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Teacher learning: Schön and the language of reflective practice

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Introduction

In his book on theories of professional learning, Philpott devoted Chapter 2 to a consideration of experiential learning and the reflective practitioner, and drew our attention to the work of Kolb, Argyris, and Schön. Philpott asked us to consider how the models suggested by these authors might help us to understand professional learning; what limitations the models suggested by these authors might have, and the possible implications for initial teacher education. For many, not least those involved in initial teacher training, whether they be tutors, mentors, or the students themselves, theories of professional learning are often seen these days as part and parcel of the development of the professional teacher. Presumably, if we know and understand different theories of learning, then we can be more effective as professional teachers because we will have a “more detailed and insightful view of how learning takes place” (Philpott, 2014, p. 1).

There are several points to be made here. The first of these is perhaps merely practical; with so many theories of learning, which ones should be included in initial teacher training, and which ones omitted? But other issues are more profound; many theories of learning are giving different accounts of learning, and are incompatible with each other, so the arguments of each theory need to be examined closely. Whether the theories themselves are coherent also needs to be considered; in fact, many of the so-called theories of learning have been subjected to extensive criticism but much of this criticism seems to have been completely ignored by those involved in teaching such theories to training teachers. Thus, for example, despite robust criticism of Howard Gardner’s notion of multiple intelligences (White, 2004), it seems that some teachers continue to use approaches based on that account without knowing about it, let alone understanding either the theory (Sharp, Bowker, & Byrne, 2008, p. 302) or Gardner’s own views (Sharp et al., 2008, p. 305).

One of the most popular notions is that of the reflective teacher, a notion so popular that it was observed over 20 years ago that “any kind of *thinking about one’s practice* tends to get described as *reflective*” (Parker, 1997, p. 30), with the result that “the linguistic currency of ‘reflection’ has become devalued beyond the point of usefulness” (Parker, 1997, p. 30). Chief amongst the theoretical accounts concerning reflection is the one offered by Donald Schön in books such as *The Reflective Practitioner* (Schön, 1983), *Educating the Reflective Practitioner* (Schön, 1987b), and *The Reflective Turn* (Schön, 1991), as well as in a large number of other publications (Newman & van der Waarde, 2015). It is no exaggeration to say that it is from Schön’s work that the term ‘reflective practice’ is largely derived (The Open University, 2017, p. 17); it is his work that is of “pre-eminent importance” (Fish, 1989, pp. 27-28) and which has had the most influence on establishing the notion of reflective practice (Hilsden, 2005, p. 59) – see also McCulloch (1993, p. 298). Here it is important to note that Schön’s use of the term ‘reflection’ is distinctive (Gilroy, 1993, p. 127), and also that the details of his argument are often not examined (Beck & Chiapello, 2017, pp. 216-217). Thus, despite the fact that Schön’s work has been extensively criticised (see, for example, Gilroy, 1993; Newman, 1999b), it is still viewed by many as unproblematic, and its possible implications for teacher education often assumed rather than argued (Russell, 2013, p. 85). As a result, in examining Schön and the language of reflective practice, it will be important to draw out the distinctive details of Schön’s approach.

Philpott argued that Schön's account arose from Schön's dissatisfaction with a particular view of knowledge; Philpott drew our attention to the fact that Schön was unhappy with the idea that we can take knowledge 'off the shelf', as it were, and apply it to real-life situations – situations which Schön sometimes refers to as the "swampy lowlands of practice" (Schön & Rein, 1994, p. 189). Instead, argued Schön, we need a new form of knowledge – one which can cope with the messy realities of everyday life; what Kinsella calls "the messiness of professional practice" (Kinsella, 2010, p. 566). To make this point about new knowledge explicit: Schön wanted to develop an "alternative epistemology of professional practice" (Eraut, 1995, p. 21), an aspect frequently overlooked (Kinsella, 2009, p. 5).

It might be supposed that an account which, as Philpott put it, "emphasises the importance of personally generated, contextually specific solutions to ever-changing circumstances" (Philpott, 2014, p. 9) is to be wholeheartedly welcomed. But Philpott was worried that such 'personal knowledge' might be restrictive (Philpott, 2014, p. 10), that Schön's account was "arguably over-reliant on considering learners as decontextualised individuals" (Philpott, 2014, p. 13), and that it paid insufficient attention to the "social aspects of professional learning" (Philpott, 2014, p. 13). At this stage, then, it is appropriate to turn to a detailed consideration of Schön's account in order to judge whether Philpott's concerns are justified.

Reflecting on practice: Schön and the Quist/Petra case study

In his work, Schön made use of a number of different case studies, at a variety of scales, and involving a variety of contexts. I shall take here one drawn from an architectural design studio (Schön, 1983, pp. 79-194), involving the discussion between an experienced professional (given the fictitious name Quist) and a design student (given the name Petra). My reasons for taking this case study at this point of the argument are threefold: first, this is one to which Schön returned frequently (see, for example, Schön, 1981, 1983, 1984, 1986, 1987a, 1987b; Schön & Wiggins, 1992) and it has been termed "Schön's favourite example" (Eraut, 1995, p. 14); second, it involves an interaction which would be familiar in some respects in other educational contexts, and, third, it brings to the fore some of the critical aspects of Schön's account which require a closer examination. I here draw on my previous analyses of Schön's work (Newman, 1996, 1999a, 1999b).

In introducing this case study, Schön recorded the type of exchanges which it would not be surprising to record between other students and tutors; in the teacher training and educational context this could be the general format of a conversation between an experienced teacher, mentor or tutor, and a beginning teacher, though obviously the content would be different. Schön noted that Quist is "a master designer" (Schön, 1983, p. 79), that he has "unfailing virtuosity" and that his demonstration is "masterful" (Schön, 1983, p. 104), whilst Petra's experience of designing, although less clearly defined, is clearly such that she can be considered as a novice relative to Quist. Further detail about Petra's relative lack of architectural design experience is given by Simmonds (1978, p. 116). For Schön, however, the case study offered a perspective on what he considered to be a fundamental issue, namely the 'paradox of learning'.

The 'paradox of learning'

For Schön, Quist has tacit knowledge-in-action which is exemplified by the way in which the verbal and non-verbal dimensions of his behaviour interact (Schön, 1983, p. 81) and this, argued Schön, presents Petra with a problem: Quist's movements as he draws the lines on the paper can be explained only by Quist's words, yet the words themselves can be explained only by the lines which Quist's movements make. Schön argued that this problem is resolved as Quist and Petra "become more confident that they have achieved congruence of meaning" (Schön, 1983, p. 81), following which "their dialogue tends to become elliptical and inscrutable to outsiders" (Schön, 1983, p. 81).

Schön's treatment of this situation is given a further dimension in a later work (Schön, 1987b, pp. 44-79) where the Quist/Petra case study was used again. Here Schön tried to deal with what the case study reveals if taken as an example of design *education* (Schön, 1987b, p. 80). Schön argued that

The design studio shares in a general paradox attendant on the teaching and learning of any really new competence or understanding; for the student seeks to learn things whose meaning and importance she cannot grasp ahead of time. She is caught in the paradox Plato describes so vividly in his dialogue the *Meno* (Schön, 1987b, p. 83).

After citing Plato, Schön then continued:

Like *Meno*, the design student knows she needs to look for something but does not know what that something is. She seeks to learn it, moreover, in the sense of coming to know it *in action*. Yet, at the beginning, she can neither do it nor recognize it when she sees it [...] The instructor is caught up in the same paradox: he cannot tell his student what she needs to know, even if he has words for it, because the student would not at that point understand him (Schön, 1987b, p. 83).

Schön concluded:

The logical paradox of the *Meno* accurately describes the experience of learning to design (Schön, 1987b, p. 83).

Schön wanted to produce an account that explains the perceived fact that this supposed logical paradox of learning is, in practice, resolved. Indeed, this desire is emphasized by the parallel Schön drew between the resolution of the paradox in the case study and the convergence of meaning inherent in all human communication (Schön, 1987b, p. 96) where by definition there must be convergence of meaning for communication to *be* communication. Schön argued that the paradox is resolved: "Many succeed [...] in crossing over an apparently unbridgeable communication gap to a seeming convergence of meaning" by a dialogue having "three essential features: it takes place in the context of the student's attempts to design; it makes use of actions as well as words; and it depends on reciprocal reflection-in-action" (Schön, 1987b, pp. 100-101).

The argument in favour of these three "essential features" developed by Schön pointing out that it is a normal part of coaching for the coach to demonstrate to a student aspects or parts of what is being taught with the intention that the student should imitate certain actions (Schön, 1987b, p. 107). Schön drew a parallel with children's play and socialization; we are, considered Schön, continually imitating others, "and usually without feeling that we are doing anything remarkable" (Schön, 1987b, p. 108). Schön, however, believed that the "obviousness of imitation dissolves [...] when we examine it more closely" (Schön, 1987b, p. 108).

An example of imitation: a mother and her baby

In an attempt to support this assertion, Schön described the case of a mother and her baby. He had observed that when the mother started clapping, so did the baby and that as the mother changed the speed of her clapping, the baby did likewise. Similarly, as the mother developed the game, the baby did so too. Schön's proposal was that the baby, in imitating its mother, was engaged in a process of "extraordinary complexity" (Schön, 1987b, p. 108) by means of which the baby was capable of producing and controlling,

from internal cues of feeling, what it apprehends through visual observation of external cues. Somehow, it manages to coordinate inner and outer cues to produce actions that conform, in some essential respects, to the actions observed (Schön, 1987b, p. 108).

On a Schönian interpretation, the baby is seen as being engaged in a highly sophisticated and intellectual activity (Malcolm, 1981, p. 8) which occurs privately ("in its perception" (Schön, 1987b, p. 108)), the result of which is then tested in its actions (Schön, 1987b, p. 109), this activity being reflection-in-action. This is, argued Schön, an example which illustrates that imitation is "a process of selective construction" (Schön, 1987b, p. 108); the imitator (in this case, the baby) has, proposed Schön, "access to observation of the process [...] and of the product [...] and may regulate his selective construction by reference to either or both of these" (Schön, 1987b, p. 109). He concluded:

The baby's imitative construction does not depend on its ability to make a verbal description of what it sees, hears, or does [...] Its constructive process is nevertheless a form of reflection-in-action—an on-the-spot inquiry in which the imitator constructs and tests, in his own action, the essential features of the action it has observed (Schön, 1987b, p. 109).

Examining the example

Let us examine the example more carefully. First, what is the evidence for reflection-in-action? There is none. The notion that the baby is conducting an 'on-the-spot inquiry', is inferred. That this is so can be seen from the fact that there is no evidence to deny the possibility of another baby which does not reflect-in-action and yet still manages to mimic its mother's clapping. Nor is it possible to conduct tests on two sets of babies, one set which do 'reflect-in-action' and another set which do not (and find that only those babies who 'reflect-in-action' mimic their mothers), for there is no way of determining into which of these two groups any particular baby would belong (Malcolm, 1993, p. 52). Consequently, Schön's claim that there is reflection-in-action is not here supported by any empirical observation he has made. A second difficulty relates to the nature of the processes alleged by Schön to be taking place in the baby as it mimics its mother, processes which Schön describes, as we have seen, with the single word "somehow" (Schön, 1987b, p. 108). The implication of Schön's thesis is that the baby, in order to mimic its mother and so in Schönian terms achieve convergence of meaning, *must already have a language* where it can take its perceptions of its mother and in a 'constructive process' privately translate them into its own performance. The arguments against such a view have been explored elsewhere (Gilroy, 1996; Newman, 1999b). The notion of a private language is nonsensical; if a supposed inner language is private, innate, and inner, there is no public check on its employment. Therefore, it cannot have meaning, and cannot be understood, and in consequence, cannot be considered to be a language (Wittgenstein, 1958, §§ 269-275). Consequently, not only does this example fail to show reflection-in-action, it also fails to explain how any such reflection-in-action could operate (Malcolm, 1981, pp. 9-11). Thus this case study, which

Schön presented as one supporting his notion of reflection-in-action is, rather, a heavily disguised *assertion* about the existence of reflection-in-action. Schön's empirical observations, for the reasons given above, do not and cannot reveal it; at best they merely remind us that convergence of meaning is, in practice, normally achieved. Furthermore, Schön's positing of the notion of the baby reflecting-in-action, far from explaining convergence of meaning, opens up new difficulties.

An alternative perspective

An alternative perspective about how convergence of meaning is achieved, without recourse to the difficulties of the account that Schön posited, comes from the later work of Wittgenstein, to whom brief reference has been made above. Let us return again first to the example that Schön gave, that of the baby clapping and imitating its mother. Here we have seen that although the mother, and Schön, take the baby's behaviour as a meaningful performance of some inner intention (reflection), the notion of inner intention cannot, for the reasons which have been discussed, be the basis of language (convergence of meaning). If we reject the notion that the baby is 'somehow' reflecting on practice, what alternative is possible? The starting point for the reinterpretation here must once again be Schön's description of the interaction between the mother and her baby. We read, for example, of how the mother starts clapping, and the baby copies her; although it is tempting to believe that the baby has 'understood' the rule and then applies it (as Schön argued), we may note that it is the baby's clapping that is taken as a criterion of understanding at this stage of the baby's life. As Schön himself said: "When the baby claps, the mother smiles and nods, rewarding its performance" (1987a, p.109). On this view, that the baby "does at it has seen its mother do" (1987a, p.108) is a natural form of human behaviour; "imitation [...] does not depend on an explicit verbal formulation of similarities perceived and enacted" (1987a, p.109) as the baby "can produce an action similar to the action it has perceived without being able to say 'similar with respect to what'" (1987a, p.109).

Thus when an infant behaves in this or that way, the infant does not mean anything by that behaviour, but that behaviour may be taken as meaningful by others. If, following Wittgenstein, we allow 'language' to include the non-verbal (Gilroy, 1996, pp. 156-164), then we do not have to assume that a meaning exists 'behind' or 'beneath' an infant's behaviour. We merely recognise that many of these behaviours are natural to human infants *qua* human infants. What meaning might be attributed to certain behaviours will depend on the context; in some circumstances *we might want to say* (for example) that the baby is clapping; in others we might want to say that the baby is excited. In another context, we might attribute another meaning, or no meaning, to the baby's behaviour. Even if the mother *takes the baby's behaviour as a meaningful performance of some inner intention* (reflection), this assumption is not evidence of any such inner process. Whether the mother, or we, do take such behaviour as meaningful or meaningless would depend on the behaviour and the contexts (Wittgenstein, 1969, § 10, p. 3e; Wittgenstein, 1971, p. 291). How the infant moves from this pre-intellectual phase to have language has been argued elsewhere - see especially, Gilroy (1996); the brief summary offered here does not do justice to the complexities and subtleties of Wittgenstein's argument but suffices to indicate that even in the case of learning something "really new" such as a first language, the supposed logical paradox is a myth. So let us now return again to the Quist/Petra case study.

Schön, in presenting his case study of Quist and Petra as an example of how the logical paradox of learning is resolved, clearly invites us at the outset to put Quist and Petra into two allegedly incommensurable frames of the novice and the expert. As we have seen, Schön argued that Petra is involved in learning a "really new competence or understanding" (Schön, 1987b, p. 83) and that "she needs to look for something but does not know what that something is [...]. Yet, at the beginning,

she can neither do it nor recognize it when she sees it" (Schön, 1987b, p. 83).

It is however worth noting that there is evidence within Schön's work itself that these so-called frames seem very far from being incommensurable. We see, for example, that Quist and Petra are able to communicate using language, that Quist has given Petra a set of design specifications and a description of the site on which the school is to be built (Schön, 1983, p. 80), that Quist is able to familiarize himself with the drawings Petra has prepared and is able to listen to Petra explain how she is stuck, following which he (as the so-called 'reflective practitioner') 'reframes' the problem (Schön, 1983, p. 82) and talks to Petra (Schön, 1983, p. 80). In this particular case it would seem, then, that there is considerable evidence that, as a student designer, Petra is coming to the design studio with at least some awareness of what designing involves, and as such has acquired at least some understanding of the criteria which mark out successful designing (Schön, 1987b, p. 44). Interestingly, we learn elsewhere (Simmonds, 1978, p. 116) that Petra had a BA in mathematics, had taught mathematics at a high school for six years, and had become interested in architecture by attending evening lectures. Consequently then, the notion that she is in a completely new environment is not one that appears to be borne out by the facts, and there are grounds to question Schön's assertions that Petra "does not and cannot understand what designing means" (Schön, 1987b, p. 82), and that she is engaged in the learning of a "really new competence or understanding" (Schön, 1987b, p. 83).

This situation seems analogous to those experienced by those training to be teachers, where training teachers are not in a "really new" environment, and are not in a situation where they 'do not and cannot understand' what teaching means (Gilroy, 2017a, p. 503). That beginning teachers are not in a paradoxical situation or incommensurable frames is, in fact, supported by Schön's contention in relation to the Quist/Petra example that even if a coach "could produce good, clear, and compelling descriptions of designing, students [...] would be likely to find them confusing and mysterious" (Schön, 1987b, p. 100) for, if there was no convergence of meaning, such confusion and mystery would be a certainty, not merely "likely", and communication would, by definition, be impossible, not (as Schön argued) merely "very nearly" so (Schön, 1987b, p. 100). An important point to be repeated here is that this is supposed paradox is one which, as we have seen, is on Schön's own admission, resolved in everyday life (Schön, 1987b, p. 230), Schön noting that "in actual practice, practitioners do, without paralysis, reflect-in-action" (Schön, 1983, p. 281) and that "The fear of a paralysis induced by reflection [...] comes not from the experience of practice" (Schön, 1983, p. 281). It may well be that in schools, as in the design studio, certain terms have meanings "very different from their ordinary ones" (Schön, 1981, p. 346), as a result of which the student, on entering the school, enters a new "language-game" (Schön, 1981, p. 446, footnote 3). As in the design studio, certain words have "different roles" (Schön, 1983, p. 95) to those they have outside that context, and the language-game of teaching "is a particular version of ordinary language" (Schön, 1981, pp. 403-404) in which competence involves not only the ability to use words appropriately but "norms and competences pertaining to the playing of the language game in a particular context" (Schön, 1981, p. 405). Consequently, we may agree with Schön when he argues that "the artifacts [*sic*] produced by the designer can themselves be conceived as utterances" (Schön, 1981, p.470, footnote 5), that "drawing and talking are complementary ways of designing; together [... making up] the language of designing" (Schön, 1981, p. 349), and that to design is "to 'speak,' in a way, and like speaking, designing can be fluent, halting, firm, or tentative" (Schön, 1981, p. 396), adding "becoming an architect involves learning to play those games" (Schön, 1981, p. 346). In learning to teach, the verbal and non-verbal language dimensions will be similarly interconnected. This being so, we can agree too with the characterization of the student learning to teach as someone who may be "stuttering" and who must therefore "learn to speak fluently and clearly" (Schön, 1981, p. 396). If we take this view, we accept that the student, though perhaps 'stuttering', has already got the rules or criteria they need to make at least some sense of the language-game of teaching. It follows then that

in learning to teach, what is required is that the student be introduced to some of the more specific criteria of that particular language-game. As the language-game consists of the words and the actions into which they are woven (Wittgenstein, 1958, § 7) it follows that this teaching and learning of a language-game will often be best achieved in the particular context. During such activities many meanings will be understood by non-verbal means; Schön himself noting in his example that the “verbal and non-verbal dimensions are closely connected” (Schön, 1983, p. 81). Other rules may be given to the student explicitly; we see some evidence of this in the case study, and Schön comments upon it (Schön, 1981, p. 380, p. 392). It would not be surprising if, from time to time, during this initial stage, differences emerge between what the tutor considers to be the language-game and the student’s perception (Gilroy, 1993, p. 136); if this is so, an important part of the tutor’s role will be to ensure that both the tutor and student are playing the same game with the same rules.

Beginning teachers may quite naturally put emphasis (and expect emphasis to be put) on achieving competence in a limited notion of the language-game of teaching, faced with the immediate demands of the school and the classroom (Elliott, Stemler, Sternberg, Grigorenko, & Hoffman, 2011, p. 99). This approach is characterised by Philpott, referring to work by Brown and Duguid (2000), as demand-side learning, “led by learners who learn what they want to learn [... and] how and when they want to learn it” (Philpott, 2014, p. 12). In such an approach, if “abstract conceptualisation” is used, it is used “retrospectively to make sense of experiences learners have had and [...] challenges they are wrestling with [...] to make a success of the situation they currently find themselves in” (Philpott, 2014, p. 12). Ofsted, for example, require teacher trainees to compile “reflective journals” (Ofsted, 2018, p. 14); their “critical reflections, enabling them to analyse, evaluate and improve their practice” (Ofsted, 2018, p. 40). This demand-side learning Philpott contrasts with supply-side learning, where “what is learned, how and when, is decided by the providers of the learning” (Philpott, 2014, p. 12), and which could mean that “student teachers are being asked to make sense of ideas and models that do not yet relate to any experiences they have had” (Philpott, 2014, p. 12). More generally, teachers in England are enjoined to be reflective, and reflection forms part of the Teachers’ Standards, which state that “Appropriate self-evaluation, reflection and professional development activity is critical to improving teachers’ practice at all career stages” (Department for Education, 2013, p. 7) and that teachers should “reflect systematically on the effectiveness of lessons and approaches to teaching” (Department for Education, 2013, p. 11).

There are, however, grounds to question any simplistic differentiation between demand-side and supply-side learning. Whether all that teachers should reflect on is practice, narrowly defined, is debateable (Meierdirk, 2016, p. 369). The demands on teachers now far exceed those immediately related to actual teaching in the classroom (Mohamed, Valcke, & De Wever, 2017, p. 152), and descriptions of teacher reflection which are limited to enjoining teachers to improving their practice in the narrow sense given by, for example, the Department for Education and Ofsted, assume teachers can neglect the broader social and institutional contexts that influence their work (Zeichner, 2008). We need therefore to recognise that the social group of teaching, and also the contexts within which the teaching profession operates, are far more complex than that which is suggested by Schön in his reference to the “behavioral world [... as] an artifact [*sic*] which professional and client jointly create” (Schön, 1983, p. 303). The supposed dichotomy between ‘supply-side’ and ‘demand-side learning’ (Philpott, 2014, p. 12) collapses to highlight a difference of emphasis where teachers have the opportunities to develop not only *competence* as a teacher, but *expertise* as “agentic reflective practitioners who want to change (improve) their practice, explore the meaning of their work, and so seek out choices that are available to them” (Atkinson, 2012, p. 178).

In teacher training and education, teachers, including experienced, training, and beginning teachers, do learn from each other, planning lessons, observing teaching and children learning, discussing,

sharing with short papers, presentations, and making observations in particular contexts (Dudley, 2013, p. 108). As Philpott noted, trainee teachers can “develop ways of understanding their experience through their interaction with more experienced members of the school” (Philpott, 2014, p. 11). Whether all learn as effectively as they might in all such situations is debateable. In the context of teacher education, it is often the case that observations of an experienced teacher by a student teacher may make the experienced teacher’s work look effortless, spontaneous, and intuitive (Philpott, 2014, p. 12); indeed, if asked, the teacher may not be able to explain what he or she is doing to keep things going so smoothly (Elliott et al., 2011; Sik Shim & Roth, 2008). It may well be that communication between coach and student at the beginning will be “difficult” (Munby & Russell, 1989, p. 73) and that at the beginning of the practicum, the “likelihood of the student grasping the meaning that the coach has in mind is very small” (MacKinnon & Erickson, 1988, p. 118). It might be that, in some cases, student learning may be too narrow and parochial (Philpott, 2014, p. 11). For all these reasons, there is no reason to suppose that at the end of an initial period of teacher training, a fully-fledged expert teacher will emerge, with nothing left to learn (Gilroy, 2017b, p. 129). But such concerns are very far from saying that learning in such situations presents a logical (or even an empirical) paradox. Instead, Schön’s notion of ‘convergence of meaning’ has here been reinterpreted to indicate the developing competence of the novice to move into and within a particular language-game, rather than as being the resolution of any supposed paradox of learning. We may in the first instance, imitate others around us – this can be considered as where we are beginning to play a language-game without knowledge or understanding of all the rules. We may begin to pick up the rules of a language-game by further imitation, by participation, by observation, or by ‘trial and error’. The rules of a language-game may be written down and codified to help us begin to know what they are and to understand them. On occasions, an explicit explanation or demonstration of the rules of that language-game may be helpful. Here there is a recognition that learning a new language-game can involve experiences from different contexts, interaction with others, including feedback from supervisors, and can be oral as well as written (Leijen et al., 2013, pp. 320-321). Sometimes the immediate context can provide the language-game in which “teachers’ cognitions and actions should be investigated while they are teaching because during teaching, knowing and acting are inseparable” (Leijen et al., 2013, p. 315). So we may agree with Schön when he argued that convergence of meaning takes place in the context of the student’s attempts to learn a new language-game, and that it makes use of actions as well as words (including telling and listening, demonstrating and imitating). We may even feel inclined to agree to call these activities, as Schön does, “the ladder of reflection” (Schön, 1987b, p. 115) but that term now becomes reinterpreted as a description of these activities, not of some inner, mysterious, process. In such ways, beginning teachers can begin to acquire the competences required to at least achieve formal recognition as a teacher, with further expertise or mastery developing in subsequent years (Mohamed et al., 2017, p. 152). But the third “essential feature” of Schön’s account has been shown to rest upon an incoherent account of meaning; an approach which had already been examined and rejected by Wittgenstein. Schön’s notion of reflection is not needed to explain the observations, and none of the observations could be explained by it.

Conclusion: Schön and the language of reflective practice

Philpott was right to suggest Schön’s account is “arguably over-reliant on considering learners as decontextualised individuals” (Philpott, 2014, p. 13), and that it pays insufficient attention to the “social aspects of professional learning” (Philpott, 2014, p. 13). We can now see that those criticisms are more properly directed at the aspects of Schön’s account in which Schön posited a notion of reflection which relies on an incoherent and irredeemably private account of meaning, and in which he posited a logical paradox of learning, which he then failed to resolve. Schön has ironically achieved fame for an aspect of his account, namely a particular notion of ‘reflection’, which, on

inspection, is found wanting. Ironic, too, is that Schön believed that in developing his particular notion of reflection, he was building on Wittgenstein's later work (Schön, 1963, p. 33; Schön, 1988, p. 29), the very work which has helped to reveal fundamental difficulties in Schön's account. However, a clearer view of the situations described by Schön shows that the alleged paradoxes of learning Schön posited do not exist. Having rejected Schön's meta-epistemological account, we can then turn our attention back once more to what remains – the detailed observations of actual examples in the case studies which Schön used – and relate them to teacher education. When we do so, we see that learners are not 'decontextualized individuals', and that professional learning is inherently social. The account offered here shows how, over time, new understandings, competences and skills *are* learnt and developed.

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