

SCHOOLS *DOING* RESEARCH VERSUS *USING* RESEARCH: KEY THEMES FROM THE LITERATURE

Shani Prendergast, Senior Research Analyst, Catholic Education Melbourne

BACKGROUND & RATIONALE

Over the past four years at Catholic Education Melbourne, we have been working to understand and strengthen school research engagement, with a particular focus on two components:

- school engagement *in* research (i.e. schools participating in research projects led by external researchers)
- school engagement *with* research (i.e. schools using the findings from external/academic research).

Another component of research engagement that is both in the literature, and often becomes part of conversations with schools, Catholic Education Melbourne staff and other jurisdictions, is schools *doing* their own research or inquiry. While we acknowledge this is considered to be an important component of school research engagement and is happening in practice in many of our schools, we have kept this outside of the scope of our work so far. This is mostly because we have been responding to an emerging policy rhetoric and goal in Australia that schools need to be more evidence-informed, to ultimately improve school and student outcomes. That is, schools should engage with and use research evidence to inform their school improvement efforts, not necessarily *do* their own research.

Schools (i.e. mainly teachers) doing their own research seems to attract different views and opinions, but what does the literature say? Is it a worthwhile improvement strategy for schools to be conducting their own research, or is it better to help schools engage with and use good quality research that already exists? Or should we be helping schools do both? What is the relationship between schools/teachers *doing* research, and *using* research?

This paper aims to answer these questions by capturing the key themes in the literature (both national and international), and to help Catholic Education Melbourne have an informed view on the topic of 'schools *doing* research'. The literature search that informs this paper was not intended to be extensive or exhaustive, but rigorous enough to extract major themes and key messages. Fourteen research articles were chosen for their recency and relevance to the topic, including half that are located within the research engagement and evidence use literature, and half that are focused specifically on teacher research and action research. There are certainly some repeated themes across the articles, but also some competing perspectives, so the review gives a well-rounded and informed view on teacher research.

Also as part of the process, Monash University's Quality Evidence Use Project (i.e. the [Q Project](#)) team were contacted because of their interest and expertise in 'quality evidence use in schools'. Associate Professor Mark Rickinson, Mandy Salisbury and Dr Jo Gleeson were generous with their preliminary thoughts on the topic and provided some references that had links to schools/teachers *doing* research. While teacher research is not the focus of the Q Project, they acknowledged its relevance to 'quality evidence use', and the importance of further exploring the connections between the different components of school research engagement.

OVERARCHING INQUIRY QUESTIONS

1. What do we mean by schools/teachers *doing* research?
 2. Is school/teacher research a worthwhile endeavour?
 3. What is the relationship between *doing* and *using* research?
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1. What do we mean by schools/ teachers *doing* research?

We are essentially talking about research that is conducted by teachers, in schools. This can sometimes take the form of more traditional academic research; for example, teachers doing a university course to gain an educational research qualification (e.g. Masters, PhD), or as part of a school-university partnership initiative, whereby teachers co-conduct research alongside academic researchers. This form of teacher academic research is usually well supported, is often for the purposes of generating new knowledge, and is likely to have stricter protocols and guidelines for how the research is conducted to meet academic standards. Such research is not usually conducted by teachers on their own, or at least not without strong academic guidance and supervision.

Potentially different from the more traditional academic research is the type of research or inquiry that is initiated, owned and led by the school and/or teacher/s doing the research, and may or may not have input or guidance from an academic partner. Teacher research will still likely follow a systematic research process and can be similar in its methodologies and methods, but some scholars make unique distinctions between teacher research and inquiry, and traditional academic research. Cain (2019) calls teacher research 'insider research', essentially meaning teachers aim to answer an important question by systematically collecting data, trialling changes to their practice, then analysing the data to see if there have been improvements. Cain argues that the main difference between academic research and teacher research is that the former is focused on creating new knowledge that can be generalised to different settings, while 'insider' research is focused on improvement in a particular setting. He writes:

Teacher research is about identifying a focus for improvement. It involves a reconnaissance of the focus and a plan for improvement, underpinned by a theory of change that is based on the reconnaissance. It involves the collection and analysis of data which are preferably scrutinised by other colleagues (Cain 2019, p. 137).

Wyse, Brown, Oliver and Poblete (2020) make similar claims about the difference between academic research and practitioner inquiry, suggesting 'a key distinction is between the main research purpose of making a contribution to knowledge and the main research purpose of making a contribution to addressing a practical problem' (p. 22). However, they do go on to argue that 'close-to-practice' research (including practitioner inquiry) that is of *high quality*, actually has the potential to do both of these things (i.e. contribute to both theory and practice).

There are many different terms used in the literature, sometimes suggesting a similar phenomenon. For example, Wyse et al. (2020) found their interviewees referred to teacher research as 'practitioner inquiry', particularly when they were making the distinction with academic research. Campbell and McNamara (2010) explore the similarities and differences between practitioner research, practitioner inquiry, action research and professional learning, suggesting more similarities between the various terms than differences. In regard to *research* and *inquiry*, they accept that the terms are closely aligned and can sometimes be used to describe the same activity. Referring more often to practitioner research, Campbell and McNamara (2010) explain that this is led by teachers themselves and is usually focused on evaluation or improvement of practice. Action research sits within this category and its fundamental aim 'is to improve practice rather than produce

knowledge' (p. 14). They also highlight that 'action research' may or may not be deemed as 'research' by some academics because research tends to have two criteria (i.e. it is systematically conducted, and the findings are made public), with action research usually only meeting the first criteria. Although Campbell and McNamara (2010) then suggest this depends on how 'public' is defined, as some teachers might share their findings from action research with other colleagues and schools, and even at conferences (which is potentially still 'public').

Ravitch (2014, p. 6) also offers a unique argument for how practitioner research might vary from traditional academic research, suggesting because practitioner research is locally-based and practitioner-driven, it 'emerges from knowing and caring about people in a setting', rather than being top-down and imposed. A similar sentiment is offered by James and Augustin (2018, p. 335), who suggest 'the persons directly invested in education are the ones in the best position to initiate and engender improvement in it and one way to do so is via action research'. So from these arguments, it could be assumed that teachers have a stronger personal connection to their own research or inquiry projects because they potentially have more to learn and gain from the findings.

When reading explanations of teacher research, practitioner inquiry and/or action research, a theme in the literature is the link to professional development, whereby teacher research is often framed as a professional learning activity. For example, Campbell and McNamara (2010, p. 20) argue 'that teachers doing research helps to contextualise professional knowledge and learning' and, in other words 'teacher research becomes a transformative professional development

activity for teachers'. Ravitch (2014, p. 5) also positions practitioner research as a professional development exercise as it 'extends professional knowledge, skills, ideas and practices', and provides an opportunity to critically and deliberately reflect on one's work and practice. In addition, Cain (2019) suggests teacher research is an important form of professional development because its aim is to improve teaching and learning.

To summarise, the following themes stand out in the literature regarding what is meant by teachers *doing* research: the research is focused on addressing a context-specific problem, changing practice and/or making improvements; it is led by teachers (individually or collaboratively); it is systematically conducted and is sometimes cyclic and iterative (e.g. action research); the researcher (i.e. teacher) is often more connected to and invested in the problem, and therefore has the most to gain from the research findings; and its main purpose usually differs from traditional academic research in that it is intended for local improvement, not for creating new and generalisable knowledge. However, it is important to highlight that when trying to distinguish between academic research, and teacher- or school-driven research, there is not always a neat dividing line between them. Some of the examples of teacher research in the literature are still often in partnership with experienced researchers and/or part of a university-led program, so the projects are more academic in nature, and the teachers are not necessarily doing the research by themselves, or at least not without significant professional support (e.g. Campbell & McNamara 2010; Lingard & Renshaw 2010).

2. Is school/teacher research a worthwhile endeavour?

NO, ACCORDING TO SOME

The answer to this question according to three authors, is a resounding 'no'! Levin (2010), Quigley (2016) and Winch (2017) certainly see research has a critical role to play in education and can help teachers improve their practice, but they argue that efforts should focus on helping teachers engage with and use existing research evidence, rather than doing research themselves. Levin (2010) is critical of two strategies that are often suggested in the research engagement and evidence use literature: establishing research partnerships between schools and researchers, and developing teachers as researchers. He argues that neither are feasible as system-wide strategies, but he is particularly strong against the latter:

Developing the skills teachers would need to do high quality research is itself a major undertaking since most teachers have little or no background in research methods. Badly designed studies, whether in universities or classrooms, can yield misleading and even harmful results, and the very small-scale studies that can be done in classrooms are more likely to have measurement error simply by virtue of small numbers. Moreover, most teachers already report being pressed for time, so adding more requirements to their work does not seem likely to appeal to many of them. Finally, it seems highly inefficient to have large numbers of teachers spending many hours to come to conclusions that are already well supported by larger-scale empirical evidence (p. 311).

Alex Quigley was a former [Research Lead](#) in the UK, and currently works for the Education Endowment Foundation on their Research Schools strategy. Quigley (2016) reflects on his experience as a Research Lead and also suggests teachers are time-poor and often do not have the research expertise to be conducting their own research. Rather, Research Leads should help their teacher colleagues by providing access to quality evidence and effective tools that already exist. Quigley is encouraging of teacher reflective practice, but critical of teacher-led action research:

Conducting action research may prove a pale imitation of research undertaken in more tightly structured trial conditions, so we should evaluate the opportunity cost of all our teachers undertaking research. Teachers piloting strategies and better evaluating their classroom work is to be encouraged, but demanding staff undertake burdensome action research projects, with painstaking write-ups, may prove counter-productive (p. 2).

Winch (2017) is positive about the role of research in professional practice, arguing the 'professional' teacher operates in a complex environment and brings together both expertise and situational judgement, as well as systematic knowledge and research. But to be able to engage with the latter requires 'a good grounding in methodological questions in education research so that the professional can make an informed judgement about the research' (p. 143). Similar to Levin (2010), even though Winch (2017) suggests building the research capabilities of teachers is important and should start in initial teacher education, he has a strong view against teachers doing their

own research. 'Teachers should not conduct their own academic educational research independently of any assistance ... because the conduct of educational research is a highly demanding and specialised occupation which requires different kinds of know-how from those required for teaching. It is not fair to expect teachers to take on such a role' (p. 143). So, what seems to be common among these three authors is that teachers doing their own independent research without support is actually unreasonable, potentially risky and not feasible as part of day-to-day practice.

YES, BUT ... ACCORDING TO MANY

With the exception of the three examples discussed above, overall the literature is more positive about teachers doing research and suggests teacher research and inquiry is a worthwhile professional learning activity. However, it is not without its challenges! A common theme in response to 'is teacher research a worthwhile endeavour?' seems to be 'yes, but ...'

Lingard and Renshaw (2010) are very positive about teachers being involved in research, and advocate for more 'design research' whereby issues of practice influence the research design, and teachers are co-researchers alongside academics. They argue that 'teaching is not only a research-informed profession, but also a research-informing profession' because teachers are embedded in the research process, and therefore contribute to the production and dissemination of research knowledge (p. 37). However, from the examples provided in this book chapter, teachers were working as 'research collaborators' with academics, so it is difficult to tell how active they were in the research production and dissemination processes, and if teachers themselves believe they contributed to the broader evidence base. Given the shared role with academics then, can design research be considered a form of 'teacher research' or just a good model of academic research? What about examples of research that are teacher-led, such as practitioner inquiry or action research – are they worthwhile endeavours?

According to Cain (2019, p. 137) when 'undertaken with care and commitment, teacher research usually leads to demonstrable improvements to practice'. James and Augustin (2018) argue the advantage of action research is that participants are accessible, problems are contextualised and proximity means action can happen quickly. They refer to Kember's empirical evidence (2002) that shows positive outcomes of action research, including teachers developing the capacity to reflect on their own teaching, developing teamwork skills, and becoming more student-centred. James and Augustin (2018) also reference another study by Seider and Lemma (2004), who found engaging in action research projects led to teachers developing and sustaining an 'inquiry mindset' and sense of professional efficacy, as well as greater collaboration among colleagues and the development of school structures to support team goals. The list of positives from the various studies is quite extensive, but there are no explicit links to improved student outcomes. While promoting the positive outcomes from the empirical evidence, James and Augustin (2018) also outline three challenges: teachers needing to have the power and choice to be change agents; teachers having the capacity and research skills to conduct methodologically-sound research; and that the results can reveal uncomfortable findings for teachers which can then put them off using the findings or continuing action research. All in all, James and Augustin (2018, p. 345) argue that 'the evidence weighs heavily on the side of action research as an opportunity that can be taken advantage of for the potential that it offers for the larger issue of school improvement through teacher improvement'.

Hilton and Hilton (2017) report positive findings from a pilot study in Brisbane whereby a small group of teachers were well supported to conduct their own action research projects, with eight training days and guidance from an academic mentor. Participants

were very positive about the research program and model; specifically, the active participation, pace and timing, opportunity for reflection, shared journeys with other teachers, and the program structure and mentoring support. Participants also reported how important it was to choose their own topic to ensure relevance to their classroom and school and how, as a result, their sense of ownership and empowerment improved. Similar to the previous example, while Hilton and Hilton (2017) report favourably on the pilot project and merits of action research, they also recognise that there is more to be learned, and that the skills required to conduct research need to be developed in teachers, not assumed. 'It is our belief that it [i.e. practitioner research] provides a means for teachers to be valued as knowledgeable professionals and it has the potential to be a powerful tool for teachers when they are supported by school leaders and trained in research methods' (Hilton & Hilton 2017, p. 92). However, even when teachers are trained in research methods, support in the school still seems to be particularly critical. For example, in a study by Dev (2017), teachers who conducted research projects as part of graduate study said they would only initiate their own classroom research if they were given adequate time and support from the school, and 'that they were not sure how they would use EBPs [i.e. evidence-based practices] without taking time away from other tasks they saw as priorities for a teacher' (p. 145). This raises a significant challenge! Even if teachers are given adequate time, support and research training, how can teacher research and evidence-informed practice be embedded in the day-to-day professional practice of teachers, rather than it being seen as an add-on that potentially takes them away from their core work?

So while there is good support and evidence in the literature to suggest teacher-led research can be worthwhile, there are a number of factors and conditions that need to be in place

for it to be effective. These include time, leadership support, dedicated school structures, research training, academic guidance, positive/high-trust school culture, and teacher choice and autonomy. While these are important enabling factors, the effort to set them up and implement at the school or system level should not be underestimated. With this in mind, teacher-led research or action research should not necessarily be viewed as an easier option to more traditional academic research. In fact, some researchers and teachers think the number of challenges make it not worth the effort. For example, Ellis and Loughland (2016) discuss the challenges with action research identified by teachers from Singapore and NSW, including the stress of interrogating one's own practice; collegiality and a climate of trust that may not be present in the school; training and support from external sources that can sometimes be inadequate; the difficulty of finding a supportive and available academic partner, which may also lead to the practitioner's project being hijacked or externally imposed; some teachers feeling threatened by theory and preferring their own experience; and inadequate time and support provided by school leadership. Given all these challenges, Ellis and Loughland (2016, p. 133) argue 'it would take an intrepid teacher, indeed, to embark unassisted on a journey of practitioner research given some of the perils they would likely navigate'!

ISSUES OF QUALITY, VALIDITY AND RIGOUR

One of the biggest criticisms of or counter-arguments to teachers doing their own research is the issue of validity, and the perceived lack of rigour and quality. Campbell and McNamara (2010) acknowledge this issue and suggest measures need to be put in place to address the quality and validity of teacher research, including developing ethical guidelines and protocols, implementing processes that encourage

transparency and collaboration, and encouraging accountability to a community of practice or critical friends. Campbell and McNamara (2010) also stress the important role of an academic researcher who can be a mentor and critical friend to a teacher researcher, but still acknowledge the potential tensions with these relationships and the negotiations that need to take place (e.g. who sets the research agenda, writes up the findings and publishes the outcomes?).

A small study conducted by Oolbakkink-Marchand and van der Steen (2013) really helps to understand the quality issue associated with practitioner research, and the relevant validity theory. They believe the most important outcome of the study is 'its contribution to a better understanding of the complex relationship between the goals of practitioner research and the criteria used to judge the quality (i.e. validity) of the research' (p. 137). The researchers used five different validity indicators to measure the quality of action research projects conducted by 11 teachers in Denmark. The results revealed all projects had *catalytic* validity, so there were actual transformations to teachers' knowledge, skills, attitudes and/or actions. *Outcome* validity was also present in all except one action research project, so the goal of professional development for teachers was met. However, when considering the broader goal of school development and improvement, *dialogic* and *democratic* validities needed to be strengthened. 'It appears that democratic validity plays an important role in making the step from teacher research that contributes to the professional development of the individual teacher to teacher research that contributes to the development of the school' (Oolbakkink-Marchand & van der Steen 2013, p. 136). What these validities look like in practice are greater involvement of other stakeholders in the school, and more collaboration and dialogue among colleagues during the research process. Lastly, process

validity was the least evident across the projects, suggesting teachers needed greater help and support with research methodologies in order to improve the overall validity and quality of their research. The researchers suggest that 'practitioner research takes time to learn and that new cycles of practice are needed to establish a sufficient level of quality' (p. 137). Overall what this study and article highlight is the need to consider the different elements of validity and quality by which teacher research may be judged. It is not necessarily helpful, or fair, to label teacher research as 'invalid' or of 'poor quality'; rather, pay attention to the specific goal/s of the research in the first place, and to what validity criteria might then be appropriate for that practitioner research.

In their review of close-to-practice (CtP) research, Wyse et al. (2020) report on common problems associated with practitioner inquiry projects that are deemed low quality, including that findings are often too descriptive and under-theorised; not enough description and reasoning is behind the chosen methodologies and methods; and the studies are not located within relevant theory or supported by a thorough literature review. The researchers acknowledge this is potentially because many practitioners do not have the skills to analyse data against a theoretical framework, nor do they have the expertise to choose the best research methodology and methods to guide their research and rigorously explain and defend their choice. Perhaps it is not surprising then that only six of the 28 CtP studies were rated as *high quality* by the research team, who described those projects as having 'made explicit the original contribution to knowledge and an aspect of practice, and demonstrated robust use of methodology' (Wyse et al. 2020, p. 16). The authors' main argument is that the distinguishing goals between academic research (contributes to theory) and practitioner research (contributes to practice) are not necessarily incompatible, and that

high quality CTP research can do both. This may indeed be the case and give practitioner research a higher standing among the academic community, but how many teacher research projects are potentially excluded from the 'high quality' category because they do not make an 'original contribution to knowledge'?

Cain (2019) challenges the need to judge the quality and validity of teacher research in the same ways as traditional academic research. He cleverly questions the need for rigorous scientific methodology as compared with academic research, because teacher research is focused on improvement in a particular context, not on the generation of original knowledge for the purposes of generalisability to other settings.

First, the prime aim of Teacher Research is not to generate original knowledge which can be generalised to lots of different settings, but to improve practice in a particular school ... Generalisability is not terribly important; what matters is that the situation at the end of the research is demonstrably better than it was when the research started, and that the path to improvement is itself a matter of improving ... So perhaps the appropriate question to ask of the research is not, 'Is it sufficiently rigorous to generate 'generalisable findings?' but 'Is it sufficiently rigorous to show and explain 'genuine improvement in this setting?' (p. 136)

To summarise, the following themes stand out in the literature regarding whether school/teacher research is a worthwhile endeavour. Overall, teachers doing research in schools can be beneficial, but they need adequate support and research skills (that are developed, not assumed) to ensure the research is both a meaningful professional learning activity for teachers and leads to context-specific improvement. While the research needs to be adequately rigorous to understand and justify the findings, perhaps practitioner inquiry does not need to be judged with the same validity criteria as traditional academic research.

3. What is the relationship between *doing* and *using* research?

Firstly, it is important to confirm that both of these activities can be worthwhile in their own right. There is evidence to support the link between research engagement and evidence use, improved teaching practice, and positive student outcomes (e.g. Bell et al. 2010; Scott & McNeish 2013; Sharp 2004), so we know teachers *using* research is a good thing. In addition, from the literature reviewed in this paper, there is clear evidence that teachers doing their own school or classroom-based research can also be beneficial. But what is the relationship, if any, between *doing* and *using* research in schools? This is the hardest of the inquiry questions to answer because, to our knowledge, it is not directly or extensively addressed in the literature. Teachers both *doing* and *using* research are sometimes grouped together under the banner of 'research engagement' (e.g. Cornelissen, McLellan & Schofield 2017; Petretti 2018), but then they are often discussed as separate activities. Similarly, school staff *doing* and *using* research are both features of a 'research-engaged school' (Godfrey 2016), but again the relationship between them is not explicit. Nonetheless, attempts are made below to explore the relationship between *doing* and *using* research, including some potential hypotheses.

DOING RESEARCH MAY HELP WITH USING RESEARCH

Teachers doing their own research or inquiry may help to develop research literacy skills and a '*researcherly disposition*' (Lingard & Renshaw 2010), which in turn may be enablers for engaging with and using research. According to Evans, Waring and Christodoulou (2017, p. 404) '*research literacy* involves the ability to judiciously use, apply and develop research as an integral part of one's teaching. Research literacy involves the ability to draw on and integrate different kinds of evidence gained both intuitively and rationally'.

However, as highlighted earlier, these skills need to be actively taught and developed in teachers and not assumed. Can a 'researcherly disposition' and research literacy skills be developed without teachers conducting their own research and inquiry, for example through training and professional learning? Potentially! But there were no examples in the literature of standalone research development programs without teachers putting their skills into practice by conducting a research project. In the Dev (2017) study, it was the active involvement of teachers doing action research projects that actually improved their view of research. As part of the graduate study program, the students (i.e. teachers) reported that 'the project itself and their engagement with an activity to unpack research methods, instead of just reading about research design and terminology, were most influential in helping them change their minds about the value of teacher research' (Dev 2017, p. 41). We also know from other literature that teachers having a positive view of research is an important enabling factor for engaging with and using research (e.g. Ostinelli 2016; Petretti 2018).

Another argument for teachers *doing* research being an enabler for *using* research is that investigating a practice-based problem through their own inquiry process can develop a greater sense of ownership. As mentioned previously, teachers have the most to learn and gain from the findings of their own research. Seleznyov (in Brown, Flood & Handscomb 2020) suggests:

Teachers who generate their own evidence through participating in structured collaborative enquiry projects are more likely to use research evidence to change their practice. This is because teacher enquiry projects enable them to own their own problems, help them get a deep understanding of potential solutions and motivate them to develop their own evidence-informed solutions (p. 27).

DOING RESEARCH (WELL) SHOULD INVOLVE USING EXISTING RESEARCH

A key part of conducting research is knowing where the issue, phenomenon or problem sits within the existing evidence base. Engaging with relevant literature helps to answer questions like: What is already known about the research topic? What are the gaps in knowledge? Is it a research project worth pursuing, or can existing evidence be used to help solve the problem? Are there other theories or frameworks that can help to make sense of the data and understand the research findings? What can be learned from others who have explored similar lines of inquiry? These questions are not necessarily specific or unique to academic research. Even if teacher research is focused on local improvement, and is not intended for broader publication, engaging with relevant research and asking such questions seems likely to help guide and strengthen practitioner inquiry. However, when reviewing the literature on teacher inquiry and action research for this paper, it was surprising to find the role of using existing research was not evident at all in some papers, mentioned briefly in others, and only highlighted strongly in two articles. In one example, Ellis and Loughland (2016) clearly believe using existing research is important in action research, but note the lack of engagement – ‘research was often conducted without knowledge of the relevant theory so that a theory/practice divide prevailed. Although academic partners did on occasion provide selected literature, teachers tended to only scan through this material citing they were time poor’ (p. 132).

In their review of CtP research, including practitioner inquiry and action research, Wyse et al. (2020) argue the projects that were deemed *high quality* had a strong theoretical underpinning and

explanation of the research methodology. In contrast, the *low quality* projects lacked a comprehensive literature review and deep analysis of the findings against relevant theory. Not only do the researchers see these issues as barriers to teacher research contributing to the broader evidence base, but they suggest the lack of theorisation may also undermine the potential learning and usefulness of an action research project. They claim that in the best examples, CtP researchers ‘know how theory can be applied in a particular context in order to help broaden understanding about practice’ (Wyse et al. 2020, p. 16). So perhaps more important than meeting certain quality criteria of academic research, teachers engaging with relevant theory and literature as a key part of inquiry processes can enhance their own learning and the potential value of their research. Winch (2017) goes even further, intimating that teachers engaging with research is not just a good idea, but perhaps a necessity – ‘Educational theory is part of the world of teachers whether they like it or not. It is far better to master it than be mastered by it’ (p. 142).

USING RESEARCH (WELL) COULD INVOLVE DOING RESEARCH/INQUIRY

There is currently limited knowledge and evidence on what teachers *using* research *well* looks like, hence Monash University’s current five-year project on Quality Evidence Use (i.e. the Q Project). The research engagement and evidence use literature is peppered with initiatives aimed at improving the use of evidence in schools, some including teachers participating in cycles of inquiry (i.e. *doing* research). But there is still no clarity on which are the best models or ways for teachers to use research. Perhaps one of the most effective approaches for integrating research evidence into a particular setting is

for teachers to conduct some form of research or inquiry. Without it, how will teachers reflect on changes they have made that were informed by research, and the impact of those changes? In saying that, using research well might not require teachers to do a full end-to-end research project per se, but *doing* research may just involve using research skills as part of day-to-day professional practice, such as identifying a problem, gathering student data, modifying teaching practices and evaluating the impact.

As highlighted earlier, we are faced with the challenge of helping teachers to *use* and *do* research as part of their daily work. In the Dev (2017) study, even when teachers were encouraged to use evidence-based practices through well-supported action research projects, they still saw such practice as taking them away from their core work, rather than a means to help them do their core work better. So perhaps we need to change the focus, from helping teachers use research well, to helping teachers get better at what they do, by using and doing research to help them get there. Baumfield (in Brown, Flood & Handscomb 2020) suggests it is not useful to frame research as external to teaching and something teachers ‘use’ or ‘do’. She argues ‘the persistence of a dominant paradigm in which knowledge is ‘produced’ and ‘applied’ underplays the role of inquiry in a process of learning and, in professional learning in particular, as a powerful driver for research that is collaborative and generative’ (p. 179). Therefore, if research-related activities became so embedded in the way teachers learn and continuously improve, *doing* and *using* research are likely to be mutually-reinforcing, and potentially so entangled that it is no longer possible or helpful to tell them apart.

SUMMARY

Exploring and wrestling with the literature on teachers *doing* research has been a challenging, but worthwhile exercise. While there are not necessarily clear and straightforward answers to the inquiry questions, we now have a better understanding of how teacher research fits within the broader school-research-engagement puzzle. Not only can teachers *doing* their own research and inquiry support ongoing professional learning and local-level change and improvement, it may also be an important enabler for *using* research well. It is often distinct from academic research in that teacher research is improvement-focused and context-specific, and therefore the researchers (i.e. teachers) have the most to learn and gain from the findings. Because generalising the findings and publishing in academic journals are not usually what motivates teachers to conduct their own inquiry, perhaps the frameworks used to judge teacher research should be reconsidered. According to Wilkins (in Brown, Flood & Handscomb 2020):

It is essential that evidence-informed practice becomes the norm across the teaching work of a school. A teacher not research-engaged would be like a driver not looking at road signs: but that does require a re-think about 'research' because the kind of research that is needed for professionalization is professional research rather than academic research. The key distinctions between the two are that professional research operates within a different ethical framework, counts professional judgement as valid evidence, and stands separately from academic levels of assessment (p. 147).

SNAPSHOT OF KEY LEARNINGS

1. WHAT DO WE MEAN BY SCHOOLS/ TEACHERS *DOING* RESEARCH?

- Teacher research is led by teachers in schools, is context-specific, focused on an issue of practice, and conducted systematically. Because it is locally-driven, the researchers (i.e. teachers) are often more invested in the research problem and findings.
- Teacher research and inquiry is often distinct from academic research in that it is improvement-focused and context-specific, and the findings are not intended to be generalisable or for broader publication.

2. IS SCHOOL/TEACHER RESEARCH A WORTHWHILE ENDEAVOUR?

- Some authors think teachers doing their own research is unrealistic, unreasonable and potentially risky, especially if done individually and without academic guidance. Instead, they believe teachers should be supported to engage with existing high quality research.
- More authors think teacher research can be beneficial for local change and improvement, and as a useful professional learning activity. However, it still has its challenges. Teachers need to have research skills that are developed, not assumed; be adequately supported with time, guidance and high-trust school cultures; and have agency to choose a topic that they care about and is relevant to their context.
- A common criticism of teacher research and inquiry is the perceived lack of rigour, quality and validity. However, given its different purpose to academic research (i.e. local improvement, versus the generation of new knowledge), there are sound arguments to suggest the validity of teacher research should be judged differently to academic research.

3. WHAT IS THE RELATIONSHIP BETWEEN *DOING* AND *USING* RESEARCH?

- Teachers *doing* research can develop research literacy skills and a 'researcherly disposition', which can in turn help teachers with *using* research. In addition, teachers actively engaging in a research project that is relevant and meaningful to them can improve their view of, and engagement with, research.
- Teachers *doing* research should involve engaging with relevant and existing literature; however, *using* research was often not explicit in the teacher research articles. There were two exceptions, with one paper highlighting the lack of engagement with relevant theory as an issue in some teacher research projects, and the other suggesting using existing literature can help teachers better understand the focus of their inquiry (i.e. the practice issue being researched) and the research findings.
- Teachers *using* research (well) could involve *doing* research or inquiry as a way of integrating knowledge from research evidence into a particular setting, and then judging the impact of using that knowledge. However, little is known (or written) about whether conducting a full research project (or cycle of inquiry), OR using research as part of day-to-day practice is more effective for teachers to improve their practice. Perhaps it is not either/or, and the most can be gained when teachers do both to support their ongoing learning and improvement.

CONSIDERATIONS

Many inquiries and literature reviews lead to more questions than answers, and this is no exception. When considering the key learnings above and their implications, the following questions are proposed to encourage further reflection, discussion and action within the education community, particularly at the jurisdiction-level.

1. Given teacher research is improvement-focused and context-specific, the findings are often not generalisable, nor intended to be. There are often conversations within and across jurisdictions about how to better share the findings from the many research projects conducted by teachers and leaders in our schools, usually as part of postgraduate study. However, rather than sharing context-specific learnings from individual research projects (i.e. the *what*), perhaps there is more to be learned and gained from understanding the process (i.e. the *how*).

How can we learn more about, and share, the different ways teachers/leaders have conducted successful research projects in their schools, and what helped make their projects successful?

2. Even though there is evidence to support teacher research as beneficial, there are still a number of issues and criticisms raised in the literature, as summarised in this paper. Teacher research should not be considered an easier alternative to academic research, as there needs to be adequate support, capability building and scaffolding (e.g. time, academic guidance and high-trust school cultures) for teacher research to be successful.

How can we develop teacher research skills more deliberately and ensure jurisdiction projects and initiatives that include an element of teacher research, inquiry or action research have adequate scaffolding?

3. There is more to be learned about the relationship between teachers *doing* and *using* research, but it is likely they are mutually-reinforcing, and both support ongoing learning and improvement. Even though the long-term goal might be to embed them as part of teachers' daily professional work, we still need to understand *doing* and *using* research as specific practices in order to build the right capabilities.

How can we continue to understand and strengthen teacher capabilities for both *doing* and *using* research?

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