need for someone from 'outside' the transdisciplinary team (and organisation) to become involved. Accordingly, it was agreed with TIH senior management, that in Sandie and Frances' fourth and fifth years of working with the team, a participatory action research methodology would be used to support and document the organisation's continuing journey towards transdisciplinary ways of working.

Research Design

At the time of writing, the action research project involves up to 20 TIH staff members, from the range of professional backgrounds described above, and is led by Sandie and Frances. The project consists of eight half-day workshops with participants (four per year for two years) and ongoing support of staff members' critical reflection on their work towards transdisciplinary practice (e.g. through email contact with researchers). The workshops follow a typical action research cycle of: *planning* (i.e. identifying the problem, analysing the situation, setting goals and planning action); *acting* (i.e. implementing the action); *observing* (i.e. collecting data on outcomes of the action); and *reflecting* (i.e. evaluating and analysing the action) (Kemmis et al. 2004). Whilst the research process is emergent and responsive to the participants' lead, the workshops typically involve the researchers provoking discussion; supporting collegial interrogation of ideas; providing resources and making suggestions for change. In addition, the researchers document the processes and findings of the project to be published in formative and summative reports.

Importantly (and in relation to points made earlier about personal-professional factors), during the workshops the researchers endeavour to manage hierarchies and power imbalances through democratic methods. This is done for example, by: encouraging diverse membership in the small groups investigating issues and ensuring

diverse voices are heard; and using transparent processes, such as reporting back to the participants the researchers' reflections on the previous meetings, and inviting feedback on the planning of future workshops.

Findings of The Infants' Home Case Study

Whilst this project is still in its early days, the value of the participatory action research methodology for supporting the sustainability of transdisciplinary practice is already becoming evident. In particular, the mediated approach to working together seems to be valuable for making visible the deeply held, and divergent beliefs and understandings of the team. For example, it has quickly become clear in workshops that discussion of certain aspects of practice—such as 'assessment'—will 'trigger' emotional responses from the participants, and block further dialogue.

For the allied health professionals the term 'assessment' refers to a core aspect of their practice that is central to their professional identity. However, for the early childhood educators, the word 'assessment' carried a negative connotation of 'labelling and measuring children'. The researchers have found it more productive to focus on a single but significant aspect of practice that is not especially emotive or core to the professional's sense of self—for example 'the referral process', and whether referral processes are/should be informal or formal, how the processes work and so on. By focusing on this less emotive, but nonetheless shared 'problem', the participants were better able to listen to others' points of view, and were more open to new ways of thinking and ways of working. These initial successes will provide the basis for bringing to the surface the more difficult aspects of practice at future meetings, so that they may be examined, challenged and worked through.

Through the workshops the researchers have also endeavoured to create a 'safe fecund space' in which staff are able to discuss issues of concern and undertake the work of challenging the self (see McGregor, Transdisciplinary knowledge creation). The effectiveness of the process seems to be facilitated by the absence of senior management at the workshops. Whilst not involving senior management might prove problematic (particularly if the research team identify structural changes that require management support), so far senior management have been open to suggestions emerging from the project—perhaps not least because the team has been able to clearly articulate and argue for the necessity of various changes.

Despite its benefits, participation in the project has placed additional burdens on staff above and beyond their regular duties. In addition, staff members are required by TIH management to participate in the project as part of their ongoing professional development. This requirement poses some tricky issues regarding informed consent and participants' rights. However, this has been negotiated by informing participants that whilst they have to participate in the project, they have the right not to have their words including in the report (to date, no requests have been received). Further, as far as can be discerned, team members seem to enjoy participating in this collaborative critical reflection that supports their shared intent of working in more effective ways with vulnerable, marginalised and disadvantaged children and their families.

Conclusion

Negotiating transdisciplinary practice brings up issues of "identity, power, territory and expertise" (Rose 2011, p. 151), that need to be addressed in order that transdisciplinarity may be sustained. Researchers can play an important role in these processes by using action research methodologies, to mediate unequal power relations and encourage diverse voices and perspectives in ways that support transformation. The brief sketches of action research engagement given above show clearly the complexity (for practitioners and researchers) of negotiating transdisciplinary practice. For example, at The Infants' Home, the shared intent of the team to find ways of working more effectively with children and families appears to be intertwined with their motivation and wiliness to undertake the often difficult work of challenging the self. Yet, this willingness can be quickly shut down or fractured, when 'core' professional values and beliefs are challenged (such as the example of 'assessment' above demonstrates so clearly). At the same time (and as suggested by the case study of the supported playgroup program reported above), if left unspoken and unexplored, core beliefs might act as 'blocks' to transdisciplinary work.

In order to provide more skilled facilitation and support for the sustainability of transdisciplinary practice, researchers may need to build up a specialty in supporting transdisciplinary work over time, and in multiple sites. In addition, researchers themselves need to be aware of the types of professional territories they may build around themselves, and the possible effects on their mediation of unexplored philosophies and values. In the case of TIH, the particular disciplinary expertise of the researchers (in early childhood education) might help support educators to more clearly articulate their practices to other professionals.

Researchers wishing to support and sustain transdisciplinary practices also need to assist professionals to not only integrate the findings from research into their work, but to work collaboratively with professionals to design research projects that aim to address 'real life' problems and transform practice. In short, we agree with (Gibbs, Transdisciplinarity as epistemology, ontology or principles of practical judgement, p. 165) that to support transdisciplinary practice requires researchers to develop "more recursive research design[s] where problems are defined cooperatively" and through collective engagement (McGregor, Transdisciplinary knowledge creation). Participatory action research is a useful methodology in this regard.

While we have explored some of the personal-professional challenges to sustaining transdisciplinary practice, and suggested ways that research partnerships using action research may assist team members, we have not explored the challenge of integrating children and families into transdisciplinary practice, and processes that sustain it. Given the often shared philosophy of socially just opportunities for children and families among staff working in transdisciplinary teams, this remains an important question to be addressed.

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