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Teaching as Inquiry: Well Intentioned, but Fundamentally Flawed

Leon Benade

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Abstract This article draws on a larger research project that questions the impacts of ‘21st century learning’ on teachers and leaders. Implicit is an evaluation of the promise of futures pedagogies to deepen teacher reflective practice. Critical theoretic and critical hermeneutic approaches underpin this research. It therefore analyses policy and documents critically, considers existing research critically, and triangulates by reference to interview material. In arguing for a concept of collaborative, critical teacher reflective practice, this article presents teaching as inquiry as a flawed model, suggesting the label ‘teaching as inquiry’ be abandoned.

Keywords Teacher inquiry · Practitioner research · Reflective practice · Teaching as inquiry

Introduction

The New Zealand Curriculum (Ministry of Education 2007) presents teaching as inquiry as one of the ‘teacher actions promoting student learning’. Together, these actions are the basis of ‘effective pedagogy’ (p. 34). Therefore, if a teacher wishes to be effective, one action to be consistently undertaken is to “inquire into the teaching–learning relationship” (p. 34). Evidence suggests, however, that in the years following the mandated adoption of *The New Zealand Curriculum*, and presently, the concept is neither universally understood nor consistently practiced (Driver 2011; Education Review Office 2011, 2012; Sinnema and Aitken 2011). The current study has confirmed these findings.

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‘Teaching as inquiry’, despite certain sound principles and laudable intentions, is flawed. To make this case, the relationship of teaching as inquiry to notions of inquiry and practitioner research will be examined. The idea of critical teacher reflective practice will be advanced, providing a richer and alternative way of thinking of practitioner inquiry. The findings of a current study are discussed in relation to reflective practice and teaching as inquiry, supporting an argument for an expansive concept of collaborative, critical teacher reflective practice in preference to narrow ‘teaching as inquiry’.

Teaching as Inquiry

Teaching as inquiry (TAI, henceforth) is a cyclic model (MOE 2007, p. 35), and has three inquiring questions, which are briefly elaborated: What is important (and therefore worth spending time on), given where my students are at? (‘focusing inquiry’); What strategies (evidence-based) are most likely to help my students learn this? (‘teaching inquiry’); What happened as a result of the teaching, and what are the implications for future teaching? (‘learning inquiry’) (p. 35). Teachers should use “all available information...evidence from research and from their own past practice and that of colleagues...[and, utilising] a range of assessment[,]...analyse and interpret the information” (p. 35).

The model originates from Sinnema and Aitken’s Best Evidence Synthesis on Social Sciences (2011). They presented TAI as one of their findings, later to be taken up in *The New Zealand Curriculum*. The authors pointed out that their original model was underpinned by “attitudes [of] open-mindedness, fallibility, and persistence” (p. 32). This underpinning was subsequently excluded from *The New Zealand Curriculum*.

The Relationship of Teaching as Inquiry to Practitioner Inquiry and Research

Sinnema and Aitken (2011) conceptualised TAI as a process of ‘teacher research’ in practice contexts, providing practitioners with greater knowledge and understanding of those contexts. Their account places TAI within a field of scholarship and discussion concerned with varieties of practitioner inquiry and research, which includes forms of action research. In their review of TAI, Sinnema and Aitken (2011) aligned their model to Schön’s (1983) challenge to a perceived theory–practice division by explicitly rejecting the critique that practitioner inquiry lacks research rigour. Practitioner research (they argued) is validated by the primacy of context, not arcane research protocols. In this sense, TAI accords with Schön’s view that “reflection-in-action may be rigorous in its own right” (1983, p. 69). Although Sinnema and Aitken clearly distinguished between practitioner (teacher) research and action research, these terms are less clearly demarcated in scholarship (Dana and Yendol-Silva 2003; Darling-Hammond et al. 2005; Reid 2004). Thus it is important to establish clarity here.

Action research (AR, henceforth) has its origins in social justice research carried out by the social psychologist, Kurt Lewin. His life experience as a Jewish émigré to the United States in the 1930s led him to challenge discrimination. His social experiments focussed on developing applied research in democratic groups rather than with individuals (Elliott 2009; Pine 2009). During a recursive AR cycle, a specific problem area requiring action is identified and selected; a hypothesis is formulated; goals and procedures are specified; the action steps and results are recorded along the way; generalisations about the relationship between the action and the goal are inferred; finally, these generalisations are retested before recommencing the cycle. AR therefore commits participants to taking action to address a problematic situation, and challenges the ‘researcher-research subject’ dichotomy (Pine 2009). Sinnema and Aitken (2011) have claimed that while TAI is similar to AR, it is not the same, as AR requires collaboration.

Robinson and Lai (2006), advocates of practitioner research, argued for teachers and professional researchers to consider themselves as fulfilling different roles, rather than as being different groups. The latter formulation merely adds to the theory–practice divide, whereas the former allows considerable overlap between the two roles, meaning that teachers can be researchers too. Second, they reiterated the view of practitioner research being contextual, and third, that practitioner research must be rigorous, made possible by being based on evidence. Dana and Yendol-Silva (2003) referred to ‘teacher inquiry’, which rests on a systematic and focussed process of question posing, data gathering and analysis and study of research literature. These authors, while acknowledging AR, did not distinguish clearly between AR and teacher inquiry, and to some extent, slid the two approaches together. Seemingly, Robinson and Lai (2006) also related AR and practitioner research closely, but endeavoured to position their own problem-based methodology (PBM) as being different to both by virtue of challenging teacher assumptions and working theories.

Arguably, the practitioner research/inquiry versus AR dichotomy is false, because they are not equivalent. Practitioner research may be better understood as an approach, which reflects a particular theoretical framework. A practitioner seeking to engage in some form of deeper inquiry will, like any researcher, consider a range of strategies and methods (see O’Toole and Beckett 2013, as an example of this interpretation). One such strategy is action research, which takes several forms. There may be other strategies, such as the PBM advocated by Robinson and Lai (2006). Another is TAI, which is a strategy to be adopted by practitioners who wish to gain some understanding of their practice, with the prospect of bringing about some improvements. To better understand why TAI is (in its present form) a weak strategy, this article will consider in some detail the concept of collaborative critical teacher reflective practice, which provides the justification, theory and approach to support a claim for a more rigorous approach for practitioners in schools to consider.

Collaborative Critical Teacher Reflective Practice

The challenges of the modern classroom, including student diversity, demand a more inquiring teacher able to recognise and respond to changes in the teacher-

student relationship (Larrivee 2000). The changing ethnic, cultural and economic character of American schools prompted Howard (2003) to argue for culturally relevant pedagogies more relevant to this student diversity. He suggested critical teacher reflection would support teachers to enhance and develop these pedagogical strategies. The current digital age further challenges teachers. The World Wide Web (WWW) and the increasing availability of digital tools that access the WWW through the Internet, have undermined the traditional model of teachers presenting disciplinary knowledge to students, thus leading to calls for significant changes to teaching and learning approaches (Beetham and Sharpe 2013a, b; Bolstad and Gilbert 2012; Collins and Halverson 2009). Making a related point, Reid (2004) argued that 20th century rationality and certainty have been replaced by 21st century complexities and uncertainties. Reasons for teachers to be critical inquirers include, Reid suggested, the contextualised nature of daily practice in 21st century, and the importance of teachers modelling the critical thinking dispositions and skills they are expected to encourage in their students.

The term 'reflective practice' is taken here to mean the on-going, regular and persistent use of reflective tools to engage, individually and collectively, in critical thinking about various aspects of practice (teachers' work), hence 'collaborative critical teacher reflective practice'. The temporality of this practice requires practitioners to look back, to consider the immediate and continuous present, and to project into the future. Reflection problematises, confronts and challenges, leading to the creation of plans for just action, and the implementation of those plans to bring about significant and meaningful changes to the circumstances of people and situations where practitioners have influence.

This definition suggests the epistemological requirement that the practitioner has certain skills and relevant theoretical and practical knowledge, in order to *do* reflection. It is widely suggested that reflective activity relies on, and is improved by, writing, such as journals, diaries or blogs (Argyris and Schön 1974; Brookfield 1995; Bryan and Recesso 2006; Freidhoff 2008; Larrivee 2000; Reid 2004; Smyth 1992). Having access to, and spending time with, theoretical literature enables critically reflective practitioners to name the general elements of their practice and to place this practice in a wider socio-economic and political context (Brookfield 1995). More importantly, these capabilities must be supported by specific dispositions on the part of reflective practitioners. This is the ontological requirement of reflective practice, which enables practitioners to *be* reflective. These dispositions are considered the more important, thus will be discussed now.

The willingness to question personal assumptions and beliefs is suggested by Dewey's view of reflective thought as the "*[a]ctive, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends*" (1910, p. 6. Emphasis in the original). Dewey valorised the deliberate search for the basis of personal beliefs and testing the adequacy of the warrants supporting those beliefs. These beliefs can be expressed in different ways. Robinson and Lai (2006) referred to sets of constraints on solving practical problems, where these constraints are the pre-existing ideas practitioners have about their situation. Johns (2013) recognised assumptions as deeply embedded in the self, and the difficult task of unearthing

these is akin to getting to know oneself more clearly, while Larrivee (2000) referred to assumptions as the beliefs and values that are central to our being and identity.

Argyris and Schön (1974) influenced the positions just referred to with their notions of theories of practice, effective learning and mind-sets. They distinguished between espoused theories and theories in use—effectively, the distinction between what one would claim to do in a situation, and what one actually does in action. Theories-in-use tell us much about the assumptions of the individual practitioner. Like knowledge-in-action (Schön 1983), these theories are largely tacit, and it is important to make them publicly explicit (through collaborative reflection), as in so doing, the assumptions of the practitioner become apparent. Failure to do so means that learning tends to be ‘single loop’, which occurs when attempts to remedy a fault or solve a puzzle are made to fit existing assumptions, or what Argyris and Schön (1974) termed ‘governing variables’. ‘Double loop learning’ is preferable, as it requires a reorientation of underpinning assumptions before a remedy or solution is sought. To do so, demands a critical mind-set, and willingness to be critically reflective.

This mind-set eschews the values of individualistic practice, fear of failure, limited expression of feelings and rationality (Argyris and Schön 1974), from which flow self-protection, defensiveness and risk-free, non-collaborative behaviours. Instead, maximising the public declaration of knowledge and information, and intrinsic goal setting will see individuals seeking feedback to improve performance, working cooperatively, and being open to new learning (1974).

An important disposition is the willingness to locate reflection in a socio-political context. Critical reflection recognises that teaching is political, and that curriculum and curriculum policy is not value-neutral (Brookfield 1995). When discussing critical reflection on practice, Freire (1998) noted that critical teachers must be disposed to change, must acknowledge their personal attitudes, and be self-aware of the process of change. For teachers to change, they must see the need for change and be willing to break with the past. Smyth (1992) endeavoured to provide teachers with a model of reflective practice based on Freire’s ideas.

Smyth’s socio-politically contextualised four-step model follows a process of ‘describing, informing, confronting and reconstructing’ (1992, pp. 295–300). Smyth’s approach is focussed on action as an outcome. A teacher’s written description, in clear and simple language, of concrete events, provide a context for her knowledge, beliefs and principles. This description becomes informative when it makes explicit a teacher’s tacitly held beliefs and practices. This process overlaps with the notion of espoused theory, when writing, for example, “I do so-and-so because...” statements. This is a search for defensible pedagogical principles. The difficult stage of confronting requires the teacher to question the underpinning ideologies supporting those tacit theories (like views on race, gender and ability, for example). Importantly, wider socio-political ideologies that influence practice are interrogated, by asking whose interests are being served. The final stage of reconstruction invites reflective teachers to locate themselves in history by pondering the unique role they have to play in society at present—for most teachers, this must begin with their own students. By recognising that teaching is not neutral or unproblematic, it becomes possible to think of how to challenge the way

education is presented, including representations of teachers as ‘the problem’. At the very least, this line of thinking will orient teachers to focus on delivering socially just outcomes for their students.

The 21st Century Learning Project

Semi-structured interview discussions, held between October 2013 and December 2014 with twenty-five participants, contribute to a larger on-going qualitative research programme, the first phase of which is framed by the following question: **What is the influence of the concept of ‘21st century learning’ on the work of teachers and the strategic actions of leaders at a selection of New Zealand schools?** The concept of ‘21st-century learning’ is affirmed by the MOE (“Modern learning environment examples” 2014).

This study is informed by both critical theory and critical hermeneutics. Critical hermeneutics draws on the critical theory of the Frankfurt school, and hermeneutics, which has been strongly influenced by Heidegger and especially Gadamer (1975). Hermeneutics encourages researchers to enable participants to interpret and make sense of their perceptions (Ramberg and Gjesdal 2005) and is focussed on the ‘lived experience’ of participants (van Manen 1990/1997). The researcher is influential in documenting and interpreting the field evidence, suggesting that language is significant (Ramberg and Gjesdal 2005). In phenomenological terms, the role of interpretation is, however, contested between those who argue the role of the researcher is to describe and those who believe the descriptions should be interpreted (van Manen, 1990/1997; Vagle 2010).

Critical theory is a practical philosophy, synthesising philosophy and other human and social sciences (Bohman 2005; Bohman and Rehg 2011). It melds “empirical and interpretive social sciences...[and]...normative claims of truth, morality and justice” (Bohman 2005, p. 5), and is characterised by resistance to social and institutional domination and a commitment to social justice. According to Bohman (2005), critical theory must be explanatory, practical—in a moral, not instrumental sense—and normative.

With financial support from the Faculty of Culture and Society of the Auckland University of Technology, and the approval of the Ethics Committee of the university, three primary schools (demarcated as A 1, 2 and 3) and three secondary schools (demarcated as B 1, 2 and 3) agreed to participate. Schools A and B 1 are ‘futures oriented’, with modern learning environment (MLE) design; School A2 blends single-cell classes and MLE; School B2 has adopted a BYOD approach across the curriculum; Schools A and B 3 have single-cell classes, with limited ICT use across the curriculum. Participants (identified by fictitious names) from each of the schools were purposively chosen (see Table 1). In addition, four known individuals outside of the six schools were invited to participate in interviews, and agreed to do so. They are identified in Table 2.

This article focuses on the participant responses to questions relating to teachers’ reflective practice, which assessed participants’ understanding of reflective practice and associated activities. In light of the perceived requirement that 21st century

Table 1 Participants (fictitious names) by school and position

School	Principal	Head of e-learning/ICT	Experienced teacher	Inexperienced teacher
School A1	Eric	Moana	Moana	Susanna
School A2	Teresa	Karen	Caroline	Bella
School A3	Harold	Alan	Liz	Mohini
School B1	Nick	Dianne	Dawn	Quentin
School B2	Tania	Steven	Tracey	Catherine
School B3	Eugene	Mary	Trevor	Nigel

Table 2 Individual participants not linked to case study schools

Individual	Role	Comments
Brian	Ex-principal	Was a recent leader of a futures oriented secondary school
Nicole	Consultant to schools	Engages with schools on e-Learning
Neil	Consultant to schools	Engages with schools on e-Learning
Evelyn	Principal	Leads a traditional low-decile regional primary school

learning requires teachers to make significant shifts to their practice and their thinking about the purposes of education, participants were asked to suggest what kinds of attributes characterised teachers who are reflective practitioners. It was also important to clarify the understanding the participants had of TAI.

What follows both describes and interprets their responses. A hermeneutic perspective allows the interpretation of the participants to emerge (Ramberg and Gjesdal 2005), but these do not stand independently of the context of the participants or of the researcher (Kinsella 2006; Roberge 2011). Consequently, these findings and interpretations are not intended to be generalised, but rather to deepen understanding. The choice of questions and the construction of findings are largely researcher-chosen, while the voices of participants give readers a sense of their perspective. This is the ‘play’ emphasised by Gadamer, the “encounter with the other [through which] we are lifted above [the] narrow confines of our own knowledge” (Gadamer et al. 2001, p. 49). Roberge (2011) suggested that ideology is where hermeneutics and critical theory overlap. Thus the following considerations, and the conclusions they give rise to, are influenced by an awareness of the role ideology can play in participant responses.

What is Reflective Practice and How Does it Occur?

Participant responses suggested that reflective activity is both personal or individualised and collective or collaborative. Several participants saw journaling or blogging as core reflective activities that occurred privately and individually, though not all committed to writing, like Tania (principal, School B2), who relies on down-time (like driving) to keep “conversations going on in my head”. Several participants emphasised the value of individuals placing their thoughts and ideas in

the open and inviting feedback. At School B1, each staff member has a ‘critical friend’, including the principal, Nick, for whom “inquiry needs to have not only you internally having that inquiry but [having an] external influence on that inquiry”.

Questioning can support nuanced thinking, suggested Eric, (principal, School A1), who wanted his staff to keep an open mind and not simply latch onto a particular model or approach to reflection. Rather, “let’s meet regularly, let’s talk regularly, let’s collect that data regularly and see where that journey takes us”. This suggestion of open-ended reflective activity was, however, not generally held. For example, Dawn (experienced teacher, School B1) expected reflection to lead to improved student learning, while her colleague, Dianne (ICT), regarded reflective practice to mean “people actually being aware and thinking consciously of the impact of their actions in education”.

Reflective activity exists in a temporal dimension, engaging teachers in dwelling on past teaching episodes. For Moana, (ICT and experienced teacher, School A1), reflective practice requires “going back and reflecting on what you’re doing”, while Karen (ICT, School A2), similarly recalled, “...with that whole inquiry too, we kept going back...”. Susanna, a classroom teacher in School A1, captured the day’s events by writing reflective questions after school. These questions prompted her to look forward: “Actually these kids really, really need to work on leaving spaces tomorrow”. Reflective practice also has a present continuous mode. Moana believed reflection “should be happening all the time”, while Nicole (independent consultant) claimed “you can’t teach effectively unless you’re reflecting”. Reflective practice is habitual: “I know it happens all day, every day” reported Caroline (experienced teacher, School A2).

Reflective practice has a spatial dimension, articulated by participants of both School A1 and B1 in relation to MLE. Eric (principal, School A1) thought deprivatised reflection is more challenging in traditional single-cell schools: “It doesn’t mean that it can’t happen in single-cell classrooms but it’s easier here. It’s like a perk, a bonus”. Moana (ICT and experienced teacher, School A1) too saw the link between open spaces and deprivatised reflective practice: “Well, if you’re going to be building a wonderful school and removing walls and de-privatising and collaborating, then why wouldn’t you review pedagogy and practice?” Nick, (principal, School B1), pointed out, “there’s no classroom to hide in, there’s always someone else around”. Thus, a teacher’s practice is always transparent and visible for all to see. It may be interesting to know how some teachers, such as Liz and Mohini (School A3), might respond to such ideas, considering their outright rejection of the notion of working in a MLE. Spatiality matters to teachers’ practice generally, and here the privacy of the single-cell classroom is ranged against the surveillance possibilities of the MLE.

What is the Focus of Reflective Activity?

While several suggested that reflective activity is largely confined to the improvement of student outcomes, some school leaders had a wider view. Harold (principal, School A3), for example, stated that reflection “can be about practice, it can be about your thinking process, it doesn’t matter”. For Eric (principal, School

A1), “inquiry could be something that’s just personal to [teachers]. It might have nothing to do with them as a teacher”. Alan, (ICT, School A3), would ensure that reflection “relates to our vision and values”. Still, this linkage of reflective activity to key strategic goals implies a link to the academic achievement of targeted students, usually expressed in schools’ strategic documentation.

Eric connected journaling to staff appraisal processes, and at School A2, strategic targets for addressing underachievement are filtered down into individual appraisal annual goals, on which teachers reflect and give account during the year. Eugene (principal, School B3) meanwhile, linked reflective conversations to appraisal, seeing this as “a developmental opportunity”. While these views tended to predominate among all six principals, even some teachers, particularly those in the secondary schools (B1, 2 and 3), echoed similar views. Arguably, the trust implied in collaborative and public reflective activity may be compromised by appraisal, essentially an accountability process. A reason for linking TAI to appraisal could be to overcome teachers’ perception of TAI as “an add-on...an extra over-and-above” (Teresa, principal, School A2). Dawn (experienced teacher, School B1), also reported that her colleagues are struggling to fit in TAI, because they “are so snowed with everything that’s so new”.

What Personal Attributes Does Reflective Practice Require?

Courageous practitioners share their reflective thoughts with colleagues, invite feedback, question their own practice, and commit to change. Harold (principal, School A3) noted: “If you’re not doing anything, you’re not taking any risks, it’s all very safe and well and good”. Some secondary school participants, such as Tania (principal, School B2) and Nigel (inexperienced teacher, School B3) suggested those who avoided reflection run the danger of losing connection with students, translating into demotivation and behavioural issues. Eric (principal, School A1) hires teachers who are committed to their own learning, willing and able to challenge their own ignorance by being open to personal failures and successes.

Collegiality and collaboration are central to reflective practice. Mohini and Liz, (teachers, School A3), reported that they and their teaching colleagues meet regularly to discuss their personal goals. Caroline and Bella (teachers, School A2), referred to the importance of teachers planning in collaboration with colleagues. The experience of MLE has contributed to collaborative discussion, Bella noting that working in a MLE team means she and her colleagues can “collaboratively talk about that (the day’s plan) together, which I’ve found a lot more helpful than being isolated in your own classroom”.

What is Teaching as Inquiry?

Several participants characterised TAI as a cyclical model applied to specific ‘inquiries’ (such as writing, the use of specific rubrics, the teaching of specific skills, or the development of literacy). Dianne (ICT, School B1), a knowledgeable and active educator, described TAI accurately, though she simultaneously and vehemently articulated a view of TAI as non-innovative, trapping teachers in a

backward-looking cycle, rather than focussing on the future. This rejection was unique.

Several teacher participants were ignorant of TAI, confusing it with ‘inquiry learning’, an approach to teaching and learning that is based on a form of guided research in which students become immersed in a topic and raise questions in relation to the topic. This finding is consistent with that of ERO (2011, 2012). Steven and Catherine (ICT and inexperienced teacher, School B2), were decidedly vague on the subject of TAI, much as were Liz and Mohini (teachers, School A3). Dianne (ICT, School B1) remarked, “I’ve been in rooms of principals that do the same thing [confuse TAI with inquiry learning]”, while Dawn (experienced teacher, School B1) claimed she had “never been in a school that actually does it properly, ever. Across the board”. Both participants are active educators with wide knowledge of a range of educational contexts. Evelyn, one of the single individuals interviewed, who leads a low-decile regional primary school, echoed their comments. The findings suggest, however, that TAI is generally well regarded and/or well understood by those working in full-blown futures-oriented schools (A1 and 2; B1), and the individual participants in this study who were not related to the six case study schools.

Indeed, the group of ex-leaders were enthusiastic about TAI, such as Neil (independent consultant): “There’s a whole lot of skills that come in behind each one of those phases in the inquiry cycle”. Nevertheless, Neil and another ex-leader, Brian, recognised that the implementation of the model in schools is uneven and requires active intervention to implement successfully. Moana (ICT, School A1) foresaw TAI having a universalising effect, echoed by Eric (principal, School A1): “Now, if you’re moving into a twenty-first century model and we’re not going to be one-size-fits-all with the kids, why are you one-size-fits-all with the staff?” Added to teacher ignorance in some quarters, and the potential for uniformity, this article will now suggest some other points of critique in relation to TAI.

A critique of Teaching as Inquiry

Sinnema and Aitken (2011) noted that “attitudes [of] open-mindedness, fallibility, and persistence” (p. 32) underpinned their original model, but was subsequently left out of *The New Zealand Curriculum*. This exclusion renders a fatal blow to the TAI model, as collaborative, critical teacher reflective practice and individual practitioner reflection rely heavily on practitioners holding such dispositions. What remains then is no more than an instrumental formula for teachers to follow, with no requirement they examine their fundamental beliefs and assumptions. This interpretation is reflected by many participant comments, which dichotomise reflective practice and TAI. The discourse of those participants who understood TAI was generally one of compliance with the requirements of The New Zealand Curriculum, and many described TAI as cyclical and narrowly focussed on specific learning objectives. Notions of critical self-examination were reserved for their comments regarding reflective practice.

Even a cursory examination of the TAI model indicates its lack of a collaborative dimension. The language of the stages of inquiry are addressed in the first person ('my' and 'I'), leading to the conclusion that the model is formulated with the lone teacher in the single-cell classroom—essentially the privatised and siloed practice that 21st-century learning is focussed on eradicating. In this regard, the individual participants, Brian, Neil and Nicole, and the participants in Schools A1, A2 and B1, have taken up into their discourse a keen sense of the value and significance of collaborative reflection to teaching in the 21st century, even when they commented on TAI. Their responses flow no doubt from their direct experience of the open and shared MLE.

While TAI refers to 'evidence', including available research, Sinnema and Aitken (2011) noted the minimal use of research by teachers. Those participants who understood TAI, were silent on research evidence (at best, some referred to monitoring interventions, while most simply paraphrased the prompt questions in the TAI model). Where participants spoke about research and reading, they did so in connection to reflective practice activities. Thus, 'evidence' will be little more than assessment information, confirmed by the pointers provided in the TAI model for the decisions teachers make as a result of teaching. Nor does the language of the TAI model support the contention of Sinnema and Aitken (2011) that TAI has a social justice orientation. Their position is debateable, as the language of social justice or criticality is utterly absent from the TAI model, as it was from the discourse of the participants. In particular, the singular focus of TAI on the attainment of student learning outcomes dramatically narrows its scope and potential for delivering social justice outcomes.

Conclusion

This article has provided a background to TAI in *The New Zealand Curriculum* (MOE 2007), and commented on its relationship to practitioner inquiry and practitioner research. It concluded that TAI is not a theoretical approach to research, such as practitioner research, but is a method for conducting practitioner research. This article went on to suggest some theoretical underpinnings that could support a rigorous approach to practitioner research. By way of illustration, a selection of findings from a current study into the influence of 21st-century learning on the work of teachers and leaders in a range of schools was considered. Many participants engage in reflective practices that echo elements of the reflective practice theory approach offered here. In their comments about TAI, many participants who understood TAI, reported their view that it was a form of reflective practice, the chief difference being that TAI was formalised, and usually limited to a specific issue (much like action research), whereas reflective practice activities (such as writing, discussing and thinking) were informal and on-going. Simultaneously, these participants have shown that TAI, while welcomed and understood by some, is not universally understood or evenly applied in all the contexts the participants are drawn from. Dawn's (experienced teacher, School B1) comment that TAI is "very pretty on the documents that ERO look at and in every school it's there because it

has to be there” suggests that there is not a direct relationship between policy text and policy implementation. Some reasons indicated by participants included intensified work demands, unwillingness and ignorance—all of which should trouble policy-makers.

The TAI model reflects what Schön’s notion of ‘technical rationality’, namely the view that “professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique” (1983, p. 21). To rescue TAI from its currently technical rationalist basis will require first and foremost a name change.

The notion of ‘teaching as inquiry’ emphasises the process and act of teaching, however, as we are constantly reminded, the ‘evidence’ suggests that it is *teachers* who make the difference. It has been argued in this article that developing a critically reflective practice requires teachers to explore their own assumptions and beliefs. To make this practice collaborative requires those assumptions and beliefs to be made public, and to work with others towards common goals for a reflective community of professional critical inquiry. Therefore, a name such as ‘*teachers as inquirers*’ is preferable shorthand for the active, collaborative effort of a community of professionals whose members seek to better understand themselves in order to better understand the work they do.

Second, a more rigorous design framework that will include systematic question building and problem-posing activities, supported by research is required. This research may and should include raw data ‘from the field’, such as assessment data, but cannot be confined to scholastic assessments. The ‘field’ should also not be interpreted as narrowly as the classroom only. This raw data requires interpretation, and valid interpretation in turn depends on the selected study and examination of at least some research to inform strategies and interventions that have as their outcome improved teacher performance, understanding, and in particular, social justice outcomes for students and their community.

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