STUDYING PROFESSIONAL LEARNING FROM THE PERSPECTIVE OF WITTGENSTEIN'S PICTURE OF LANGUAGE AND MEANING

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Abstract

My own experience working with professionals is that while ongoing professional learning is valued, in most cases there is little that is done well to support such learning. The dominant foci in both practice and the relevant academic fields tend more towards issues connected to linear features of dissemination, to the development of programmatic change approaches, and to scientism. My perception is that these fields are wedded to outdated and problematic foundational metaphors such as 'trajectories,' 'impacts,' and 'outcomes,' to the quantification of learning processes and outcomes, and to the idea of knowledge and research as things that are somehow "transferable." The aim of this dissertation is, therefore, to find a grounding way to think and talk about professionals' learning *in situ*. In turning to Wittgenstein I shift the fundamentals underlying our talk about professional learning towards a picture of language and *meaning*. I draw a picture of professional learning based on Wittgenstein's picture of language and meaning, emphasizing Wittgenstein's notion of a 'picture,' versus a 'theory' (i.e., a hypothetical, causal explanatory account), of language.

Wittgenstein's picture of language and meaning can be seen as a reaction to the representationalist (cognitivist, intellectualist) approach to language and meaning initiated mainly by Frege. Wittgenstein sketches a picture of language and meaning consisting of the interrelated parts of 'language-games,' 'grammar,' and 'rules,' focused around the 'use' of signs. My own view of Wittgenstein's picture emphasizes language-games, and thus emphasizes moves and move-making. I develop this perspective further by taking up ethnomethodologist David Sudnow's picture of language as a matter of 'moving between places.' In turn, 'grammar' is a matter of the sets of connexions between signs, and 'rules' the formal aspects of language-games. Thus, professional learning can be viewed as a matter of being able to play more relevant language-games, or to play language-games better, and to have more and better moves to make and places to go. As games, it is the interrelationships between players (i.e., language speakers), that is of paramount importance. 'Understanding,' in this picture, is a matter of 'being able to go on' in the correct ways in the contexts of community and the 'institution' of language; professional learning, then, is viewed not in terms of 'knowledge' but rather in terms of meaning, i.e., mastery of the use of signs.

I demonstrate the application of this picture of professional learning, first by exploring a species of the classic 'learning paradox,' and second by considering the discourse of educators in actual learning sessions. First, a professional learning paradox emerges through the application of Wittgenstein's ideas concerning novices' training into a practice, a paradox bolstered as well by the thought of certain

theorists of education such as Donald Schön and Jean Lave and Etienne Wenger. Emphasis on developing professionals' abilities in language-games of inquiry is one way in which we might begin to address – though not resolve – the professional learning paradox. Second, in applying this picture of professional learning in the case of professional educators' discussions in peer-group learning sessions, I show a way to view the efforts and struggles of those professionals on the basis of their use of relevant signs (i.e., by way of meaning). In this part of my thesis, I describe the educators' discussions but do not evaluate or explain them. The insights that can be drawn from this perspective have to do with the ways in which the professional learners attempt to forge for themselves new (and 'correct') connexions between signs, to be able to use new signs or use old signs in new ways. By turning to Wittgenstein and his picture of language and meaning, one finds the extraordinary in the ordinary.

In summary, I emphasize that I am not developing novel forms of professional learning – as if these new ways of learning would somehow do what all other forms could not – nor am I working out programmes of improvement to existing forms of professional learning initiatives. Rather, I am working to find a perspective from which to view professional learning and to be able to think in a deeper and more fruitful way about it.

To Maureen.

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Abbreviations

The Blue and Brown Books	BB
Wittgenstein's Lectures – Cambridge 1932-1932	Lectures 1932-1935
On Certainty	OC
Philosophical Grammar	PG
Philosophical Investigations	PI
Remarks on the Foundations of Mathematics	RFM
Remarks on the Philosophy of Psychology (Vols. I & II)	RPP
Tractatus Logico-Philosophicus	TLP
Zettel	Z

Chapter One

Introduction – Coming to Terms with Language, Learning, and Wittgenstein

1.1 My background: Journey to Wittgenstein

Over the course of my own professional work as a community researcher, first at a university research centre and then as an independent consultant, the focus of my work became more and more about professional learning, i.e., how people in the workplace learn in order to evolve in their practice. As a researcher producing social indicator reports early in my career, the key question was whether and how people were taking up the research information, what they were doing with that information and how it entered into the flow of their professional work.[1] As a researcher and consultant engaged in various community, participatory research projects and 'knowledge mobilization' and 'research utilization' initiatives, the question of how adults in the workplace learn became of paramount importance. For me, taking seriously the notions of 'learning' and 'understanding' in developing professional learning initiatives began to far outweigh the dominant foci in the relevant fields, which tended more towards issues connected to linear features of *dissemination*, to the development of *programmatic change* approaches, and to *scientism*. My perception was that these fields were wedded to outdated and problematic grounding metaphors such as "trajectories," "impacts," and "outcomes," to the quantification of learning processes and outcomes, as well as to the idea of knowledge and research as things that were somehow "transferable." In practice, applying such pictures has meant that professional learning and its study[2] have followed certain paths and not others.

Let me give an example of this from my own working experience. Much of my early professional work consisted of various activities delivering a range of documentation about the nature, health, and well-being of populations of children, youth, and families in communities, as well as facilitating substantial engagement by relevant community members (e.g., service providers, parents, agency executive directors, school principals, politicians, ministry bureaucrats, researchers, business leaders) in both

[1] See Offord *et al* (1999), and Wong *et al* (2000).

[2] See my literature review in **Chapter 2**. There I deal mainly with theoreticians of professional learning and not as much with those doing empirical research in this area – though the latter are not completely neglected in my review. In addition, and perhaps as an indicator of the general understanding of professional learning, it is interesting to note that the *Encyclopedia of Education* (Guthrie, 2003), contains no entry for 'professional learning' nor for 'professional development,' though does contain an entry for 'professional development schools.'

producing and discussing the documented findings. Our desire in this work was that people and organizations in communities would engage with some seriousness in the research syntheses we produced and would come together in their organizations and communities to discuss issues important to them in their work. The goal of our work was that participants reach more elevated ways of thinking and talking about the matters relevant to their lives as professionals and citizens.[3] The idea was that 'better' decision-making would result in institutions and communities, leading in turn to what was identified as 'improvement' or 'positive growth' in communities.

Despite such goals and hopes, what became clear, instead, was that my colleagues and I were more-or-less simply adding to large repositories of such documentation and information that already existed, or that we were simply rephrasing in one form of talk what was already well understood by different members of communities. In a sense a lot was known but little was understood; and in the cases where understanding existed it existed in very local circumstances, e.g., in the talk and practice of only a few 'experts.' In both cases the question was how all relevant professionals could learn from what was already known, e.g., in the research literature, or from what was well understood by the few. For example, the advantages to be gained in ongoing professional learning through interaction between educators and scientists of human development as a natural and desired part of the educators' own evolving expertise seem obvious, but such initiatives are in fact scathingly difficult to put into fruitful practice.[4] Thus, for me, the issue of professional learning began to dominate my thinking about my own profession, and led me to return to university to work on this doctorate.[5] My return to university to work on these ideas was also stimulated by my own emerging but ungrounded intuitions that engagement and ongoing discussion form the basis of learning. To jump ahead in my story, I eventually concluded that looking to philosophy of language would be the best way to follow out these threads and to develop my abilities to articulate better these thoughts and intuitions.

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[3] 'Elevated,' that is, certainly in quality of talk, but also in quantity of talk, given that many professionals and groups of professionals have few occasions to discuss and work through with peers and knowledgeable others on an ongoing basis the issues and challenges of their professional work.

[4] My work was centered in Hamilton, Ontario, which, as the home of several health-related research institutions, meant that there was a considerable population of researchers, scientists, clinicians, and research-clinicians accessible and ready at hand. However, apart from organizationally-mandated interventions for consultation, diagnosis, or treatment, interactions expressly for purposes of professional learning rarely occurred.

[5] Ironically I had largely to leave my own professional work in order to facilitate my own professional learning. However, note that in the course of my doctorate I made many efforts to continue working with professionals in the field and within the university to develop and support various professional learning efforts. While I continued to learn from those experiences, I can also say – surprisingly so, perhaps, for being within an explicitly educational setting – that my train of experiences was an uneven and difficult one.

Further, in the course of my working experience as a community researcher and 'knowledge mobilizer,' I found and continue to find that professional working environments are challenging ones in which to pursue issues concerned with the process of learning. In my own experience both conducting and observing professional learning initiatives, I perceive that 'learning' is generally (and perhaps quite naturally) considered to be very much secondary to the work of the professional. At the same time professional learning is still generally identified as important and an essential part of ongoing professional growth.[6] In some institutions, 'learning' is identified with practical mastery of programmatic approaches and protocols, with professional learning events largely organized around such goals. For the rest, apart from *ad hoc*, 'informal' or casual learning, professional learning is largely restricted to one-time, didactic, presentation-heavy conferences, symposiums, or workshops. It is more typical now that such 'learning events' include time for small-group discussion with report-back to the large group – though little or nothing is done to carefully observe and think about what happens in such moments of dialogue, nor to track over time how such dialogue changes in a professional cohort, nor generally to help support participants to make the most of such, mainly peer-group, learning opportunities.[7] In professional learning initiatives that are intentionally developed to unfold progressively over time, there is still a tendency to organize these around didactic principles, for example, concerning material that needs to be mastered (at least, as judged often enough by others than the learners themselves). Further, attendance in such ongoing initiatives is sporadic, defeating the aim of the progressive nature of the learning, and there is resistance from some professional quarters to engage genuinely and openly in small-group dialogue-based learning events, due in part to the risk aversion characteristic of professionals protective of their reputations and career possibilities (though this is just my observation).[8] Finally, professional learning events are often initiated and developed in top-down manners, are the result of an organization's interest in taking up some form of a programmatic approach and disseminating it throughout the institution, or emerge from outside researchers' or

[6] See, for example, the Ontario College of Teachers *Standards of practice for the teaching profession*, in which three of the five standards (i.e., 'Ongoing professional learning,' 'Professional knowledge,' and 'Professional practice') concern professional learning and growth. (See https://www.oct.ca/public/professional-standards/standards-of-practice.)

[7] For example, in an important series of recent papers in the health-sector 'knowledge mobilization' literature (see Boyko *et al*, 2012; Lavis *et al*, 2014; Boyko *et al*, 2014; Boyko *et al*, 2016), it is precisely this lack that stands out. The real focus of the investigations by Boyko, Lavis, and their colleagues has mainly to do with the reception by participants of the written materials.

[8] Though it is the beginnings of an understanding of why it can be difficult to get middle managers and bureaucrats to participate in anything but the safest of learning initiatives, and why learning events involving a mix of professionals and their management often results in strange and stultifying discussions. There are various lines of inquiry that can be taken up to develop better descriptions of such interactions, e.g., through Bourdieusian frames.

research groups' attempts to disseminate the results of their own particular work. None of the features I have catalogued in these observations are necessarily negative or wrong-headed; indeed, in some cases some of these approaches are exactly what are needed and desired. However, I conclude that this range of features does limit and constrain the possibilities for professional learning, and my interests turn to the theoretical assumptions and commitments that underlie these activities so characterized.

A final word about my own experiences in the field seems in order here, which might throw further light on what motivates me to pursue this thesis project. My own values in my professional work and in my research have been and continue to be directed towards a kind of equity in learning, geared around the principle that professional learning ought to begin with the professionals themselves *in situ*. Stemming in part from my growing intuitions about what is important for learning, it is in terms of their own identifications of the different needs and problems of their evolving professional practice, and in terms of their own existent discussions and abilities to talk about their practice, around which thinking and activity concerning professionals' learning should be organized, on both 'theoretical,' practical, and ethical grounds. As a very general programmatic direction, my own values lead me to different forms of professional learning initiatives that are emergent. Finally, my interest is in the professional *qua* front-line service provider, whether teacher, clinician, artist, or bureaucrat/manager, etc., and not in the administrative/organizational side of professional work. I am more interested in all professionals as actively-engaged *experts* and collaborative *citizens* in communities than as individual *leaders* displaying special characteristics of 'leadership'.

I have travelled some distance in my intellectual journey, from the observations and intuitions in my own professional working life and on to university to develop this thesis, where I hope to ground better the work I have been doing. In my journey I first began by considering John Dewey and his pragmatist approach to knowledge and inquiry as instructive for my purposes. I then considered Jean Lave and Etienne Wenger's (1991) work concerning situated learning, finding highly illuminating their communally- or collectively-oriented conception of learning and knowing as a matter of being drawn into the practices of a community, and as forming a useful match to my own intuitions and somewhat pragmatist ideas about knowing. During this time I also developed an interest in science studies (e.g., Latour & Woolgar, 1979/1986; Callon, 1986; Latour, 1987; Bloor, 1991; Lynch, 1992), at least with regard to the sociology of scientific practice; then in ethnomethodology/conversation analysis (e.g., Garfinkel, 1967; Sacks & Garfinkel, 1970; Sacks *et al*, 1974), as suggesting ways to consider the discourse of professional practice (and suggesting later to me a way to think about Wittgenstein's notions of

'grammar' and 'language-games'); and finally in some of the practice literature itself (e.g., Bourdieu, 1977; Schatzki, 1996; Schatzki *et al*, 2001). What I was searching for was a way to make alive and more compelling the challenges and possibilities of adults learning in the context of their professional work. The galvanizing pedagogical experience for me, however, was confronting 'realist' positions about mental entities (e.g., beliefs as causally-operative propositional attitudes – see, for example, Apperly, 2011; Andrews, 2012; Zawidzki, 2013)[9] in university course work in the philosophy of cognitive science. It seemed to me then that much of the explanatory power attributed to such things as beliefs as real, mental entities by these philosophers could be better accounted for by a more behaviour-oriented approach, and that the more parsimonious and elegant account, and one more consistent with post-modern approaches that began with Frederick Nietzsche, William James, and Dewey, could instead be given in terms of a picture of our *practices* in doing things in the world. The work of thinkers like Daniel Hutto (2003, 2009a, 2009b, 2013), and especially his incorporation of certain ideas from Wittgenstein in his arguments contesting the dominant *representationalist* picture of cognition, gave me some encouragement that I was on at least a walkable path in my thinking.[10]

And so, finally, I came to Ludwig Wittgenstein. In Wittgenstein I found what was for me the most profound, serious, and rigorous effort to work out those ideas that had begun to resonate with me. The thought as well was beginning to grow, with what little I had begun to take on from Wittgenstein, that in different ways his ideas rooted many of the approaches I found attractive. It seemed apposite, then, to go to the source, as it were. The first moment my interest substantially caught onto Wittgenstein's project was in grappling with his notion of understanding as 'knowing how to go on' (e.g., see Wittgenstein's comments at PI §§179-181; BB, pp. 40-41). In my own ongoing work with professionals and organizations, and from my own reading in some neo-pragmatist literature and in some of the literature concerned with the debate between 'knowing-that' versus 'knowing-how' (see Ryle, 1949; see as well, Carr, 1979; Stanley & Williamson, 2001; Kumar, 2011), I was gaining the sense that *knowing* was better framed as *understanding*, and understanding framed best as a *knowing-how*. In a sense, I was

[9] For example, as Zawidzki (2013) notes: "Philosophers typically understand propositional attitudes and other mental states as concrete, unobservable, causes of behavior" (p. 11).

[10] I will say more about representationalist – and cognitivist – approaches to language, meaning, and learning in the next sections of this chapter and in **Chapter 2**. These are the main theoretical competitors to Wittgenstein's picture of language and meaning, as well as to my own developing picture of professional learning; I discuss both briefly in order to provide the necessary context to both Wittgenstein's project and my own. As well, that we talk of Wittgenstein's "picture" of language and meaning, as opposed to "theory," is extremely important and will weave its way throughout my thesis. I return to this aspect of Wittgenstein's thought later in this chapter and in **Chapter 3**.

here beginning to think about this family of concepts in terms broader than those supplied in the arena of epistemology. The work of Barry Allen (2004, 2008) and his arguments for an understanding of knowledge as ways of "performing (well) with different kinds of artifacts," as "a kind of accomplishment, a sort of success in artifacts," and that the good of 'knowledge' "lies in the value of superlative artifactual performance" (2008, p. 37), further dislodged any representationalist inclinations I might still have been holding onto. All of this was making me more amenable to the movement of Wittgenstein's thinking, in which I saw a concerted, thorough-going effort to situate the notion of activity as deeply as possible in thinking about language and meaning. Discovering Jeff Stickney's (2005, 2008) important work considering Wittgenstein's project in the context of education gave my own thinking the final impetus it needed. All of this in turn led to my own intuitions that Wittgenstein's project in philosophy of language could be carried on in a fundamental and satisfying way into my own project concerning professional learning. Just so, in reading some of the most important works in the professional learning literature (see my literature review in **Chapter 2**), I find myself unsatisfied with the representationalist and cognitivist underpinnings of much of this (otherwise very important) work as providing a fundamental way or perspective from which to move forward to think and talk about professional learning.

Thus, to situate this thesis project as a moment in my own professional learning, I am trying to find ways to articulate things that are important about the learning of adults in professional workplaces. In order to provoke and push my thinking about these issues I am looking primarily to what Wittgenstein says about language and meaning. It is my hypothesis that thinking with Wittgenstein about language and meaning will open up useful and interesting paths to think practically about what it is to learn in the professional workplace. As I note later, it is both important and difficult to situate how Wittgenstein talks about language, in working to connect his project with my own which is concerned with how we can talk about professional learning; the road here between language and learning can be a difficult, slippery one at times. And while Wittgenstein did have a lot to say about learning and teaching, it was principally in service of sketching out and applying his picture of language and meaning. Thus, in my project I turn my focus most seriously on what Wittgenstein calls "language-games" and "grammar," as well as on the picture of training attached to these notions (i.e., learning and practicing to make moves in games), as providing insight in developing a picture of professional learning. The purpose of my thesis, then, is to explore how the picture of language and meaning sketched out by Wittgenstein can be applied to sketch a picture of professional learning. What difference does it make to talk about

professional learning to view professional learning from the perspective of a particular picture of language and meaning?

Finally, in terms of what I want to do to develop further practical ideas and directions concerning professional learning as emerge from my thinking *with* Wittgenstein, I certainly hold no illusions about the possibilities of creating anew entire learning environments in professional workplaces, given the well-noted constraints in organizations.[11] All the same I hold to the ideal that those 'educators' of different kinds, those engaged in their own professional learning and those who support such learning (e.g., learning facilitators, managers, consultants, administrators, educational publishers) need think deeply about this topic in order that learning opportunities that can be made available are used well and result in the positive evolution of participants' expertise. The goal of this thesis is to develop further my own perspectives and approaches to think and talk about and to support professional learning through a careful and serious engagement with Wittgenstein's ideas about language and meaning.

1.2 A note on demarcation: Professionals and non-professionals

The notion of a 'professional' can be developed in several ways – administratively (e.g., legislative arrangements, professional standards, registration and disciplinary offices and procedures), in terms of the nature of the social contract made between professional and professional body and society, functionally in terms of professionals' relations to the 'systematized body of knowledge' with regard to which they have some practical mastery, and in terms of the nature of the expertise of the 'professional.' In this thesis I consider anyone a professional who (I) belongs to a legally-accredited professional association, or (II) whose practice is characterized by autonomy and by high levels of developed, specialized expertise. These two features can stand in some measure of conflict with one another, but the assumption is that (I) is connected to and justified by the presence of (II).[12] Thus we see

[11] As Eraut (1994) observed 25 years ago – and his statement holds true still today – that the fact that there are no structures for knowledge exchange between higher education and the professions, "is matched by the lack of appropriate opportunities for mid-career professional education, whereby professionals can (1) reflect on their experience, make it more explicit through having to share it, interpret it and recognize it as a basis for future learning; and (2) escape from their experience in the sense of challenging traditional assumptions and acquiring new perspectives" (p. 21). I add here that an argument can be made that such constraints on learning in professional workplaces can be talked about as the result of managerial interest in controlling an organization's professional workforce precisely by constricting professional learning environments and opportunities. I briefly suggest something along these lines near the end of **Chapter 4**, though given that the focus in my thesis is not on the political, I make very little of this matter here.

[12] Following Wittgenstein in this, I suspect that how we use the word "professional" will be a matter of what he calls "family resemblances" (see for example BB, pp. 17-19, 25-27; PI §67), that 'professional' can be as arbitrarily loosely or tightly bound a concept as works for our particular interests. However, working out in a more thorough-

the literature on professional learning ranging over various professions and areas of expertise (and as well without tying down the general lessons to be drawn from the research as particular to any one profession over others). Donald Schön's seminal work, for example, approaches each instance of professional learning he considers (e.g., training in design, psychoanalysis, city planning, piano playing, counseling skills) as exemplifying exactly the same set of themes.

Finally, a brief terminological note. When I speak of "professional learning initiatives/opportunities", I am referring to a broad range of discrete initiatives, formal or informal activities, deliberate or *ad hoc* learning occasions, or more diffuse learning spaces, learning environments, and so on. Even thinking about, supporting, and assessing *ex tempore* hallway conversations between professionals in institutions is certainly possible and within my purview. In other words, it is with general positive evolution of expertise and ability in professional practice that I am concerned in this project.

1.3 My argument: Turning to language and meaning in order to talk about professional learning

To reiterate, the question I ask in this thesis is what difference is made by applying Wittgenstein's picture of language and meaning to both the topic and practice of professional learning. My hypothesis is that applying this picture of language and meaning does make a considerable difference, and the purpose of this thesis is to begin to explore the nature of this interesting and intriguing relationship. In this chapter and in **Chapter 2**, I set out the context and problem-set I am interested in discussing concerning professional learning.

This, then, is a project that looks to fundamentals for its place to begin. To clarify my interests here, I do not consider language in terms of how professionals in various fields do as a matter of fact think or talk about language (e.g., what their theories or pictures of language and meaning might be). Whatever theories, pictures, views, or opinions professionals might have or be able to articulate about language and meaning is completely incidental to my purpose here. Rather, I am locating a way to frame talk about professional learning from a perspective afforded by very fundamental talk about language and meaning. One might still speculate about the empirical question, viz., that how people do think and talk about language, thought, and the relation between language, mind, and the world, will be strongly associated with their thinking and talk about learning, even if those connections are difficult for people to articulate. But however diagnostically useful the sort of approach suggested by this statement might

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going way here issues of demarcation is not at all to the point of this thesis. The set of conditions I have outlined above are more than sufficient for my purposes here.

be, it is not at all my concern here and I spend no time exploring it. My focus is on the picture of language and meaning sketched out by Wittgenstein, and I contend that it is a powerful and unique one, and that applying it, if we choose, means something important for our talk about professional learning. I am urging that we can apply this picture of language and meaning both to how we talk about professional learning in its many guises and to how we talk within any of the varied instances of the actual professional learning occasions themselves.[13] That is the brunt of my exploration in this thesis.

There are two main parts to the overall argument of my thesis: (1) a philosophical core, on Wittgenstein on language and meaning (i.e., **Chapters 1** and **3**), and (2) an analytical/practical core, on the learning of professionals (i.e., **Chapters 4-6**). (**Chapter 2** consists of a literature review of the professional learning literature, which helps further set the context for my thought.) The basic philosophical problem at root behind (1) is the problem of (linguistic) meaning. In (2), the problematic concerning professional learning and development emerges through the application of Wittgenstein's picture of language and meaning: viz., given that picture, how can we begin to view and talk about professional learning, in its specific instances and in general? And it is indeed one of the main challenges in coming to grips with Wittgenstein that his (methodological) emphasis is that he is '*sketching a picture*' of language and meaning (e.g., see the Preface to the *Investigations*), and not constructing a causally explanatory theory of language. This is a key point in Wittgenstein's approach, but one all the same difficult to adhere to in writing *with* Wittgenstein. A picture gives us a way to look at things, for good or for ill. Thus we can develop, apply, and adopt or discard pictures (e.g., see PI §130), but we can also be 'held captive' by pictures (e.g., see PI §115), with our talk and perception in such cases influenced by the picture in what turn out to be problematic ways.[14] Further, in writing with Wittgenstein, it is important to see through his eyes both the simplicity and the complexity of language, and of the deep ambiguity he pictures in language. Consider, for example, his remarks on a sample sentence taken altogether out of context; he says of the question whether he 'understands' this sentence, that "it's not altogether easy to give an answer … [a]nd yet I do not understand it in the sense in which I would understand it if I had read the story" (PG §5). For Wittgenstein, it is an important part of his picture of language that signs are

[13] And of course I am also not saying that we talk about philosophy of language as part of discussions within actual professional learning occasions. Rather, I am saying that having this picture of language and meaning in mind as a way to view or look at professional learning will make a difference both to how we organize talk within professional learning occasions and how the participants (and observers, if there are any) can consider how that talk unfolded.

[14] For example: "And if the picture of the thought in the head can force itself upon us, why not much more that of thought in the soul?" (RPP I §279). Wittgenstein's particular notion of a 'picture' has drawn some attention in the literature: e.g., see Crittenden (1970); Baker (2001); Egan (2011).

meaningful in context, i.e., in their use in the particular surroundings in which they are uttered, that "our talk gets its meaning from the rest of our proceedings" (OC §229; see also: "Only in the stream of thought and life do words have meaning" Z §173; see also Z §135).[15] Finally, the picture of language and meaning Wittgenstein sketches is mainly drawn in terms of a close inter-connection between what he calls "language-games," "grammar," and "rules," in the context of the 'use of signs,' though the relationship between these is, perhaps necessarily, difficult to make clear. All of this will be covered with more depth in **Chapter 3**. It is from this view on Wittgenstein's picture of language and meaning that I begin to sketch a picture allowing for a certain perspective on professional learning.

To begin the second core part of my thesis, i.e., regarding professional learning itself, I discuss an interesting problem (the 'paradox of professional learning'), a variation of the classic learning paradox that emerges from the picture that Wittgenstein sketches and from the situationist perspectives of other theorists of professional learning important to my thinking, in particular Donald Schön and Jean Lave and Etienne Wenger. (I set up this professional learning paradox in my brief discussion of Schön's work in **Chapter 2**, though I give it fuller treatment in **Chapter 4**.) Part of the purpose of this chapter is also to begin to show how the picture of language can guide our view and talk concerning professional learning. I then consider in **Chapter 5**, through my work on an empirical study, the actual talk of educational professionals in peer-group learning sessions, to show how reading Wittgenstein in the way I suggest in **Chapter 3** makes the difference I am suggesting it can in our talk about professional learning. These peer-group learning sessions constituted efforts by these professionals to learn more about the developmental construct of self-regulation (see Shanker, 2013).[16] I will have more to say about the construct of self-regulation itself in **Chapter 5**, mainly to provide some of the context for the educators' discussions. Suffice it to say here that self-regulation is one of a number of constructs from the developmental sciences that can provide important insights into human behaviour useful for the many professionals practicing in the human service sector, broadly understood (e.g., education, health, social

[15] One of the current descendants of Wittgenstein's picture of language and meaning that focus on the context sensitivity of meaning are the pragmatic semantic theories of language. See, for example, Travis (1997) and Emma Borg (2004, 2007).

[16] However, to some extent the topics actually taken up in various professional learning situations are of secondary importance to my interests in this thesis – though, of course, not secondary to the interests of the participants in the actual learning initiatives themselves. At the same time it is the very particular that primarily interests me in such situations in my own professional work, i.e., how learning participants' real talk actually does unfold, and this is what I look to in the case of interacting with actual groups of professionals intent on developing their own learning and learning practices and environments. In other words, this thesis sets out a way to view, or a perspective to take, on the particulars of what actually happens or can happen in professional learning. (This will be made more obvious in **Chapters 5** and **6**.)

work, recreation, justice and police work). Finally, to conclude both this second main part of my thesis and the thesis as a whole, I briefly discuss what I take to be some of the more important practical implications that grow out of this way of talking about professional learning, which itself is a result of applying Wittgenstein's picture of language and meaning (i.e., in **Chapter 6**). Learning new language-games, expanding grammar, and 'having (new) places to go,' are the basic parts of the picture of professional learning I sketch out; these aspects of a picture of professional learning are sketched out precisely on the basis of the application of Wittgenstein's picture of language and meaning. This I emphasize is the important and contentious feature of this thesis work.

This turn to language and meaning that I begin to chart out in my thesis in order to discuss professional learning might at first glance seem a strange one. My overall contention is in fact a fairly straightforward one: that a lot of what we have to say about professional learning can usefully be played out on the ground of what we have to say about language and meaning. It is important in this 'turn' to recognize that the metaphor or picture of *games* pervades Wittgenstein's picture of language and meaning, and thus much of what I have to say about professional learning on the basis of language and meaning will take its cue from Wittgenstein's discussion of games and language-games. Among the many ways he leads us to this kind of picture of language and meaning, Wittgenstein sets out this kind of route:

> No one will deny that studying the nature of the rules of games must be useful for the study of grammatical rules, since it is beyond doubt there is some sort of similarity between them. – The right thing is to let the certain instinct that there is a kinship lead one to look at the rules of games without any preconceived judgement or prejudice about the analogy between games and grammar. (PG §134)

I take this cue from Wittgenstein seriously, as will be seen throughout the rest of my thesis, as I return over and over again to games and the picture of language-games in my guide to drawing a picture of professional learning.

However, by highlighting Wittgenstein's notion of language-*games* and claiming for this notion a primacy in Wittgenstein's picture of language and meaning, I depart somewhat from the important and interesting work of several Wittgenstein scholars (e.g., see, McDowell, 1994; Luntley, 2008a, 2008b, 2017; Bakhurst, 2011, 2015).[17] For this group, primacy, at least in a transformational developmental

[17] As Wittgenstein says, "Look on the language-game as the *primary* thing" (PI §656), and, "I shall also call the whole, consisting of language and the actions into which it is woven, the "language-game"" (PI §7).

sense, attaches to being able to use reasons, i.e., to having entered the 'logical space or reasons' (see Sellars, 1963a) or to have gained the ability to 'give and ask for reasons' (see Brandom, 1998), a primacy granted perhaps to maintain the centrality of focus on the idea of rationality in language learning and learning in general. In identifying 'use of reasons' with the key transformative moment in language speakers' development, I wonder whether the wish of these scholars is to protect something of the Enlightenment ideal of the individual, "autonomous, critical rational agent 'at home in the world'" as emerging from the developmental process (see Bakhurst, 2011, p. 9).[18] To continue briefly this important sideline to the main path of my thesis, for my own part what I see as in keeping with the primacy of the picture of language-games in Wittgenstein's thought is that the developmental stage of learning *how to play a game* would be the key transformational moment. Learning how to give and ask for reasons thus becomes another set of language-games one learns to play, though without doubt an important one. Further, once one has learned how to play games, which requires one kind of training, then the fundamental picture of what happens in learning from that point on remains fundamentally the same, i.e., one learns new games and new artifacts with which to play them (i.e., signs, in the case of language-games).[19] In other words – and this is how Wittgenstein talks about this aspect of his picture – one is initiated into a way of going on, which is a matter of move-making, and one does then go on by oneself in whatever are the various appropriate circumstances (which one also learns about as part of learning how to play various language-games). One sees something of this in Jean Piaget's (1955) empirical work recording and analyzing the progressively changing patterns of young children's talk. I take it that this kind of thing is the main thrust of Wittgenstein's comments in *The Blue and Brown Books*

[18] Also see Bakhurst (2016) in this vein: "McDowell (1996), for example, argues that the distinctive character of human minds resides in our responsiveness to reasons," and that "McDowell gives pride of place to language learning in the process of the formation of reason" (pp. 17-18.). I find it interesting to note that Wittgenstein does not actually speak of the individual as autonomous, but only of language, 'calculus,' or grammar as being so (e.g., "Language must speak for itself" PG §2; "The calculus is as it were autonomous. – Language must speak for itself" PG §27; ""It's only in a language that something is a proposition" is what I want to say" PG §121; "That is why the use of language is in a certain sense autonomous" Z §320; see also PG §55,122-123, etc.). For me, Wittgenstein is alluding to something like an organic, dynamic systems perspective, in which *relationships*, and not *individuals*, are fundamental, and the life of the *system* the primary concern. (Note that this is not attributing to Wittgenstein a systematic approach regarding these things, or forcing ontological commitments onto him.) This discussion flags many of the directions I start to follow out in subsequent chapters and sections of my thesis, but it is important to keep in mind particularly in my discussion about the developing autonomy of learning professionals in **Chapter 4**. There I briefly draw attention to Wittgenstein's method in thinking about such issues.

[19] Though not only signs, in the case of language-games. Actions, gestures, physical movements, facial expressions, etc., can all be part of playing a language-game. (Indeed, observe how little use is made of signs, and how much action, constitute the language-game(s) in Wittgenstein's example of the builders in PI §2ff.) And context and circumstances have extremely important roles in playing language-games. The picture is further complicated in that signs (and meaning) do not stand separate from their use in games, but are in the first instance constituted and maintained by that use.

on learning, language, and language-games, and is thus a promising way to view this part of Wittgenstein's picture. There Wittgenstein says that "language games are the forms of language with which a child begins to make use of words" (BB, p. 17). While describing language-games in this passage as "primitive forms of language," or as "simple forms of language," Wittgenstein does so in the expository terms of being able to discuss more clearly our "ordinary use of language," and goes on to say that,

> On the other hand we recognize in these simple processes forms of language not separated by a break from our more complicated ones. We see that we can build up the complicated forms from the primitive ones by gradually adding new forms. (BB, p. 17)[20]

Further on in *The Blue and Brown Books*, Wittgenstein says that language-games "are more or less akin to what in ordinary language we call games. Children are taught their native languages by means of such games, and here they even have the entertaining character of games" (BB, p. 81). He concludes this section with what is a rather important statement for my own purposes concerning professional learning:

> When the boy or grown-up learns what one might call special technical language, e.g., the use of charts and diagrams, descriptive geometry, chemical symbolism, etc., he learns more language games. (Remark: The picture we have of the language of the grown-up is that of a nebulous mass of language, his mother tongue, surrounded by discrete and more or less clear-cut language games, the technical languages.) (BB, p. 81)

This emphasis on the picture of language-games carries over into the general notion of training as important for the picture of professional learning that I sketch out in this thesis. People are active learners at every stage of development, from initial training how to play a game – which depends not only on the reactions of the infant learner but on the mutual reactivity or responsivity between (infant) learner and (adult) teacher as well (e.g., see Fogel, 1993) – to the more sophisticated training and learning in which various learned language-games are played as part of the learning process and in which the learner can be said to have an autonomy in their active learning that the pre-linguistic infant

[20] In this vein, see also PI §31: "One can also imagine someone's having learnt the game without ever learning or formulating rules. He might have learnt quite simple board-games first, by watching, and have progressed to more and more complicated ones." It is interesting to see this picture of learning games at work in *On Certainty* as well; see, for example: "And their [i.e., propositions describing a world-picture] is like that of the rules of a game; and the game can be learned practically, without learning any explicit rules" (OC §95).

does not (i.e., because the infant cannot yet play these games). This is what Wittgenstein would call a "grammatical" or "logical" point, that is, as simply following from the picture of language and meaning being sketched (or, perhaps, as part of what makes up that picture). The promise of exploring this idea in connection, for example, with the idea of play-based learning (e.g., see Bennett *et al*, 1997; Latta, 2001; Van Hoorn *et al*, 2015) would be considerable, I think, though well beyond the purview of this thesis project. (I briefly return to this latter intriguing and difficult point in **Chapter 6**.)[21]

This matter concerning difference in emphasis on the parts of Wittgenstein's picture of language seems important to me, and tugs at my intuitions. Is it that the autonomous individual is a rule-follower, and that following rules intentionally and deliberately, following them on the basis of their normativity, yields the sought-after agentic quality? On the other hand, is the person as game-player understood fundamentally as in relationship, i.e., that game-players live and work within the context of the relationships inherent in the game? This latter is drawn up much more in the situative perspective and, as indicated above, is more the angle from which I view Wittgenstein's picture of language, though without discounting our talk of ourselves as autonomous and reason-using.

To return to setting the general context for my thesis, given that I propose that looking at language and meaning from different perspectives has powerful implications for how we look at professional learning, the natural question would then be whether different ways of looking at language and meaning have different sets of implications for how we look at professional learning. As indeed there are various theories of language and meaning (for example, description theories, causal theories, psychological theories, verificationist/truth-condition theories, possible worlds semantics, speech act theory, pragmatic theories), I hold that in a general way these ways of looking at language and meaning entail different ways of looking at professional learning.

Setting out the context in this way serves two purposes. First, it gestures a little more substantively toward the greater project of which this thesis is a part, viz., a discussion of the relation between theories or pictures of language and pictures or approaches to professional learning. Second, it describes the particular philosophical context out of which Wittgenstein sketched his picture of language and meaning, in part as a response or reaction to the dominant perspective on meaning in his,

[21] What makes the kind of discussion I allude to here 'difficult' is that we need to remember that the idea of the language-game is a 'picture,' a way of viewing things. Thus our focus in such intriguing investigations is to maintain the right attitude or distance from the realism of scientific research, and not to treat the picture of the language-game as an hypothesis or piece of causal-theoretical apparatus.

and our, time. This is the position of *representationalism*. It thus naturally becomes incumbent upon us to consider why one picture of language gets preferred over the others, as well as to consider what important differences there may be in the application of the different pictures to different areas of life – such as to professional learning. Among other things, that will tell us how sensitive our pictures of professional learning are to differences in pictures of language and meaning.

Standing in opposition to Wittgenstein's perspective on language and meaning, representationalism includes as variations intellectualism or folk psychology, cognitivism or computationalism, and the dynamic systems approaches to cognitivism, such as neural network and parallel distributed processing accounts. Representationalism holds that signs (i.e., words, sentences, etc.) represent things in the world, either directly, or mediately through relations to ideas. The meaning of a sign is given in terms of what it represents, or in more complicated accounts as connected to such features as truth conditions, for example.[22] Those who are concerned with representationalism comprise an army of theorists, with the great philosopher of mathematics and language, Gottleib Frege, as perhaps that position's most prominent proponent. For Frege, and for the representationalist theorists who follow in his wake, what represents is, in general, sentential-type, abstract entities, such as propositions or thoughts.[23] One species of representationalism is cognitivism, which holds that meaning derives from representations manipulated in folk-psychological or computational structures.

[22] Representationalism has the added epistemological-ontological import, viz., that of getting the world right. Representations somehow mirror the 'real' world, which stands separate from the representations; a representing proposition is true insofar as it mirrors the world without any distortion in the mirror image. There are many variations on this theme, as there are many variations of realism (e.g., see the entries for 'Realism' (Miller, 2014), 'Challenges to metaphysical realism' (Khlentzos, 2016) and 'Truth' (Glanzberg, 2013), in the online *Stanford Encyclopedia of Philosophy*).

[23] Representationalism in one form or another dominated philosophy of language (including Chomskyism) throughout the twentieth century, and continues as a main theme in current philosophy of language (and may indeed be how most lay people think of language and meaning – though this is an empirical question and outside of my purview). See for example, Scott Soames (2010): "The central fact about language is its representational character. … [A] meaningful declarative sentence S represents the world as being a certain way. To sincerely accept, or assertively utter S, is to believe, or assert, that the world is the way S represents it to be. Since the representational contents of sentences depend on their grammatical structure and the representational contents of their parts, linguistic meaning is an interconnected system" (p. 1). As part of the representationalist perspective, Colin McGinn (2015) in turn emphasizes the connection between sentences and propositions, with propositions doing the representing work: "[I]t is important to gain some familiarity with two concepts: sentences and propositions. A proposition is what is expressed by a sentence: the proposition expressed by a sentence constitutes the meaning of the sentence. Thus it is possible for two different sentences to express the same proposition. Two sentences that are synonymous with one another will express the same proposition. Sentences can differ in their constituent words and be synonymous, having the same meaning, and thus express the same proposition" (p. 2).

Frege, whose work greatly influenced Wittgenstein (e.g., see Geach, 1976; Travis, 2006; Diamond, 2010),[24] analyzed the nature of language and meaning in a decompositional manner, which analyses take up two main terms, i.e., *Bedeutung*, translated as "reference," "standing for," "designates," and even as "meaning," and *Sinn*, or 'sense,' with both existing in fundamental relationship to truth values and truth conditions. As Michael Dummett (1973) says:

> Frege's first task was, thus, to give an analysis of the structure of the sentences of our language, adequate at least for such sentences as occur in a train of mathematical reasoning [given his main interest in formalizing the process of proof in mathematics]. This analysis could not stop short at the specification of which sentences were well-formed: it must explain also how the meaning of each sentence was determined from its internal structure." (p. 2)

Thus, the nature or role of these different representationalist perspectives on language, meaning, and mind is that they are explanatory approaches, that is to say, they attempt to explain how otherwise meaningless sounds and marks, etc., are meaningful. This leads me to one of the difficulties in writing with Wittgenstein, which is that he discounts these kinds of explanatory accounts, identifying description, as he puts it, as the only way to talk about language.[25] As I will discuss shortly, this puts one on tricky ground discussing and applying Wittgenstein's thought. For my own part, I attribute no theory of language or learning to Wittgenstein, nor do I attempt to derive such from his writings, nor am I even developing my own theory about professional learning motivated by what Wittgenstein says. What I am doing is getting clear on a way to talk about language and meaning, viz., the picture of language and meaning sketched out by Wittgenstein, and then getting clear on its possible application to develop a picture, i.e., a way to talk about, professional learning. These 'ways of talking' are not theoretical explanations of phenomena, setting out, for example, the causal conditions and theoretical entities productive of meaning (as per Frege). Wittgenstein does not discuss language in theoretical, explanatory terms, and neither does anything get explained in this way in my thesis. Rather, a way of looking at

[24] For example, Diamond (2010) says: "While Wittgenstein's explicit discussions of Frege on the objectivity of logic are in the context of lectures or writings on the foundations of mathematics, the issue is one of vital significance for all of Wittgenstein's later thinking" (p. 553). Geach (1976) says that, "the influence of Frege on Wittgenstein was pervasive and life-long, and it is not of course just confined to places where Frege is mentioned by name or overtly referred to …" (p. 55). Travis (2006) says that, "… if you want to understand what Wittgenstein is up to at some given point in the *Investigations*, always look to Frege – to how what Wittgenstein says may be a reaction to something Frege said …" (p. 1). Finally, Wittgenstein states, among his many references and allusions to Frege, that, "The style of my sentences is extraordinarily strongly influenced by Frege. And if I wanted to, I could establish this influence where at first sight no one would see it" (Z §712).

[25] See Wittgenstein: "The false note in this question [re. 'primary' versus 'secondary' signs] is that it expects an explanation of existing language instead of a mere description" (PG §46).

language and meaning gets described and talked about, with the aim that a kind of clarity in talk about language and learning be achieved. This constitutes part of the challenge of writing with Wittgenstein.

Another way to think about the different ways in which we might picture language and meaning is to consider the different basic, central metaphors around which different pictures of language and meaning (and mind) can be seen to take form – metaphors which themselves might be considered as kinds of pictures that guide our talk (see, for example, PI §§1, 115, 144).[26] The kind of perspective afforded by this approach is important for me, insofar as I am suggesting that different pictures of language and meaning inform different pictures of professional learning. Ana Sfard (1998), for example, directs our attention in this direction, distinguishing between the metaphors of 'acquisition' and 'participation' as a way to begin to talk about the different approaches to learning (and knowing, mind, and language). She says in this regard that: "Different metaphors may lead to different ways of thinking and to different activities. We may say, therefore, that we live by the metaphors we use. … [A]s a basic mechanism behind any conceptualization, they are what make our abstract (and scientific) thinking possible" (p. 5).

For my own part, I see three main metaphors around which different pictures of language and meaning organize (assuming that 'relationship' does not constitute a fourth, separate metaphor). The first underlying metaphor concerns having or possessing – such as might be found in representationalist theories of language and meaning (and of theories of mind), in which content in the form of propositions or thoughts is the key feature. Connected to this metaphor are secondary metaphors such as grasping, acquiring, and apprehending things like meaning. One does not grasp a representation *per se* – but having a representation, in combination with other representations in certain syntactic or computational structures, would allow for the grasping of a sense, for example. 'Having' entails certain kinds of relationships, particularly between the thing 'had' and what it represents, in relationships of referring, signifying, etc. The theoretical project of representationalism is thus how different things – thoughts, propositions, ideas, truth values, objects and states of affairs 'in the world' – connect one to the other.

[26] As pertaining to this idea of 'basic metaphors' as 'pictures,' Wittgenstein says that one gets their "picture of the world" as the "inherited background against which I distinguish between true and false" (OC §94; see also OC §209). There is a connection here to what Wittgenstein also calls a "world-picture," a connection which emerges particularly in his *On Certainty*. See Michael Peters and Jeff Stickney's (2018) interesting and valuable discussion of this relation (esp. see pp. 103-105).

A second, distinct underlying metaphor is based around the idea of activity, concerning doing or performing rather than having. And a third underlying metaphor is more spatially-based, concerned with moving and with getting around or movement from place to place.[27]

The first kind of metaphor grounds representationalism and the kind of approach to language and meaning worked out by Frege. The second kind of metaphor can be seen at work in how Wittgenstein pictures language and meaning – he writes, for example: "it is not a kind of *seeing* on our part; it is our acting, which lies at the bottom of the language-game" (OC §204); and "The question "What do I mean by that?" is one of the most misleading of expressions. In most cases one might answer: "Nothing at all – I *say* …"" (Z §4). The third kind of metaphor is most clearly and powerfully seen in the work of the ethnomethodologist David Sudnow (1978/2002, 1979); I will argue that, for my purposes, the latter metaphor as seen in light of Sudnow's work provides a very useful angle from which to contemplate the picture of language and meaning sketched by Wittgenstein and from which to work out that picture's application to professional learning.

The representationalist perspective focuses around a picture of meaning as there being 'a something had' (e.g., a proposition, thought, or idea) that is the source of meaning; meaning is prior to use, in the sense that use is dependent on meaning. In other words, we do something with what we have because of the nature (i.e., the 'content') of what we have, in contrast to the other two metaphors in which **'**doing/performing' and 'moving' of themselves constitute meaning. Doing something with signs is itself what makes those signs meaningful, *is* the meaning of those signs, and the signs are not signs until they are used; a (meaningful) sign and its use are essentially intertwined. As Wittgenstein says in this regard:

> Every sign *by itself* seems dead. *What* gives it life? – In use it is *alive*. Is life breathed into it there? – Or is the *use* its life? (PI §432)

[27] Two things might be added here. First, an additional feature of quantity might usefully be added to the exposition of these metaphors I provide here. Quantity can be understood in terms specific to each of these metaphors: for example, one only gets part of something or only some of the relevant things, or only learns a skill to a certain limited extent – enough to get by in the relevant circumstances, for instance – or one is only able to get to some of the possible places. This quantitative aspect would be part of the explication for various things, such as for the development that occurs in the progressive process of learning, for example, for partial understandings (relatively speaking), or for mistakes in understanding. Second, I have identified these basic metaphors as having – doing – moving. The case can be made that another metaphor based around the sensory faculties should be recognized, viz., that of seeing. It is not necessary, however, that all possible such metaphors be canvassed here, but that we see variation between these fundamental organizing metaphors or pictures and that this effects the pictures we construct and go by in our talk about learning.

Which metaphors we align and orient ourselves around, I contend, makes a difference to our talk about meaning and learning. What basic pedagogical implications emerge, then, from these three basic grounding metaphors?[28]

The first metaphor leads to an understanding of learning in terms of processes of getting or coming to have or possess something which, in some sense, can be held or owned. It grounds the idea that learning is, in fundamental terms, the acquiring of some desirable thing (e.g., a concept, an idea, a proposition, a bit of knowledge), with the idea that cognitive machinery carries on from the acquired thing. Teaching, then, is facilitating students' getting the desired things, and thus, in the first instance, getting the right representations. Change the set of representations, change how those representations get associated or connected with one another, and change how they operate in the causal chains leading to behaviour, and these would be the basic operative concerns for education. Teaching and learning, then, at least theoretically, would amount to finding ways to determine the 'what' and the 'how' of these internal representations and by what sensory or intellectual means they can be changed.

The second metaphor (i.e., doing, performing) takes us in a different direction regarding learning than does the first metaphor, instead to considerations of skills and craft and participation, i.e., as fundamentally concerned with the development of increasingly skillful mastery in the doing of things and in the expertise of performance, within the context of belonging to and acting in concert with a community of adepts. The concern is not for the production through doing – rather, the doing *is* meaning, and by extension *is* understanding or knowing. This emerges from Wittgenstein's emphasis on game-playing and move-making as central to his picture of language.

The third metaphor leads to a rather interesting though challenging understanding of learning which is formed more around a concern for places and with how to move between them and with how to reach or achieve them. Learning is seen as developing the ability to find and get around to places (though getting to a place is not the same as getting a 'something'). In other words, this metaphor leads to a

[28] Here I depart from my main thesis to talk briefly about learning in general. I take caution in how I use the phrase, "in general," here; I am simply roughing out a little of how we apply three different pictures (or, perhaps, the underlying *gesture drawings* of pictures). These metaphors are ways to look at language and meaning, and they can be as well pictures from which we can take certain perspectives on learning. In other words, what I say here can be taken more as a comment about the application of pictures. My point, as part of the overall context in which to understand Wittgenstein and my application of his picture of language and meaning, is that we talk differently about learning given different ways of talking about language and meaning. In turn, my thesis is principally focused to explore how we can talk about professional learning through the application of Wittgenstein's picture of language and meaning.

picture of learning as focused on having (more, or 'better') places to go and on a learning of how to move from place to place, of how to find one's way around.[29] It is movement that is essential here, the reaching out towards, achieving, and moving on from, the right places; one travels from, to, and through places. In these latter two metaphors, what is learned is a knowing-how (i.e., a knowing how to do, and a knowing how to get around), and teaching is more a matter of training abilities to do or perform than facilitating a 'getting' of some thing. All three metaphors provide context to Wittgenstein's picture of language and to the picture I sketch of the learning of professionals.

To conclude this section of the chapter, I indicate very briefly something of the sense of Wittgenstein's rejection of representationalism and of the Fregean picture of language. Emerging from this first metaphor and from representationalism is the idea that a 'knowing-that' is at the core of language and meaning. Wittgenstein's game-based picture of language as the *mastery of a technique* (e.g., see PI §§150, 199) thus stands strongly in contrast to this view, and for Wittgenstein it is a 'knowing-how,' as it were, that is central to language and meaning.[30] Throughout his work Wittgenstein objects to the Fregean/representationalist approach to investigating language and meaning, where theoretical work concerns how the different hypothetical entities connect with each other. For example, he says in this regard that, "A primitive philosophy condenses the whole usage of the name into the idea of a relation [i.e., between sign and object] which thereby becomes a mysterious relation" (BB, p. 173). The idea of 'meaning' and 'sense' as scientific-like, theoretical entities that stand in functional-causal relationships with one another, Wittgenstein calls "obsolete" (see 1932 *Cambridge Lectures*, p. 30). Wittgenstein emphasizes the need to return to the 'normal use' of language, to return to the 'original homes' (see PI §116) of signs, as making for the appropriate way to investigate language and meaning (*qua* language and meaning). Wittgenstein rejects the Fregean commitment to the analytic separation of signs from the life of their use (e.g., see PI §432), rejects hypothetical meaning-giving elements or features such as *Sinn*, *Bedeutung*, representations, thoughts, propositions, truth values, ideas, and so on. Rather, as Wittgenstein says,

> Our investigation is therefore a grammatical one. Such an investigation sheds light on our problem by clearing misunderstandings away. Misunderstandings concerning the use of words,

[29] Wittgenstein says in this regard that "language is a labyrinth of paths. You approach from *one* side and know your way about; you approach the same place from another side and no longer know your way about" (PI §203; see also, for example, PI §§525, 534, and Z §349, for the metaphor of 'familiar paths and places').

[30] For example, Wittgenstein says: "If I am drowning and I shout "Help!", how do I know what the word Help means? Well, that's how I react in this situation. – Now *that* is how I know what "green" means as well and also know how I have to follow the rule in the particular case" (RFM VI 35).

> caused, among other things, by certain analogies between the forms of expression in different regions of language. (PI §90)

Wittgenstein speaks also of our being "bewitched" by words and by language (PI §109, OC §435), and that "A misunderstanding makes it look to us as if a proposition did something queer" (PI §93).

Part of the attraction of the Fregean/representationalist approach is that, as rooted in our grammar, we 'naturally' look for things that are named by substantive words, and thus we lead ourselves into problems in asking, "What is meaning?" Wittgenstein's diagnosis of this tendency is exceptionally clear:

> The questions "What is length?", "What is meaning?", "What is the number one?" etc., produce in us a mental cramp. We feel that we can't point to anything in reply to them and yet ought to point to something. (We are up against one of the great sources of philosophical bewilderment: a substantive makes us look for a thing that corresponds to it.) (BB, p. 1)

Thus Wittgenstein urges that we adopt a re-orientation of perspective, a change in picture such that "the axis of reference of our examination must be rotated, but about the fixed point of our real need" (PI §108). Meaning is not something *we* do, it is not something separate that runs alongside and is somehow added to utterances; rather, meaning is what language *is*. Speaking, writing, reading, hearing and understanding, etc., is to partake in the flow and movement of the life of language.[31] In other words, the re-orientation that Wittgenstein encourages in his sketches of language militate against the idea or picture of language in which we need to go outside of the word or sign (or outside of language) to discover, or to infer, what the sign means. Certainly it is the case that words and statements, etc., fit in with other things we do – though they fit in precisely because they are part of our very form of life, because, in a sense, life and word grew up together in mutual sustenance. The general Fregean approach to language and meaning basically holds that what an assertive sentence means is what would make it true, i.e., the sentence's truth conditions. Wittgenstein's approach is that what any sign (i.e., word, expression) means is the places with which it is located in grammar and how it is and has been played in various language-games, the circumstances of the relevant utterances made with that sign,

[31] Marie McGinn (2011), for example, frames Wittgenstein's investigations into language and meaning from his resistance to "our tendency to sublime the logic of our language" (p. 651), which leads to various problems and paradoxes (i.e., leads to philosophy in the problematic sense). For McGinn, Wittgenstein works to resolve or overcome in piecemeal fashion these problems "that surround the sublimed picture of understanding, meaning, and thinking as remarkable acts of mind" (p. 653). The means to accomplish this is largely through what Wittgenstein calls 'grammatical investigation,' which is "that we should instead 'look into the workings of language' if we want to recognize how the concepts of understanding, meaning, and thinking actually function" (p. 651). (The "looking into the workings of language" phrase is from PI §109.)

and how the relevant interlocutors go on with it (for example, see again Z §§135, 173). To utter something meaningful is to make a recognizable move in a recognizable game that the interlocutors are playing as bound up in the context of their form of life (e.g., "It is what human beings *say* that is true and false; and they agree in the *language* they use. That is not agreement in opinions but in form of life" PI §241; see also Peters & Stickney (2018, pp. 96-99) on background and form of life).

1.4 Learning to write with Wittgenstein

Learning to write in step with Wittgenstein about language and meaning is a difficult process, and it is easy to be uncertain whether one has indeed succeeded in doing so. One aspect that makes for difficulties is Wittgenstein's approach to explanation. With regard to language, the difficulty is that we must accept what is there *as it is*, to describe it and not to explain it.[32] Insofar as we are concerned with meaning, we are concerned with 'just' language itself, and with the primacy of games highlighted in this understanding. As Wittgenstein says,

> We are not interested in any empirical facts about language, considered as empirical facts. We are only concerned with the description of what happens and it is not the truth but the form of the description that interests us. What happens considered as a game. I am only *describing* language, not *explaining* anything. (PG §30)

That is Wittgenstein's project. Is it reasonable, however, to resist in the case of language and meaning the explanatory impulse? Can one always follow in step with it? As Wittgenstein points out repeatedly, and as I have experienced, it is easy to go astray: "While thinking philosophically we see problems in places where there are none. It is for philosophy to show that there are no problems" (PG §9).

What gets ruled out in Wittgenstein's discussion are hypothetical or theoretical causal explanations of meaning. To explain something in this way is to identify the cause(s) of its existence, that is, to show in this manner why it is, or why it is as it is. If we follow Leibnitz, for example, to explain and theorize about

[32] As Wittgenstein says, "We must do away with all explanation, and description alone must take its place" (PI §109). (Though Wittgenstein notes difficulties in 'describing' as well, i.e., in doing too much – e.g., see RPP §257.) Early in *Philosophical Grammar*, Wittgenstein says that "what is spoken can only be explained in language, and so in this sense language itself cannot be explained," and that "language must speak for itself" (PG §2). This connects with Wittgenstein's comment in the *Investigations* concerning the focus of his work: "Your questions refer to words; so I have to talk about words" (PI §120). Further, Wittgenstein says that, "An explanation of the operation of language as a psychological mechanism is of no interest to us. Such an explanation itself uses language to describe phenomena (associations, memory etc.); it is itself a linguistic act which stands outside the calculus; but we need an explanation which is *part of the calculus*" (PG §33). I take it that the explanations which are 'part of the calculus' are what Wittgenstein will later call "grammatical investigations."

language and meaning would be to attempt to identify the efficient or final causes that (fully) account for why there is language and/or meaning, or to account for why there is just this particular meaning, attached, for example, to just these sounds, gestures, or marks.[33] This rejection of causal explanation throws up a considerable difficulty for those trying to follow and make sense of Wittgenstein. For example, how does one account for the normativity of meaning without theorizing about it, without setting out general causal explanations of it? If one is forbidden from doing this, how *does* one talk about meaning?

As I have indicated earlier in this chapter, Wittgenstein affords us the possibility that we can talk about language and meaning on the basis of *pictures* that we can sketch of these 'things.' A picture so-called provides a way of looking *at* the phenomena, but do not explain the phenomena, do not attempt to account for why they are, in terms, for example, of Leibnitzian efficient or final causes. We apply pictures in the sense that they lead us both to view and talk about things in certain ways. On the basis of the picture of pictures, one can go on to talk about things untroubled by the problems and dead-ends that plague other ways of going on which are characterized in terms of causal explanatory accounts.

To talk about language from our position within language requires a re-orientation of our approach to the 'subject matter,' and this is why Wittgenstein proposes that we employ the idea of pictures as necessarily tentative attempts to represent, outline, or sketch 'aspects' of language. Pictures, however, do not stand in a strict representing or corresponding relationship to their object. The pictures are what we have of the 'object' or 'state of affairs,' and the picture in terms of the whole and of its parts stand on their own to be considered, discussed, or modified, and where the satisfactory usefulness or value of a picture emerges in the unfolding agreements, similarities, and differences with what else we say. For example, pointing to the nature of the picture of language and meaning that he is sketching, Wittgenstein says that "we look at games and language under the guise of a game played according to rules. That is, we are always comparing language with a procedure of that kind" (PG §26).[34] It is the use

[33] This is a cursory look, at best, at the issue of kinds of explanations and causes. For example, Aristotle identifies material and formal causes in addition to efficient and final causes (i.e., as per Leibnitz), connecting these causes to different kinds of 'why' questions. Working these angles out is not so much my concern here, though nevertheless the range of kinds of explanation would be important to a more robust thinking-through what Wittgenstein has to say in this regard. For example, we can ask what kind of explanation Wittgenstein has in mind when he talks about 'explanations of meaning' (e.g., see PI §560).

[34] For example, as Wittgenstein says, "What does it mean to understand a picture, a drawing? Here too there is understanding and failure to understand. And here too these expressions may mean various kinds of thing. A picture is perhaps a still life; but I don't understand one part of it; I cannot see solid objects there, but only patches of colour on the canvas. – Or I see everything as solid but there are objects that I am not acquainted with (they

of the picture – its 'application,' as Wittgenstein puts it – and not the 'sketch' in itself (as reified, perhaps, in a more or less fundamental way) that is the most important thing. Finally, in terms of how we use a picture, Wittgenstein says of the picture of language-games, that they are "set up as *objects of comparison* which are meant to throw light on the facts of our language by way not only of similarities, but also of dissimilarities" (PI §130).[35]

For Wittgenstein, we discuss and examine language and meaning in terms of the pictures we sketch of it. We must not take the parts or elements of the sketch as theoretical entities, as Frege does, for example, or the picture as a theoretical explanation of how meaning works, or how a person can mean something by an utterance in language (or, to put it otherwise, how an utterance can mean something). Wittgenstein does not explain how language happens, but rather describes its happening. And he describes language by drawing up, in words, pictures of language. All of this is a source of considerable trouble in writing with Wittgenstein.

To end this chapter, let me reiterate that what I want to explore is how insights about language and meaning drawn from Wittgenstein offer us a purchase on how we might go on to talk and think about professional learning. To put it otherwise, what I do in this thesis is first to work to get clear on the picture of language and meaning sketched by Wittgenstein, and then to apply it in drawing another picture, a picture of professional learning. In this thesis project I do not identify, describe, and apply a methodology *per se*; that, in a sense, would run afoul of Wittgenstein's aversion to theory-based investigation in matters of meaning and language. Rather, by drawing and applying a particular picture of professional learning, I replace strict methodological procedure set up as the (theoretical) means to developing responses to some question, problem, or phenomenon, with a *way* (or a perspective from

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look like implements, but I don't know their use). – Perhaps, however, I am acquainted with the objects, but in another sense do not understand the way they are arranged."(PI §526). Wittgenstein addressed this issue of 'picture parts' in his earlier *Philosophical Grammar* as well. For example, he says there: "So what the picture tells me is itself. Its telling me something will consist in my recognizing in it objects in some sort of characteristic arrangement" (PG §115), and ""What the picture tells me is itself" is what I want to say. That is, its telling me something consists in its own structure, in *its own* forms and colours" (PG §121).

[35] I take Wittgenstein's point here to be about the role of language-games as one part of the picture of language, and not about anything 'real' having explanatory force and which we refer to as "language-games." The point is a tricky one, however, as I will go on to talk about language-games (and grammar and rules) as if these were 'real' things arrived at in the analytic decomposition of signs and meaning. But it is important to recall always that these 'items' are parts of a picture of language that Wittgenstein is sketching (or are different pictures Wittgenstein is sketching of language), and thus are to be discussed in terms of their application, i.e., what we can do with them in our talk about language, what they highlight, or 'bring into' clear view (which itself can be a potentially misleading expression, implying that there is something beyond language which we are trying to reach and see better – see PI §104 as one of the ways Wittgenstein cautions us against going down such roads).

which) to view and talk about how we talk about things – in this case, how professionals talk about things in learning about them.[36] If, however, it is suggested that we can indeed appropriately speak of a methodology being applied here, it would be something along the lines of Wittgenstein's idea of the descriptively-oriented 'grammatical investigation' that one employs from this standpoint. The result of such investigations are 'perspicuous' overviews (i.e., an *Übersicht*) of how we, the relevant persons, actually do talk about some thing(s), i.e., in terms of the signs we do use, the connexions between signs we make in our talk and our action, and the ways in which we make those connexions. In other words, in performing a grammatical investigation we end up with a clearer, more perspicuous overview of what signs we use and how we use them.[37] An important part of grammatical investigation will also be discernment of the pictures that are operative in our talk, i.e., those pictures around which our talk gets oriented. Note that I add in later chapters important caveats to the possibility of my own employment of grammatical investigation *per se* in thinking about and being active in professional learning initiatives. Regardless, the approach I follow out and which is the principal theme of this thesis, is to draw and apply a picture of professional learning on the basis of an application of the picture of language and meaning drawn by Wittgenstein.[38]

I suggest that it is this that captures what is of the most significant value of Wittgenstein to educators, viz., the *drawing of* such a picture of learning on the basis of his picture of language and meaning. For my own part, I resist attempting to *draw out* a theory or picture of learning from Wittgenstein's many 'educationally' oriented remarks having to do with learning, teaching, training, instruction, etc., or from his employment of a varied set of pedagogical techniques, such as question-and-answer remarks, examples both real and outlandish (see his many 'anthropological' and fantastical examples – e.g., see RFM I 143ff, for the case of wood cutters with strange measuring practices), dialogues, humour, and so on. My own view is that Wittgenstein employs these remarks (and techniques) in service of bringing into clearer view the developing picture of language and meaning he is sketching. We can, of course, take

[36] One might even suggest here some affinity with Donald Schön's emphasis on the creative framing of problems of practice through the artistry of the reflective practitioner's unfettered expertise. (See **Chapter 2** for more on Schön.)

[37] At the same time I am not suggesting here that we end up with an 'objective,' value-free, theoretically-neutral analysis of talk. Rather, we do simply end up with more talk, which itself can be grammatically investigated for its 'what and how' of sign use. However, all of what I am suggesting be done here is still situated on the plane of meaning.

[38] I would suggest as well that my use of some of the provocative ideas of Sudnow in gaining a perspective on Wittgenstein's picture of language and meaning (see **Chapter 3**), is also interesting, useful, and contentious. Note that my employment of Sudnow's thinking concerns linguistic *meaning*, and represents a considerable departure from the Fregean, representationalist approach to meaning.

and develop from Wittgenstein the method of the 'grammatical investigation,' and apply it to various important terms used within educational circles, perhaps with an eye to versions of deconstructive results, and such efforts would be both revealing and useful (e.g., see Winch, 2017).

Thus, from the perspective I build in this thesis project, what I take to be most salient for both the philosophy of education and the field of professional learning and development lies in the application of Wittgenstein's picture of language and meaning to drawing a picture of professional learning. And so bringing to bear a picture of language and meaning on the development of a picture of professional learning is my focus here. As Wittgenstein asks and answers in a paragraph from *Zettel*: "Am I doing child psychology [i.e., in discussing children's learning language]? – I am making a connexion between the concept of teaching and the concept of meaning" (Z §412). Similarly, in my thesis project I am working to 'make a connexion' between a picture of language and meaning and a picture of professional learning. Further, cued by this assertion by Wittgenstein from *Zettel*, I take here a line from Deborah Britzman (2003) as illuminating something of my own purposes in this thesis. She says:

> So readers will meet the conflicted narratives made from teacher education. And it is here that the research will take the narrative turn. The reason we engage with narratives of learning is to create a different conversation on the problem of experience in education. (p. 23)

This seems to me a fair representation as well, *mutatis mutandis*, of what I am trying to do, i.e., create a different conversation with regard to the situations of professionals learning *in situ* through a reading of Wittgenstein on language and meaning. Those situations I have begun to describe in the opening pages of this chapter, and go on to consider how others have considered them through the literature reviews I conduct in **Chapters 2** and **3**. In **Chapters 4** and **5** I further consider those situations of professional learning – the conflictual aspects and the struggles – in light of the perspective afforded us by Wittgenstein's picture of language and meaning and by the picture of professional learning I have begun to sketch myself, influenced by the major gestures and lines of Wittgenstein's picture.

Finally, with the background context set out in this chapter now in place and situating my discussion, I can usefully begin to sketch out a picture of professional learning in terms of Wittgenstein's notions of grammar, language-games, and having 'places to go' in one's professional talk. In the next chapter, I briefly look at some of the more important pieces in the literature on professional learning, in part to set further the context for my move to Wittgenstein and his picture of language and meaning, but also in

part to seek out what is valuable and useful there for me in my work to talk better, in fundamental terms, about professional learning.

Chapter Two

Some Theorists of Professional Learning

2.1 Preamble

My aim in this section is to provide a reasonable path into the rather substantial literature on professional learning. I have selected particular thinkers for this brief literature review on the basis of several factors, and my selections have not been made in order to obtain a representative sample. The first factor concerns the seminal nature of the work – these are, for the most part, key and influential documents in the field. The second factor is my interest to show some of the contrast both within the literature and to my own developing way of thinking and talking about professional learning. As will become evident, guided by my reading of Wittgenstein I break away from the cognitivist and epistemological assumptions which frame many of these thinkers' investigations. Third, several of these pieces were chosen because they focus on dialogue, conversation, and relationship as important to the course of professional learning, a point which will strongly echo the thinking I do later about professional learning. Last, I have selected certain thinkers because their work provides rich descriptions of professional working life; from these characterizations of working life these authors develop inferences about the kind of learning that makes possible and supports just those kinds of practice. These descriptions and associated inferential moves are, of themselves, valuable to have in hand when thinking about professional learning.

By giving a sense of the sweep of the literature on professional learning we can begin to observe how different theorists talk about professional learning and how they frame their talk. As a negative kind of finding this chapter will also serve to show that, despite the range of the literature, no one has chosen to consider these issues about professional learning from the perspective of a theory or picture of language and meaning. In the context of my thesis, then, this scan of the literature serves to indicate something of the space that is available for the treatment I propose, viz., to explore professional learning in light of the view afforded by Wittgenstein's picture of language and meaning (i.e., see **Chapter 3**). Thus there is some need for a deeper look at the arguments and themes of the thought of

each thinker, to ascertain whether they do treat language and meaning in their discussions of professional learning.[39]

There has been a longstanding and rich history of academic interest on professional learning, and, as just noted, it is a substantial literature.[40] A considerable amount of this literature is located within the education sector, focusing on the learning and cognitive life of education professionals. There has been as well over the last two decades an explosion of interest in the new fields of 'knowledge mobilization/transfer' and 'research use/utilization/translation'; in the health sciences there has also been much interest in how professionals and organizations manage the rapidly changing bodies of pertinent relevant research, research syntheses, 'official' guidelines,' etc., and changing health care environments; and there has long been interest in the nature of expertise and how experts become experts. Despite ostensible focus on organizational development, policy making, and institutional processes in the knowledge mobilization and research utilization literatures, there is a considerable amount here that is, in effect, precisely about professional learning (in whatever guise it might take). While an organization can be said in various ways to use information, or to be structured in accordance with certain 'best' understandings, it is also still individual professionals and groups and networks of

[39] Which entails that I can only consider a smaller set of thinkers than I would otherwise. In order to keep this chapter to a reasonable length, I have ended up neglecting thinkers in the field of adult/workplace learning such as Malcolm Knowles, Knud Illeris, David Kolb, and Peter Jarvis (and others).

[40] As might be expected, not all of this literature is explanatory or exploratory in design. Some of it expresses discontent with the relevant current state of professional learning. For example, Showers *et al*'s (1987) important paper articulated serious issues concerning the support and interest in professional learning in the education sector. Desimone (2009, 2011) and her colleagues (e.g., Garet *et al*, 2001; Desimone *et al*, 2002) have done important work providing the empirical characterizations and conditions for successful, quality professional learning interventions (e.g., indicating in clear terms the temporal conditions requiring to be met), in the course of which they also effectively describe many learning interventions which have *not* been successful. Fenwick (2004) summarizes some of the discontent with professional learning in education reported in the literature: "[R]eports of analyses of school-based initiatives to foster teachers' professional development tend to report similar conclusions, such as limited commitment from senior administrators or limited time; teacher commitment varying according to individual philosophies, attitudes, and experience of teaching; and the lack of monitoring, support, and adjustment that are required to sustain change over the long term" (pp. 262-263). Finally, a good deal of this literature is prescriptive, recommendation-based, or programmatic in design. For example, see Dufour & Eaker (1998), who assemble a basic list of the components (i.e., the 'fundamental terms') of a 'professional learning community,' basing their description on the principal assumption that collaborative learning and work are more effective than when these are done individually (e.g., see pp. 25-29). See as well the Continuing Professional Development (CPD) literature, which, while impressive in its scope and in the research and thinking on the practical matters of professional learning, from the point of view of my own interests is more empirical and prescriptive in theme and does little to spell out the foundations of the approaches put forth (e.g., see Cordingley (2008) in which CPD is discussed in the context of 'transforming knowledge into practice').

professionals that learn from that research; their changing, evolving, increasingly sophisticated use of research *is* professional learning.

My overall observation is that there is indeed much of profit to take from this literature on professional learning, and identifying those aspects that I find conducive to the work I am doing with ideas of Wittgenstein will be important to my efforts. One feature of the literature of considerable interest and significance is the underlying cognitivism which many of the theorists in the field frame their work, which stands in strong contrast to my own direction. Cognitivism (as one variant of representationalism – see **Chapter 1**) is the main alternate view to the one that I am developing in this thesis. Put simply, cognitivism holds that some more-or-less discrete and containable thing, i.e., a representation, a 'unit' of knowledge, a particular concept, content, proposition, or a rule or rule formulation, is cognitively captured or grasped by the learner through being transferred, transmitted, or transformed in some manner, becoming the source of subsequent external or internal actions in concert with other such cognitive entities through a person's cognitive (e.g., computational) mechanisms.[41] That a person knows or understands something, or speaks meaningfully about something, becomes a fact about them, insofar as they are said to have, possess, or grasp a concept, content, proposition, etc. The concept, proposition, etc., is the source of meaning, and thus the question is whether such things in their discrete particularity are in fact within a person's cognitive system.[42] Jerry Fodor (1975), for example, succinctly formulates the cognitivist perspective in the following way: "What cognitive psychologists typically try to do is to characterize the etiology of behavior in terms of a series of transformations of information [i.e., representations]" (p. 54). Charles Taylor (1993) also provides a good synopsis of the perspective:

> In the mainline epistemological view, what distinguishes the agent from inanimate entities which can also affect their surroundings is the former's capacity for inner representations,

[41] Here is how Carey (2009) puts it in her important book on concepts: "Concepts are units of thought, the constituents of beliefs and theories, and those concepts that interest me here are roughly the grain of single lexical items. Indeed, the representations of word meanings are paradigm examples of concepts. I take concepts to be mental representations – indeed, just a subset of the entire stock of a person's mental representations. … I assume that representations are states of the nervous system that have content, that refer to concrete or abstract entities (or even fictional entities), properties, and events" (p. 5). See also Carey (2011) – "As with all mental representations, a theory of concepts must specify what it is that determines the content of any given mental symbol (i.e., what determines which concept it is, what determines the symbol's meaning). (In the context of theories of mental or linguistic symbols, I take "content" to be roughly synonymous with "meaning.")" (p. 113).

[42] A dynamic systems/network approach to cognition may not be entirely well-described in these simple terms; but though the active structure may be different, in essence these are still basically internalist, mechanistic models of mind, meaning, understanding, and learning. See, for example, McClelland & Cleeremans (2009) on such models (i.e., connectionist or parallel distributed processing models), where learning is taken to be "the process of connection weight adjustment."

> whether these are placed in the "mind" or in the brain understood as a computer. What we have which inanimate beings don't have – understanding – is identified with representations and the operations we effect on them. (p. 34)

The cognitivist perspective has been strongly at work in education shaping views on learning in more-or-less subtle ways. In George Posner *et al*'s (1982) classic and influential article in education, for instance, in the context of explaining the feature of intelligibility of concept and discourse as part of the mechanism of learning, the authors claim that:

> In fact, we would claim that no theory can function psychologically at all unless it is internally represented by the individual. In general, representations may be in the form of propositions or images, or networks of interrelated propositions and/or images. (p. 216)

This view or picture of things, stemming from a representational view of language and meaning, has, as I have pointed out in the previous chapter, a series of implications for how we talk about learning and teaching. Typical of cognitivist approaches to learning are concept change/transfer theories: thus, learning occurs when the concept – a discrete thing – is acquired from some educational experience.[43] Concept transfer is considered completed when that concept is employed by the learner in cases or situations distinct from those in which the concept was acquired.[44] As Paul Thagard (2003) describes:

> Concepts are mental representations corresponding to words. For example, the concept 'dog' is a mental structure that corresponds to the word 'dog' and refers to dogs in the world. Conceptual change is produced by mental processes that create and alter such mental representations. (p. 666)

[43] One of the early and classic accounts of language and learning as transfer of 'ideas' (i.e., concepts) is given in John Locke's (1640/1959), *An essay concerning human understanding* (Book III, Chapters I-II), where he says: "The use, then, of words, is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification. The use men have of these marks being either to record their own thoughts … or, as it were, to bring out their ideas, and lay them before the view of others … When a man speaks to another, it is that he may be understood: and the end of speech is, that those sounds, as marks, may make known his ideas to the hearer" (p. 9)

[44] Mark Rowlands (2003) supplies a good description of this in what he calls the "inner process model": "We have various thoughts, ideas and other conscious states. These have a definite content. When we speak or write, what we do is give outer expression to this inner content; we, so to speak, drape the inner meaning in outer garb. Thus, when we mean something by a sign (e.g., a word), the content of the inner state is externalized: transmitted to an outer expression. And when we understand something by a sign, the reverse takes place. The content of an outer expression is internalized: transmitted to an inner state of understanding. Thus, to mean or understand something by a sign is in both cases to be the subject of an inner state or process. … This picture of meaning has become deeply entrenched in philosophical – and, indeed, everyday – consciousness" (pp. 76-77).

Bradley Love (2003), in the course of comparing the different models of concepts (i.e., rules, prototypes, exemplars, and neural networks), speaks of the 'encoding of training examples,' from which the abstraction necessary to conceptual representation is drawn (see pp. 651-652). Identifying which cognitive states or processes exist in learners is thus an important factor in considering learning situations, and educator, learner, or investigator need turn to those instruments that help pick out just those relatively discrete things.[45] Such instruments are used to describe what people currently believe, understand, or know; how what they believe, etc., affects what they do; to infer what learners need to understand or know (given some set of concepts or behaviours as target); and to assess learning interventions from the perspective of what changes have taken place in what learners now have ('in their heads') as a result of those interventions.[46]

While I am interested in this brief review to pick up on how cognitivist assumptions made by these thinkers influence their investigations, it is important at the same time to recognize how complicated the situations are which are described by these theorists, and how indirect and diffuse the cognitivist assumptions in their thought can be. One area in which these assumptions emerge clearly is the literature concerned with teacher thinking and belief. For example, amongst a variety of important, well-cited papers which focus on this topic, Dona Kagan's (1992) work stands out as explicitly identifying beliefs as held by educators, the contents of which need to be elicited through various means and which are to be distinguished from the activities and practices to which they are variously and causally connected. She discusses this cognitive aspect in terms of 'internalized' belief systems possessed by individuals, and in terms of (mental) transfer and translating mechanisms such that beliefs effect classroom instruction. In Simon Borg (2003, 2015), a similar approach is taken. He identifies 'thinking, knowing, and believing' as "mental constructs", and discusses the relationship of these to what teachers do in classrooms. In the *Introduction* to his 2015 book he says in this regard that, "coupled with insights from the field of psychology which have shown how knowledge and belief exert a strong influence on human activity, this recognition has suggested that understanding teacher cognition is central to the

[45] Even cognitive *processes* are considered in this way. Take as an example the nature or functioning of serial processing of the executive control system, understood to be a basic and important feature in explaining a person's ability to learn (see, for example, Bryan & Luszcz, 2001; Diamond & Ling, 2016).

[46] Speer (2005), as one example among many, encapsulates this overall kind of view concerning measurement of cognitive states and processes perfectly. She says: "It is possible that researchers have just been unable to gain the necessary kind of access to the beliefs that teachers possess. For example, it is possible that researchers have accessed beliefs in ways that do not actually capture what teachers believe and then are attempting to help teachers modify those beliefs (which are not the ones they really hold) and measuring changes in the beliefs that were never really the relevant ones" (p. 387).

process of understanding teaching" (p. 1). Natasha Speer (2005) in her important paper similarly approaches issues concerning teacher belief from a cognitivist perspective, though she offers a cautionary note with regard to such approaches (e.g., due to the emergence of alternative explanatory frameworks such as discursive psychology or situative approaches). Finally, M. Frank Pajares (1992), in a well-cited paper, in the course of clarifying the belief-knowledge distinction identifies belief as a psychological construct, writing that, "the result [i.e., of his literature review investigations concerning belief] is a view of belief that speaks to an individual's judgment of the truth or falsity of a proposition" (p. 316).

Now, having thus situated matters, let me turn to my brief review of the literature. Anticipating things, it is interesting to see that the positions on professional learning sketched out by many of these theorists will emerge from their descriptions of the nature of professional/expert work/practice. By describing what is done by the professional in their practice, these theorists in essence work backwards to consider the nature of the learning that brought individuals to such positions of professional expertise. I begin with Michael Eraut, who in many respects exemplifies both the cognitivist stance while respecting and responding to the complexities of professionals' work, their relationships, and their learning.

2.2 Theorists of professional learning

Eraut makes the primary focus in his various writings (see 1994, 2000, 2004, 2010) the complexity of professional learning and work, which he argues involves multiple forms and modes of knowledge and cognitive ability. Eraut argues that the ongoing education of professionals at all levels of their development calls for a robust, holistic approach. He writes that:

> Professional work of any complexity requires the *concurrent* use of several different kinds of knowledge in an *integrated, purposeful manner*. Yet this is difficult to achieve without significant interaction between formal teaching and professional practice, and specific attention given to developing the appropriate modes of thinking. (1994, p. 119)

Eraut's theory of professional learning is essentially an elaboration of one fundamental distinction concerning kinds of knowledge: that between tacit or implicit knowledge and explicit knowledge. Connected to these is the distinction between implicit and explicit learning, with the crux of this distinction concerning the conscious awareness of learning (see, for example, 2010, p. 39) and the nature of the intention to learn (see, for example, 2000, p. 115).

With these distinctions as foundation, Eraut develops a fairly complicated cognitive/epistemological typology. For Eraut, one difference between tacit/implicit knowledge and explicit knowledge is a matter of the consciousness or awareness of the knowledge itself (i.e., one is not aware of the former but is aware of the latter). In connection to this Eraut sets up another distinction, between codified knowledge and personal knowledge. Codified knowledge is propositional knowledge objectified in official documents (e.g., journal articles, textbooks) and which has the warrant of the appropriate intellectual and institutional authorities. Personal knowledge, encompassing both propositional and non-propositional knowledge, is a large category containing many different kinds of 'knowledge,' and largely revolves around individuals' *use* of knowledge and so is importantly concerned with procedural or process knowledge or 'know-how.' Eraut defines 'personal knowledge' as "what individual persons bring to situations that enables them to think, interact and perform" (2010, p. 38; see also 2000, p. 130). Eraut claims that process knowledge of all kinds 'should be accorded central importance' in professional learning/performance (see 1994, p. 121). One further distinction Eraut makes and leans heavily on is between formal and informal learning in professional life, though this is more a distinction between different contexts of learning. More explicit learning occurs in formal learning contexts than in informal learning contexts, and learning kinds range from implicit learning to reactive learning to deliberative learning in informal contexts (see 2000, p. 115). What further distinguishes formal learning contexts from informal learning contexts has mainly to do with the level of intention to learn and subsequently the nature of the activities organized to support the relevant learning kinds.

Personal knowledge, which encompasses the kinds of knowing where knowledge is used, is the general category where the work of professional learning and development needs to be focused. Within this category are various sub-categories of knowledge and cognitive modes, and Eraut's argument is that these sub-categories are the appropriate targets of appropriately discriminating professional learning efforts; development of these categories within the individual learner leads to the development of professional competence and behaviour. Knowledge is acquired through its use, initially within a narrow context (e.g., the context of exposure, as through a lecture or conversation with a colleague); a deeper acquisition of knowledge is attained through transfer of learning from one context to another, a difficult process mediated via an extended set of contexts of further learning, application, and interpretation

(1994, p. 33). Thus using knowledge is what makes it knowledge: "the meaning of a concept [i.e., a piece of knowledge] for its knower is embedded in a cluster of experiences of using it" (2000, p. 133).[47]

After marking out different sets of categories of knowledge (e.g., see 1994, pp. 76-98) existing in varying measures of interdependence in their particular instantiations in professional practice, Eraut details some of the practical activities that can support the development of each kind of knowledge.[48] For example, in the case of 'process knowledge,' which is "knowledge of how to do things and how to get things done" (1994, p. 93), Eraut suggests such developmental activities as "both to observe the skills in action and to undertake practice with feedback" done in a non-threatening and safe way within a formal course setting (1994, p. 93). What is emphasized throughout Eraut's work is the importance of appropriate, well-timed, and well-adjudicated feedback of all sorts to professional learning: "developing process knowledge depends not only on seeing or hearing about others' performance, but also on getting sufficient feedback on one's own" (1994, p. 94). In multiple ways, positive change in professional performance is sensitively dependent on feedback (e.g., see 2000, p. 134).[49]

Finally, Eraut suggests a cognitive mechanism for knowledge acquisition pathways which emerges from his own evolving account of the implicit-explicit knowledge distinction. Such cognitive models Eraut takes as instructive in gaining better focus on salient elements in professional learning, knowledge, and development. Eraut proceeds to make claims for what needs to be in place to support professionals' learning on the basis of just such cognitivist accounts (see, for example, his discussion of '*interpretation*

[47] I am unsure how this claim affects the epistemological status of explicit/codified knowledge as previously set out by Eraut. (A 'family' of meanings for "knowledge," perhaps.)

[48] Eraut produces a number of such lists. He discusses a "map of professional knowledge" that includes (i) propositional knowledge, (ii) impressions, personal knowledge, and the interpretation of experience, and (iii) five kinds of process knowledge (e.g.., 'acquiring information, skilled behavior, various metaprocesses for directing and controlling one's own behavior') (1994, see pp. 102-115). Elsewhere he outlines the tacit knowledge required in professional work as comprising tacit knowledge of people, contexts, and organizations (2000, pp. 121-123). As a last example he details the nature of personal knowledge as including 'personalised codified knowledge, know-how (viz., skills and practices), personal understandings of people and situations, accumulated memories of cases and episodic events, self-knowledge, agency, values, emotions, and reflection, and other aspects of personal expertise, practical wisdom, and tacit knowledge' (2010, p. 38*ff.*)

[49] All of this, Eraut emphasizes, is part of the 'social perspective' important for professional learning, which stands opposed to the 'individualistic perspective', i.e., the intellectualist-internalist view of learning (this latter perhaps being closer to the thought of Bereiter & Scardamalia, 1993). This is not to suggest that this is a particularly innovative idea concerning professional learning. Early in the history of the literature, for example, Schein (1972) also pointed out the importance of feedback: "It is not sufficient to send students into the community to try their hand at practicing their skills; it is essential that supervision and feedback be built into the process" (p. 118).

of guidelines' in decision-making in individual cases in his 2000 (p. 125), in the context of three types of cognition he has identified, i.e., "analytic, intuitive and deliberative").

Hubert Dreyfus and Stuart Dreyfus's (1986) seminal and influential study sets out the classic theory of the stages of novice-to-expert development. Their study fits in the tradition of studying experts and expertise, and the graduated approach they set out has longstanding precursors in the relevant literature. For example, Fitts (1964) lays out a continuous (i.e., non-discrete) three-phase process of the development of skilled performance/skill learning. Dreyfus and Dreyfus's position carves out its own territory within this tradition inasmuch as it developed as a reaction against the claims made in the field(s) of artificial intelligence, particularly those centering around the technical notion of 'rule-following,' and stems in part from the Dreyfus' work in phenomenology (e.g., see Dreyfus, 1991).

For Dreyfus and Dreyfus (1986), there are five stages of novice-to-expert development: Stage 1 – novice; Stage 2 – advanced beginner; Stage 3 – competent; Stage 4 – proficient; and Stage 5 – expert. Moving from novice to expert is moving from deliberate, detached, analytical use of context-free rules to automatic (i.e., intuitive) 'involved action' in situations (for these 'stages,' see mainly Chapter 2, pp. 16-51, and also Chapter 4, pp. 101-121). The movement through the different stages is characterized by the gradual replacement of deliberate, conscious rule-application with more and more intuitive action based on the perception (i.e., the automatic recognition) of more and more patterns. One gets to be an expert through experience, which yields the ability to see situations more holistically rather than breaking down situations and behaviours into discrete components to which rule protocols can be consciously selected and applied. This experience-won intuitive know-how is the "product of deep situational involvement and recognition of similarity" (Dreyfus & Dreyfus, 1986, p. 28), i.e., effortlessly perceiving similarities to previous experiences. Progress from novice to expert, then, is progress in the development of know-how or skill and not in propositional knowledge, i.e., 'knowing-that.' Common examples of expertise provide them with some of the force of their argument. They say in this regard:

> You can ride a bicycle because you possess something called "know-how", which you acquired from practice and sometimes painful experience. The fact that you can't put what you learned into words means that know-how is not accessible to you in the form of facts and rules. If it were, we would say that you "know that" certain rules produce proficient bicycle riding. … All of us know how to do innumerable things that, like bike riding, cannot be reduced to "knowing that". (1986, p. 16)

Thus repetition through experience is the key to professional learning and development for Dreyfus and Dreyfus (see also Dreyfus, 1992, pp. xxvii - xxviii).

Jack Mezirow (1991, 1997) integrates a fundamental cognitivist approach within a context of reflexive inquiry and transformative learning, in terms of a complicated architecture of reflection and learning. For example, he says both that, "learners need to appropriate a critical stance and language that will enable them to understand the ways in which these different discourses encode different meaning perspectives and schemes" (1997, p. 9), and that "a transformative learning experience, involving a transformation of meaning structures, requires that the learner makes an informed and reflective decision to act" (p. 8). That it is a cognitive architecture being proposed, and not, for example, a narrational, rhetorical, or discursive architecture, comes out clearly in Mezirow's (1991) claims that, "our perceiving, thinking, feeling, and acting may be carried out either habitually or thoughtfully … [and] these modes of action can be influenced significantly by errors in content or process as well as distorted by unwarranted epistemic, social, or psychological presuppositions resulting from prior learning" (pp. 108-109). Indeed, he identifies the major sub-processes of reflective action in terms of "scanning, propositional construal, reflection, imaginative insight, a resulting interpretation that can lead to a change … in a meaning scheme or, in the case of premise reflection … to the transformation of a meaning perspective" (1991, p. 108). Apart from its connection to modern cognitivist approaches, this also recalls to mind Scholastic efforts to unwrap cognitional structure.[50]

Perhaps the best way to consider Mezirow's thought is as both cognitivist and constructivist, i.e., his constructivist approach is delivered via the mechanism of a transformative, cognitive architecture of reflective action. He is perhaps a constructivist more in the Piagetian mould, setting out the explanatory mechanism for how, in casual terms, we do reflect and do experience transformation in our learning. The combination of these two approaches emerges in Mezirow's statement that: "The idea that uncritically assimilated habits of expectation or meaning perspectives serve as schemes and as perceptual and interpretive codes in the construal of meaning constitutes the central dynamic and fundamental postulate of a constructivist transformation theory of adult learning" (1997, p. 4).

Chris Argyris (1991, 1994) develops an interesting approach to the issue of professional learning, focusing more on the conditions for its optimal occurrence than on how professionals learn the content for their expertise. Argyris' celebrated contribution to the field is his proposal that professional learning

[50] See in this regard, for example, Lonergan (1964/1967).

occurs in two forms, i.e., in single-loop and double-loop learning. Single-loop learning is restricted to one-dimensional questions and answers; double-loop learning takes additional steps in inquiry, turning questions back on the questioner and questioning one's own assumptions and behavior (and so involves aspects of anti-learning or *un*learning). Single-loop learning is concerned with finding straight-forward solutions to problems that have been formulated in straight-forward ways. Double-loop learning, on the other hand, is more reflexive, looking deeper into the whole context of the problem and the learner's interaction with it. Argyris holds that this latter is generally the more productive form of learning.

Intimately connected with these kinds of learning are two kinds of reasoning (i.e., Models I and II) pertinent to the context of professional, organizational life. Model I concerns basic values in the 'design of one's actions' such as remaining in unilateral control, maximizing 'winning' and minimizing 'losing,' suppressing negative feelings, and evaluating behavior purely on goal identification and achievement (see 1991, p. 103). This approach to reasoning leads to what Argyris calls "defensive thinking" and to organizational defensive routines which get set in the practices of the organization. It is principally unreflective, unreflexive, and protective. People in organizations use Model I thinking in order to "avoid vulnerability, risk, embarrassment, and the appearance of incompetence" (1994, p. 80), and also prevents those who employ it "from examining the nature and causes of that embarrassment or threat" (p. 81). Model II is based on different basic values, such as obtaining valid information, creating conditions for free and informed choices; and accepting personal responsibility for one's actions (see Christensen, 2008, p. 12). Argyris' close colleague, Schön (1987), frames the third value as "internal commitment to the choice and constant monitoring of the implementation" (p. 258). Schön also adds that "Model II aims at creating a behavioral world in which people can exchange valid information, even about difficult and sensitive matters, subject private dilemmas to shared inquiry, and make public tests of negative attributions that Model I keeps private and undiscussable" (p. 259). A third distinction – between 'espoused theories of action' and 'theories-in-use' – allows Argyris to tie these different things together. Espoused theories of action are what individuals or groups might articulate as their governing principles, though in fact these articulations are inconsistent with the theories that are actually operative and observable in behaviour. A Model I theory-in-use encourages defensive learning, and thus the more ineffective single-loop learning, discouraging double-loop learning and its openness and potential for vulnerability. A Model II theory-in-use, on the contrary, promotes and supports double-loop learning, making genuine positive change possible in professional lives and organizations.

Professional learning, then, is in a sense a kind of meta-learning, or even preparation for contentful learning. But, for Argyris, in the main professional learning is learning about these distinctions concerning learning and reasoning and bringing more clearly to awareness the actually operative theory-in-use beneath the espoused theory. In this way professionals are enabled to learn by focusing on the possible inconsistencies in their own working lives and critically examining them. Training in the Model II approach to reasoning and double-loop learning can then begin, which, Argyris claims, will have important consequences for the organization's success (see, for example, 1994, p. 83).[51] Breaking away from inefficient patterns of interacting and learning starts with professionals being taught to identify the reasoning they do use, to see inconsistencies in their practice because of the misalignment between espoused theories and theories-in-use, and to recognize organizational problems due to Model I theories-in-use in play (e.g., see 1991, p. 106).

Donald Schön (1983, 1987, 1995, 2001) mostly considers professional learning in the form of student-teacher relationships, dialogue, and situations (and teachers are called "coaches" by Schön). Indeed, Schön considers the student-coach relationship both logically and developmentally necessary for achieving any significant learning. The development of the professional, skilled, expert practitioner is primarily the developing of a *reflective practitioner*, and this mainly involves the development of the skill or practice that Schön calls "reflection-in-action" – or "artistry," as he often characterizes it. Regarding artistry he says: "on the alternative epistemology of practice suggested in this book, professional artistry is understood in terms of reflection-in-action, and it plays a central role in the description of professional competence" (1987, p. 35). Thus, developing reflection-in-action and 'artistry' are the general basic tasks of professional learning and development. I turn first to see how Schön describes professional practice, and then to how he sees professional learning, which follows from the nature of practice and the practice situation.

Reflection-in-action as Schön describes it has similar aspects to how Wittgenstein discusses 'understanding' (see **Chapter 3**), and so I find Schön to be one of the more important of the professional learning theorists for my purposes. Reflection-in-action is to be distinguished from reflection-on-action, the latter being *post hoc* thinking about what happened, expressible mainly in statements, descriptions, and explanations. Reflection-in-action, however, is thinking about what to do within the current situation in which one is actively engaged, and manifests itself most immediately in action and not in

[51] I return to something of this same approach in the interest I express in the role of inquiry in professional learning, and thus in the development of professionals' abilities to play these sets of language-games. See **Chapters 4** and **6**.

'thoughts.' In other words, the action *is* the thinking or reflection; we think *in* the doing, the thinking *is* the doing. This is a crucially central piece of the structure of Schön's position. Temporally, reflection-in-action may occur in the (ongoing) present or may be drawn out over time (e.g., even over the course of months – see 1983, p. 62). What is key in reflection-in-action is immediacy: "what distinguishes reflection-in-action from other kinds of reflection is its immediate significance for action" (1987, p. 29).[52] And while its boundaries are not distinct ones, Schön's discussion in his texts directly concerning reflection-in-action do seem to respect that indistinctness. But this is how I think he can be best read, particularly given the way he works through the concrete, detailed examples of professional practice and learning that he considers. In turn, the 'artistry' in practice emerges in instances of professionals 'designing an intervention' in response to the unique circumstances of the practice situations and as result of the 'reflective conversation' between practitioner and situation. In this regard the skilled practitioner deals with the uncertainty and complexity of the practice situation in an "artistic performance" (1983, p. 130), which is bound up with both intuition (e.g., see p. 49) and the virtual (e.g., see p. 157).

The idea of professional artistic performance/practice can appear anomalous if professional practice is understood as the "application of established techniques to recurrent events" (1983, p. 19) rather than a doing "that cannot be reduced to explicit rules and theories … a matter of skill and wisdom" (1983, p. 237). Artistry and reflection-in-action characterize an approach to the activity and learning of professionals that stands in contrast to what Schön calls "Technical Rationality." Technical Rationality takes up a Positivist perspective on the practice situation which leads to a different kind of view of the nature of the professional practitioner, i.e., as embodying something like a deductive-nomological approach to situations, in which covering laws are programmatically applied to circumstances to yield actions/interventions. Technical Rationality is concerned with programmatic approaches which are developed through the application of statistical decision techniques (e.g., see Schön 1983 p. 47).

The need for 'reflective practice' itself is a response to a different understanding of the nature of the practice situation. He calls practice situations or encounters, "indeterminate zones of practice" (1988, p. 69; 1995, p. 237), and these are characterized by uncertainty, uniqueness, and (value-) conflict, as well as by instability. The effect of facing such situations is to focus "attention on the *context* of practice" (1995, p. 241). In the first instance, the professional/expert needs to attend to problem-setting in such

[52] Schön (1983) also characterizes reflection-in-action in terms of what he calls "on-the-spot experimenting" (e.g., p. 147; see also 1987, p. 29, for this connection as well).

circumstances (1988, pp. 65-66), and while this is a necessary condition for (technical) problem solving, it is not itself a technical problem. To begin to frame such situations in full view of their properties of complexity and uncertainty is to enter into the 'swampy lowland of practice' (1988, p. 67; 1983, pp. 42-43).[53] In working within such contexts, Schön's model of professional practice moves away from explicitly rational, instrumental reasoning in the performance of professionals and turns instead toward such things as tacit recognitions, judgments, skillful performances, and artistry. As Cameron (2009) identifies it, "the professional's creative and idiosyncratic response to the unanticipated and perplexing practice problem was the heart and soul of professional practice. … Schön saw professional practice, essentially, as the idiosyncratic activities required by the unique features of practice situations in all their messy, unpredictable uncertainty" (p. 125).

In this regard Schön's idea of the 'reflective conversation' is an important one, both in the case of the practitioner entering into a 'reflective conversation' with the practice situation, where means and end are uncertain and emergent, and in the case also of the student-coach dialogue. There is much that Schön discusses about the practice situation that pertains to how he describes and sketches out the processes of professional learning situations. To some extent, the reflective conversation between practitioner and practice situation mirror the conversation between coach and student (beyond the learning situation with the student being the coach's practice situation).

Schön picks up on Argyris' notion of "theories-in-use," which in their application guide how people do in fact interact. These pictures are particularly important as they can lead to such problems as "learning binds" (e.g., see 1987, pp. 125-137, 166-168), which involve deterioration of the relationship between coach and student, leading to fruitless and unproductive learning relationships, processes, and outcomes and to less optimal outcomes in actual professional practice (e.g., see 1983, pp. 204-235). Schön argues that the working relationship between student and coach, the attitude of each to the other and to the process and to the uncertainty embedded in it, is crucial. Schön speaks of the "career of the dialogue" (1987, p. 169) between coach and student as emerging from this relationship and as the vital operative element in professional learning.[54]

[53] Schön (1983) also characterizes the 'swampy lowland' of practice as "where situations are confusing "messes" incapable of technical solution" (p. 42). (See also Schön, 1995, p. 233, for this characterization.)

[54] All of this resonates with the ideas discussed by Bakhurst (2016) that concern dialogue and 'conversation', 'different voices,' and the education and development of individuals and communities. I will return later to briefly discuss Bakhurst's ideas in this regard.

In terms of professional learning and the need for coaching, Schön (1987) says that "the student cannot be *taught* what he needs to know, but he can be *coached*" (p. 17). That is, the learning situation is an active, generative one for both parties in the learning relationship. For Schön the idea of concept or knowledge transfer is not salient in professional learning: the coach shows, corrects, encourages, suggests alternatives; the student follows, repeats, tries to project in direct response to the coach's showings and urgings and questions, and tries to go on with what the coach has shown or said. What is important in this process is the skillful and sensitively-responsive intervention of the coach, who is ideally a professional practitioner themselves. A student not able to break free on their own from their way of framing some problem will need the coach's carefully disruptive intervention in suggesting or showing a new way to go on with the problem. The relationship between student and coach needs be a vital one in learning; influenced by the particular interpersonal pictures (i.e., the theories-in-use) held by each, these influence the 'career of the dialogue' and the possibility for breakthroughs.

Inquiry is important for Schön, in a two-fold sense: first, inquiry in the reflective practitioner's professional work, i.e., asking questions of the situation as part of the reflective conversation with the practice situation, and, second, inquiry in the training of reflective practitioners, i.e., the coach's skillful question-asking which leads the student to mastery of the practice. Schön makes an important insight about inquiry and the nature of the learning dialogue between coach and student, viz., that dialogue and inquiry begins in the situation in which "the coach may frame a question that directs the student's attention to a new aspect of the design situation. … His question may advance an idea the student has not yet entertained. … *The coach may pick up the exact words a student uses to describe her intention – developing them, however, in a direction different from the one she had in mind*" (1987, p. 106 – emphasis mine). This sensitive responsiveness of the coach to the student's performance is crucially important. How the student talks reflects how they see the situation – it *is* how they see the situation – and their capacity for relevant reflection-in-action goes no further than this. Thus it is important to get the student to perform in the course of the learning process, to say or do anything in the context of the practice in question. This is precisely the (always ongoing) place for the coach to begin, and guides how the coach themself judges how to go on with a particular student in the process of teaching/learning.[55]

[55] Note that the coach's intervention in the specific context of the student's actual doing, in conjunction with the coach's educational question-asking (see above – and Schön, 1987, p. 106), also creates the space for the student to take on the practice of inquiry as well. This will become more pertinent in light of comments I make in later chapters of this thesis.

The above comments also reflect on the emergence of what Schön calls the "learning predicament," which he frames as a restatement of the learning paradox from Plato's dialogue, the *Meno*, i.e., that one already has to know that which one is trying to learn. Certainly this learning predicament is relevant to such phenomena as the student's 'being stuck' or being able to take on board new ways of seeing and doing things. This predicament finds its resolution, when it does, through the coach's skillful and inquiry-based engagement with the student and through the student's own doing. The student as novice must be led into – and trained into – the practice of the discipline, by context-sensitive coaching work. All of this has connections with Schön's notion of learning to 'see aspects' of the practice situation and to his notion of 'learning by doing.' He says that the coach "helps his student to learn to recognize design qualities by guiding her through a particular kind of learning by doing," and the student "learns to recognize a [new aspect] in the same process by which she learns to produce it" (1987, p. 160). (I discuss further this version of the 'paradox of learning' in **Chapter 4**.)

Doing and dialogue are, for Schön, general principles for all of professional learning:

> … learning *all* forms of professional artistry depends … on conditions similar to those created in the studios and conservatories: freedom to learn by doing in a setting relatively low in risk, with access to coaches who initiate students into the "traditions of the calling" and help them, by "the right kind of telling," to see on their own behalf and in their own way what they need most to see. (1987, p. 17)

This notion of learning through doing and dialogue with the coach is an important one for Schön in training the student in the knowing-how of reflection-in-action. For example, he says:

> Whatever the coach may choose to say, it is important that he say it, for the most part, in the context of the student's *doing*. He must talk to the student while she is in the midst of a task (and perhaps stuck in it), or is about to begin a new task, or thinks back on a task she has just completed, or rehearses in imagination a task she may perform in the future. (1987, p. 102)

In other words, this is training in thinking as doing. A basic sequence for professional learning might proceed in this way (e.g., see 1983, pp. 130-133): the student struggles with a problem, and the coach indirectly criticizes the way the student has framed the problem and helps the student reframe it. The coach in dialogue with the student begins to draw out implications of this new way of framing the

problem through experimenting with the reframed problem (i.e., "reflection-in-action is a kind of experimenting," 1983, p. 132). The coach by their performance leads the student into reflective conversation with the practice situation, helping the student to see new ways to explore the problem and different aspects to exploit in getting the practice situation to fit the reframing of it. As the situation "talks back" to both practitioners, new and unintended features and aspects become apparent, which can lead to further attempts by both to reframe the situation: "The process spirals through stages of appreciation, action, and re-appreciation. The unique and uncertain situation comes to be understood through the attempt to change it, and changed through the attempt to understand it" (p. 132).

This dialogue between coach and student is part of what Schön calls a (virtuous) "learning circle," involving the professional practice itself and the practice of reflection-in-action, each kind of practice feeding the other (and thus the 'circle' – e.g., see, 1987, p. 164).[56] The learning circle begins with the coach providing some initial instruction or demonstration and the student responding in some way. The student responding here in some way is critical, insofar as it is going to be used to set up the possibility for feedback and engagement with the coach: "So the stage is set for a continuing dialogue of actions and words, of reciprocal reflection in and on action" (p. 166). To sum up, the student's learning depends "on the career of his dialogue with the coach" (p. 169), and the nature of this dialogue dependent on the relationship between coach and student ("the communicative work of the dialogue … depends not only on the ability of coach and student to play their parts but on their willingness to do so," p. 166). This learning process is one in which the dialogue between student and coach is a matter of performance (i.e., action, doing) and correction, encouragement, expansion, and further doing. Importantly, the student must come to understand that this process is one "in which imperfect actions are continually modified through reflection-in-action" (1987, p. 291).

Carl Bereiter and Marlene Scardamalia (1993) reject the acquisitive approach of expertise development taken by thinkers like Dreyfus & Dreyfus and Eraut. Their work can be viewed as more strongly linked to the work of Schön and Argyris in terms of their respective emphases on inquiry. Bereiter and Scardamalia write that expertise is a process – the process of asking questions and setting out and dealing with problems – and that the notion of expertise characterizes a career, rather than being a

[56] Schön at times does seem to come close to giving a situative reading of reflective practice in his discussion of professional learning. He says: "When someone learns a practice, he is initiated into the traditions of a community of practitioners and the practice work they inhabit. He learns their conventions, constraints, languages, and appreciative systems, their repertoire of exemplars, systematic knowledge, and patterns of knowing-in-action" (1987, p. 37).

state. For Bereiter and Scardamalia, learning is integral to being an expert (i.e., a professional). It is this processual feature that differentiates the expert from the 'experienced non-expert,' which distinction is Bereiter and Scardamalia's main concern (i.e., as separate from the question of what differentiates the expert from the novice).[57] They say,

> The career of the expert is one of progressively advancing on the problems constituting a field of work, whereas the career of the nonexpert is one of gradually constricting the field of work so that it more closely conforms to the routines the nonexpert is prepared to execute. (p. 11)[58]

For Bereiter and Scardamalia, expertise is constituted of three main features: (1) reinvestment in learning; (2) seeking out more difficult problems; and (3) tackling more complex representations of recurrent problems (pp. 93-95). Experts, then, are those who continually reinvest in progressive problem solving that strain their limits of competence.[59] To be an expert (or professional) is, in essence, to be engaged in the process of learning.

Experts often work within expert sub-cultures (i.e., 'second-order environments'), in which support, challenge, and expectation is generated. For example, participating experts adapt to the changing achievements of such sub-cultures, changes which "keep raising the ante, by setting a higher standard of performance, by reformulating problems at more complex levels, or by increasing the amount of knowledge that is presupposed" (p. 106). However, as Bereiter and Scardamalia describe it, this communal aspect of professional learning is more a matter of adaptation to change in environment rather than anything more communitarian or situative in spirit or practice. (See Lave & Wenger, 1991, for a strong contrasting view in this regard.) Bereiter and Scardamalia, at least in their 1993, characterize expertise as more an individualistic phenomenon than emerging itself from the collective (as, for instance, as a feature of the collective).

Similar to Schön, Bereiter and Scardamalia say that "the process of expertise … is an inherently creative process" (p. 123). To support this important creativity – which is just part of what it means to reinvest mental resources into progressive problem solving – the authors encourage organizations to find ways to encourage the existence and operation of these 'second-order environments' (i.e., expert sub-

[57] As Bereiter and Scardamalia (1993) state, "the problem is how to ensure that novices develop into experts rather than into experienced non-experts" (p. 18).
[58] The authors also call this 'reinvestment' in progressive problem solving "the process of expertise" (1993, p. 82).
[59] Another formulation of 'expertise' is given as "a process of progressive problem solving and advancement beyond present limits of competence" (1993, p. 199).

cultures) and to minimize or replace those environments which "encourage the reduction of everything to routine" (pp. 123, 145). Connected to the ongoing process of creative expertise is the notion that experts develop a 'knowledge of promisingness' (e.g., see p. 125). This notion is introduced in the context of a discussion about the nature of "real-world problems" (p. 132), which has clear overtones of Schön's notion of the 'swampy lowlands of practice'. In this regard Bereiter and Scardamalia say that,

> Creative experts are distinguished by their ability to identify promising constraints, which offer promising paths of action. They are able to do this by having built up a large body of informal and impressionistic knowledge about promisingness within their domains. (p. 152)

The last chapters of Bereiter and Scardamalia (1993) see the authors gradually develop notions of 'knowledge-building' and 'knowledge-building communities', which have been the focus of much of their more recent work (e.g., see their Institute for Knowledge and Innovation and Technology (IKIT)[60]). This is a move more indicative of the importance of the communal process of expertise, i.e., it recognizes that participation in a "progressive knowledge-building discourse" is "to be initiated into an ongoing discourse [and] is to begin learning how to function as an expert in the domain of that discourse" (p. 208). Indeed, these communally-oriented knowledge-building approaches are seen by Beretier and Scardamalia as the principal model for education and learning (e.g., see Scardamalia, 2004, for a study of IKIT's online discussion forum 'Knowledge Forum').

Like Bereiter and Scardamalia (1993), Jean Clandinin and Michael Connelly (1995, 1996; Connelly *et al*, 1997) make the general point that "we want to think about professional life as an *educational life*, not in the sense of this life being part of the profession of education but, rather, that being a professional has educational qualities" (1995, p. 153, emphasis mine). The crux of the position that Clandinin and Connelly work out is that knowledge and understanding are narrative matters, i.e., what we know is embedded and embodied in the stories we develop and tell: "our best understanding of teacher knowledge is a narrative one" (1995, p. 12).[61] They hold that learning is a process in which we form, tell, and re-tell stories, to ourselves and others, and in the telling and re-telling in more-or-less reflective circumstances, those stories change. Thus, assuming new stories and committing to change in old

[60] See http://ikit.org/index.html.

[61] Clandinin and Connelly do not make clear what 'narrative' includes and excludes. However, narratives are usually contrasted with such things as chronicles, compendia, lists, etc.; and, conversely, a case can be made that *theories* can be considered as narratives. But perhaps the principal distinction Clandinin and Connelly want is between narratives and 'information,' the latter lacking the essential weave that stories and narrated lived experience have.

stories *is* learning. Of course, simple 'change of story' can be 'progressive' learning or can be, on the other hand, some species of an adverse learning development. For example, in Clandinin and Connelly (1995), one of the educators contributing to that volume describes competing stories of professional development circulating among staff at one school, and how one officially-sanctioned story wins out over another new and purportedly 'better' story being developed and circulated by this educator and a colleague.[62] Here a change in narrative is not a change (or learning) for the better (see pp. 114-117). There does seem to be in this regard an implicit moral narrative running throughout Clandinin and Connelly's work, i.e., such as informs determination of 'better' narratives and 'positive' changes.

Assuming that Clandinin and Connelly's position is roughly generalizable across most professions, their main concern is to make plain the nature and optimal conditions of teacher/professional learning and knowing. Mostly working within large, hierarchized, bureaucratic structures, teachers are seen by Clandinin and Connelly as professionals operating in several different 'landscapes', employing different kinds of stories in accord with the particular landscape and its demands/scope of freedom. Teachers exist on a professional landscape and a personal landscape; the personal landscape and the professional knowledge landscape are "each understood in terms of personal and social narratives of experience," each of these landscapes "weav[ing] a matrix of storied influence over one another" (1995, p. 27). (It is interesting that this point about the holism of practical/professional knowledge and personal knowledge is also reached by Eraut, though from quite a different perspective.) Within the professional landscape exists the professional knowledge landscape, and the professional knowledge landscape for teachers consists of in-classroom and out-of-classroom places. The professional landscape for teachers – and the professional knowledge landscape within it – is typically dominated by what Clandinin and Connelly call the "conduit", which is the authoritative source of 'learning', 'knowledge', and professional conduct in the form of the transmission through bureaucratic, hierarchical channels of prescriptive information (see, for example, 1996, p. 25, for a concise description of the 'conduit').[63]

Clandinin and Connelly identify three kinds of narratives operative in teachers' lives. First, they call the stories to be learned and followed that emerge from the conduit "sacred stories," and the most important of these for teachers is the "sacred theory-practice story." Sacred stories contain two main

[62] How one narrative 'wins out' over other narratives is an important and complicated issue. For some insight into the matter, Callon (1986), Latour & Woolgar (1979/1986), and Latour (1987), amongst many others in several fields, provide useful examples and analysis of this.

[63] Another embodiment of the 'conduit' is the professional school system in which pre-service teachers are trained and established teachers gain new credentials. In these institutional places, the practice of teaching "is thought to be practicing the various levels of theory experienced in the conduit" (1995, p. 69).

assumptions: (i) that teachers have incomplete knowledge, and (ii) that teachers "are not knowers who can teach one another; they are learners to be taught by experts" (1995, p. 126). Clandinin and Connelly describe theory that emerges from the conduit, which is prescribed for teacher consumption and implementation, as stories removed from their socio-historical contexts of inquiry and stripped of most of their meaning.[64] Such sacred stories have been reduced to "codified outcomes of inquiry" (1995, p. 7) or to a "rhetoric of conclusions" (1995, p. 9). On the other hand, the stories that emerge from in-classroom spaces are "secret stories", i.e., lived stories of classroom practice (see 1995, p. 13; 1996, p. 25). Whether secret stories need only be connected to in-classroom spaces is unclear: Clandinin and Connelly also associate 'secret stories' with "real talk", that is, "talk about things that actually happened and things that actually mattered in the day-to-day life on both places on the professional knowledge landscape" (1995, p. 127). But the main point is that the concreteness of secret stories is to be contrasted with the 'rhetoric of conclusions' and abstraction characteristic of the material delivered by the conduit: "The language of the conduit permeates the out-of-classroom landscape. This is not a language of story, it is a language of abstraction" (1995, p. 14). (Incidentally, these distinctions between the kinds of stories bring to mind Schön's distinction between 'technical rationality' and professional reflective/artistic practice.) Finally, the stories that teachers live and tell to others in potentially risky, conduit-influenced, out-of-classroom spaces are called "cover stories", i.e., fabricated stories that are consistent with conduit demands and that help protect the professional lives of teachers.

The real work of professional learning happens through the secret stories, which are particular, descriptive and evaluative stories built out of, among other things, in-classroom experience (the other things being, for example, 'theory-stories' taken on in professional training, and 'mythic-stories' taken on in teachers' own school careers). In part expressions and descriptions of problems, puzzles, anomalies, etc., secret stories can be the stories which guide teacher practice in the classroom (i.e., stories teachers actually do tell themselves and live by). Secret stories are told in out-of-classroom places, and in the reflective telling and re-telling, those secret stories, problematic in nature or not, have the potential to evolve into stories that help guide practice in the classroom. Despite their suspicion of theory-practice stories, it may still be the case that Clandinin and Connelly are not entirely discounting the positive role of such stories, which indeed may turn out to be part of the dialogue involved in reflective telling and re-telling of a particular secret story. This does seem to be Clandinin and Connelly's

[64] For example, see Mischler (1979); the sense of 'meaning' employed here in Mischler's article and by Clandinin and Connelley is at least in part importantly different from the linguistic or semantic sense which is my main concern in this thesis project.

position at different points in their work (i.e., the integration of theory into teachers' secret stories and their 'personal practical knowledge' – see in this regard Connelly *et al*'s 1997 narrative analysis of the storied professional life on one teacher). This is important if professional learning is to move from 'mere' sharing to genuine, fruitful dialogue. Categorizing theory-practice stories as 'sacred', i.e., as being limited to the conduit and so conducive to only one type of learning situation, pushes Clandinin and Connelly to consider the sharing (i.e., the reflective telling and re-telling) of secret stories in 'safe places' as the only means or process of genuine learning. At the same time, their concerns with theory-practice stories have principally to do with the manner in which the conduit allows teachers to engage with this material (i.e., through what they call "cultivation"), which leaves open the possibility for their productive, positive inclusion in professional learning.

Grounding Clandinin and Connelly's approach is what they identify as "basic human desires" (1995, p. 163): the desire to tell stories, the desire to retell stories, and the desire for relationship with others. One part of their argument, then, is that, given the basic nature of these desires, they cannot be denied and should be the basis upon which professional learning happens. If having and telling and living by stories is how we know, and the desire to tell stories is a basic human feature, then this has important implications. The upshot of Clandinin and Connelly's argument is that, not only will policy and theory be of little use if it does not match up with the lived and narrated experience of the professionals in question, but forced engagement with it will be disrespectful of the teacher's professionalism and expertise, and thus on that basis be quite counterproductive. In this vein, Fenwick (2004) provides a useful caution from a different perspective, one asserting the importance of this communal aspect of professional life and learning: "Lifelong learning appears to become an individualistic enterprise, its purpose to consume skills even as it turns teaching into an endless human resource development project … this focus threatens the solidarity and collective nature of teaching that grounds learning in ideals of equity and participatory democracy" (p. 263).[65]

Jean Lave and Etienne Wenger (1991) set out an importantly different kind of approach than those canvassed in this chapter, viz., what can be called the "situative approach". In Lave and Wenger's work we see a more radical approach to the issues of meaning, knowledge, and learning, one which stands very much apart from the cognitivist tradition; it does tie in strongly, however, with the positions of Argyris, Schön, Bereiter & Scardamalia, and Clandinin & Connelly – and in a different way even with

[65] I return to the kind of issues Fenwick points out here, in my brief discussion in **Chapter 4** of the political aspects or implications of the picture of professional learning I draw through my application of Wittgenstein's picture of language and meaning.

Eraut, in particular with his emphasis on process and relationships. In brief, for Lave and Wenger the fundamental character of knowledge and learning are their relational aspects, that is, they are constituted in the first instance by social activity.[66] Lave and Wenger's (1991) position grows out of the more Marxist-oriented sociological work principally by Lave (e.g., 1988) and continues on in different ways in work conducted by both (e.g., Lave, 1993, and Wenger, 1998).

The construct they develop, 'legitimate peripheral participation', is an analytical perspective, and "is not itself an educational form, much less a pedagogical strategy or a teaching technique. It is … a way of understanding learning" (1991, p. 40). This finds reverberations in Wittgenstein's thought, insofar as (linguistic) meaning can only emerge, or be made sense of, in socio-cultural contexts (e.g., in 'forms of life,' as Wittgenstein puts it). As Lave and Wenger (1991) describe, "activities, tasks, functions, and understandings do not exist in isolation: they are part of broader systems of relations in which they have meaning" (p. 53), viz., meaning *is* sets of relations with broader systems of relations. Learning, then, "is not merely a condition for membership [in a particular community of practice], but is itself an evolving form of membership" (p. 53). In other words, one doesn't learn first in order to join a community of practice (though one would do so in order to join a professional association); the process of learning *is* the process of joining and moving within the community of practice, i.e., becoming a participant in the community moving in from the periphery of practice. Foreshadowing Wittgenstein again here, learning is being able to do more and more of what the other members of the community can do and would sanction, especially as these activities are performed and modelled by the adepts in the community. Learning is increasingly knowing how to go on in the ways the community can go on.[67]

In this Lave and Wenger explicitly pull away from the notion promoted by Schön concerning learning as deriving primarily from the master/coach-student relationship (and, in part at least, from the more

[66] To make this point a little more explicit, knowledge and learning are not constituted through social activity, but rather they *are* a kind of social activity, with emphasis on the temporal dimension (e.g., "conceiving of learning in terms of participation focuses attention on ways in which it is an evolving, continuously renewed set of relations," 1991, pp. 49-50). This is a strong identity thesis being worked out in Lave and Wenger which has powerful implications for epistemology and for pedagogy. To emphasize the latter point, Lave and Wenger say, "learning is not merely situated in practice – as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in world" (p. 35). Later, in the context of their discussion about the historicizing of the processes of learning, they say, "this view [i.e., the relational view] also claims that learning, thinking, and knowing *are* relations among people in activity in, with, and arising from the socially and culturally structured world" (p. 51, emphasis mine). I again put the emphasis on the "are" in this statement, to highlight the identity relationships between these terms.

[67] As Lave (1993) says, "… there is no such thing as "learning" *sui generis*, but only changing participation in the culturally designed settings of everyday life. Or, to put it the other way around, participation in everyday life may be thought of as a process of changing understanding in practice, that is, as learning" (pp. 5-6).

individualist approach to professional learning sketched out by Bereiter and Scardamalia). They say that "rather than a teacher/learner dyad, this [e.g., the evolving membership in a community] points to a richly diversified field of essential actors and, with it, other forms of relationships of participation" (1991, p. 56).[68] This 'decentering' of the master-student relationship is important, emphasizing that it is how a community organizes itself, both in general but specifically with regard to its learning resources, that is the context of any learning. The focus thus is shifted away from teaching and the view of the "master as pedagogue" and onto the notion of movement within "the intricate structuring of a community's learning resources" (p. 94).

As indicated, this situative approach has powerful epistemological implications as well. Lave and Wenger say that a community of practice "is an *intrinsic* condition for the existence of knowledge" (1991, p. 98, emphasis mine), and that "knowing is *inherent* in the growth and transformation of identities and it is located in relations among practitioners, their practice, the artifacts of that practice, and the social organization and political economy of communities of practice" (p. 122, emphasis mine). Thus, epistemic features are practice features, i.e., they have intrinsically to do with activity, performance, and relationships within a specific community of practice. Learning, then, i.e., coming to know or understand, is a matter of continual "centripetal participation" (p. 100) in the community, and further, that since "the place of knowledge is within a community of practice, questions of learning must be addressed within the developmental cycles of that community" (p. 100). As in ecological dynamic system models, here as well there is flux, change, and evolution in the identities of learner and master, and thus so too in the community of practice itself. These more global changes happen not only as new masters emerge to replace old masters, but also as movement in from the periphery by new practitioners comes to represent shifts in the nature of the practices constitutive of the community in question. Change and evolution of the community of practice does not so much mirror change in knowledge as constitute it.

Finally, there is a large and rapidly growing literature concerned with 'knowledge mobilization' and 'research utilization,' particularly emerging from the health sciences. The important and influential work of Sandra Nutley and her colleagues (Nutley *et al*, 2007; Nutley *et al*, 2009) largely focuses on linear models of the dissemination, reception and pick-up, and use in practice of research, with important gestures towards more complex and interactive models of knowledge building in non-research

[68] Lave & Wenger (1991) say as well in this vein that, "apprenticeship opportunities for learning are, more often than not, given structure by work practices instead of by strongly asymmetrical master-apprentice relations" (p. 93).

organizations (e.g., see Nutley *et al*, 2008, and Davies *et al*, 2008, which examine the interactional perspective on building research-informed practice).[69] While Nutley *et al* (2007) tend to frame their discussion in terms of old, 'Newtonian' metaphors (e.g., 'assessing impacts'), all the same they make genuine efforts to break free of those limited perspectives in favour of complexity, networks, interaction, and contexts. However, for my own purposes and interests, the (soon to be) seminal work of John Gabbay and Andrée le May (2004, 2011) is of considerably more direct salience regarding professional learning and development. In keeping with the research utilization field, they articulate their main research interest in terms of the "successful implementation of research evidence" (2004, p. 1), and set out their research aim in this study as "the ways in which primary care practitioners … use evidence in their day to day decisions about the management of patients, both at an individual level … and in their collective discussions about best practice … and how these interact" (p. 1).[70] They go on to consider as important the distinction between explicit research knowledge that is codified in formal ways (e.g., in practice guidelines, text books) and practitioners' tacit knowledge or "knowledge in practice" (p.1). Developing relevant tacit knowledge in practitioners turns out to be their primary interest; explicit knowledge is secondary in the sense that it is one part of what is necessary to develop current, robust tacit knowledge.

The form in which knowledge gets into practice across organizations and environments is through what Gabbay and le May call "mindlines." The authors emphasize that the development of 'mindlines' is primarily through a range of different kinds of relationships and interactions, with little of that development due to engaging with codified research documents (e.g., guidelines). 'Mindlines' are:

> Collectively reinforced, internalised tacit guidelines which [are] informed by brief reading, but mainly through [practitioners'] interactions with each other and with opinion leaders, patients,

[69] See as well the important work by Knott & Wildavsky (1980) and Rich (1997), who set out a linear process model of information/research utilization. This model has proved to be influential in the knowledge mobilization communities and research literature (e.g., see the equally important work done by Landry *et al*, 2003, which explicitly takes up this process model).

[70] They also discuss their development of a theoretical model in terms of "the ways in which evidence and information became built into clinical or policy decisions" (2004, p. 2). Again, as noted earlier in this chapter, it is important to recognize that this is the way that professional learning is explored from the perspective of research use/utilization, despite the *prima facie* appearance of a different kind of discussion happening in this literature. The explicit concern in this part of the literature, especially as it pertains to the health sciences sector, is principally about determining how (quality) research and research findings do and can (and might better) influence practice in the various health care professions. Despite emphasizing *how* 'research' or 'knowledge' gets taken up and used by practitioners and practitioner groups, policy makers, etc., this is still in my view largely about professional learning.

> and pharmaceutical representatives and by other sources of largely tacit knowledge that built on their early training and their own and their colleagues' experience. (2004, p. 3)

The key to professional learning, then, is the ongoing development of practitioners' mindlines, which Gabbay and le May argue is largely done through the varied interactions within practitioners' networks. Thus they say that mindlines are "iteratively negotiated with a variety of key actors, often through a range of informal interactions in fluid communities of practice, interactions with and experience of patients, and practice meetings. The result [is] day to day practice based on socially constituted knowledge" (2004, p. 3). Much of this fits with at least some of what both Eraut and Bereiter & Scardamalia discussed, for instance, though I hesitate to push a claim of kinship here with Lave and Wenger's more radical notion of 'communities of practice,' despite some surface similarity. Gabbay and le May emphasize that expertise is not so much mastery of content as rather a relationship-intensive process. Gabbay and le May say "the real skill of the practitioner [is] that of learning reliably from the knowledge of trusted sources either individually or through working in a community of practice" (2004, p. 4).

On the basis of how mindlines develop and the vital role that personal interaction within networks of colleagues, patients, and especially opinion leaders has on this development, Gabbay and le May suggest targeting the education of key opinion leaders as a professional learning strategy that responds to the actual nature of practitioners' working environments. They suggest, for example, that the training of opinion leaders in critical appraisal of research would result in improvement in the 'implementation of research evidence.' They conclude, thus, that the responsibility to ensure proper (i.e., evidence-based) development of mindlines need be a collective professional one, and that quality networking must be supported as part of professional learning and development.

2.3 Some concluding thoughts about the field

So where does this lead me? I remark first that there is much here that is insightful and valuable in this literature, and that the work of Schön and Lave & Wenger is particularly salient for my own purposes. It is something as well to note how many well-cited studies take up in one way or another a cognitivist stance in exploring and discussing professional practice, understanding, and learning. One of the things that most impresses me in some of these thinkers' work is the effort and attention devoted to looking at how the learners (professional or otherwise) themselves talk in contexts of practice and learning. One sees this most strongly in Schön, Clandinin & Connelly, and Gabbay & le May. But perhaps the most

important feature of this literature is the emphasis on various forms and degrees of *relationship* as forming the core of professional learning. This in a different way is at the center of Wittgenstein's picture of language and meaning, and it is a piece of the puzzle that bears much emphasis.

In the end, however, I find that this important work goes only so far to support my own interests to find a satisfyingly grounding way (if I can put it like that) to talk about professional learning. My review of the literature thus helps motivate my own turn to Wittgenstein to look for such a way in the picture of language and meaning that he sketches. The field is open to experimentation with a different kind of approach to framing talk about professional learning, i.e., one that considers such talk from the perspective of theories and pictures of language and meaning. It is not an approach attempted by any of the theorists covered in this brief review of the literature, and certainly no one has ventured such an investigation taking up Wittgenstein's picture of language and meaning (though Schön does make use of some of Wittgenstein's insights in his work – e.g., see 1987, pp. 106, 165).[71] All the same, given the kinds of direction I will draw in considering Wittgenstein's picture of language and meaning (see the next chapters), there is much for me to take away from all these investigative efforts here.

[71] Trisha Greenhalgh has also taken up Wittgenstein in some of her recent work having to do with professional learning, though this in the guise of discussions about 'knowledge translation' (Greenhalgh & Wieringa, 2011) and about policy-makers learning from history (Greenhalgh *et al*, 2011).

Chapter Three

Wittgenstein – Language, Meaning, and Learning

3.1 Preamble

In this chapter I first work to present a clear representation of the picture of language and meaning drawn by Wittgenstein (**Section 3.1**). My intention in this section is to start with a discussion about Wittgenstein's view of language and meaning and then to move progressively to material more and more pertinent to sketching a picture of professional learning. As I have stated in **Chapter 1**, my view of Wittgenstein's picture of language and meaning emphasizes the notion of the *language-game*, and so from *that* perspective I highlight the part of the picture that is about active move-making as constitutive of meaning. In the continuing development of my thought, this particular perspective afforded on the one picture is what I principally carry over into the picture of professional learning I work to sketch out. In the second part of this chapter (i.e., **Section 3.2**), I briefly review some of the literature in the philosophy of education that finds some basis in Wittgenstein's ideas. The main purpose of this review is to set out what has been done by others in a Wittgensteinian mode that illuminates professional learning. My main finding is that little has been done in this regard, and that what has been done, intriguing as it is, carries me little distance in meeting the needs and interests expressed in **Chapter 1** such as would further my own views on professional learning. My conclusion from this is that there is indeed space for the consideration of professional learning from the view given us of language and meaning by Wittgenstein.

3.2 Wittgenstein's picture of language and meaning: Language-games, grammar, and rules

Let me begin here with a few words about the publication of Wittgenstein's thought. Wittgenstein's 'early work' is generally considered to be his *Tractatus Logico-Philosophicus* (1921), the only book by Wittgenstein published in his lifetime. He left academic philosophy during most of the 1920's to work as a school teacher in Austria, until his return to Cambridge in 1929. His return to philosophy was marked first by an attempt to respond to problems posed to his thinking in the *Tractatus*, in particular problems about how to talk about so-called "atomic propositions," particularly concerning the independence and 'mutual exclusion' of such fundamental elements. This resulted in a short paper, "Some remarks on logical form," published in 1929 in the journal, *Proceedings of the Aristotelian Society*. However, Wittgenstein remained unsatisfied with the Tractarian approach he had developed and broke away from

the lines of thought charted out in the early years of his life. (Norman Malcolm (1966) gives a good picture of Wittgenstein's struggles concerning his Tractarian ideas.)

While there were a number of works of different kinds that appeared after 1930 (some of which I have found to be important to my own work), it is principally the ideas expressed in the *Philosophical Investigations* (1953) that comprise Wittgenstein's 'later work' or 'late-Wittgenstein.'[72] Various other books that have been published belong to this period of his opus as well, such as *Remarks on the Foundation of Mathematics* (1967), *Remarks on the Philosophy of Psychology* (1980), *On Certainty* (1969), and so on. Wittgenstein died in the Spring of 1951, and so all of this 'later work' was published posthumously. Much of it was in the form of manuscripts he was working on (such as *On Certainty*), or are compilations by his literary executors/administrators of notes that he had made (e.g., *Zettel*, 1981; *Culture and Value*, 1980), or are lecture notes, etc. The authoritative biography of Wittgenstein is Monk (1990), which contains an appendix of all of Wittgenstein's published work.

My thesis works almost exclusively with the ideas of the 'later' Wittgenstein, in particular with how he develops and applies a picture of language and meaning. So far in this thesis I have set the context to Wittgenstein's thought (and to my own project) in terms of representationalism, cognitivism, and the Fregean theory of language. To set further the context to that picture of language and meaning, I will outline very briefly something of Wittgenstein's Tractarian position, to which the work of the later Wittgenstein stands in contrast and as response. In the *Tractatus* Wittgenstein develops a theoretical position very much in line with the onto-logic tradition stretching back to Plato and Aristotle. The onto-logic framework holds that there is a determinate, stable, self-identical world or reality with fixed structure that is independent of minded perceivers and language-speakers. Truth in the onto-logic tradition is set out in terms of a kind of sameness between what we say of the world and how the world actually is. As Aristotle states, "A falsity is a statement of that which is that it is not, or of that which is not that it is; and a truth is a statement of that which is that it is, or of that which is not that it is not"

[72] For example, there have been assembled from notes, lectures, drafts, and various writings what are considered to be transitional works of a sort, resulting in such documents as *Philosophical Remarks* (1975 – which was a manuscript written by Wittgenstein over the course of 1929-early-1930, and given to Bertrand Russell), *Philosophical Grammar* (1974 – a manuscript written over the course of 1931-1934), and various of his lectures at Cambridge over the course of the early- to mid-1930's (probably the most important of which are notes taken by two of his students, Alice Ambrose and Margaret Macdonald, and published as *Wittgenstein's Lectures: Cambridge. 1932-1935*), and *The Blue and Brown Books* (1975 – lecture notes or notes dictated to students at Cambridge). All of this work is taken to lead up to his most famous book, *Philosophical Investigations* (1953 – published posthumously, and comprised of two parts; Part I was completed by 1945, and Part II was written over 1946-1949). I myself find much of the mature Wittgenstein's thought already appearing in these early 'late-Wittgenstein' texts.

(*Metaphysics*, Book Γ, 1011b25-28). Aristotle argues that the correspondence of *form* in thought/statement and thing is what makes for truth and falsity. Hence the issue of commensurability, that there is something the same between thought (and language) and the world, characterizes part of the onto-logic programmatic from the start.

In the *Tractatus* Wittgenstein continues to wrestle with this same problem concerning 'the harmony of thought and the world,' as he puts it in later work (e.g., see PG §§95, 112-113; see also PI §429; Z §§55-60). The *Tractatus* is thus a thoroughgoing exploration of how truth in signs is possible, and how the being of the world connects to truth. In the *Tractatus* Wittgenstein says that "we make to ourselves pictures of facts" (TLP 2.1) and that "the picture is linked with reality; it reaches up to it" (TLP 2.1511) and that "it [i.e., the picture] is like a scale applied to reality" (TLP 2.1512).[73] For Wittgenstein in the *Tractatus*, it is *logical form* (or 'logical structure' or certain features within 'logical space') that will be what is common between thought/language and reality and which makes possible their 'harmony' and the truth and falsity of statements. In an analogical argument he states:

> The gramophone record, the musical thought, the score, the waves of sound, all stand to one another in that pictorial internal relation, which holds between language and the world. To all of them the logical structure is common. (TLP 4.014)

Developing this onto-logic position, he says, "the proposition communicates to us a state of affairs, therefore it must be *essentially* connected with the state of affairs" (TLP 4.03), that "Reality is compared with the proposition" (TLP 4.05), "Propositions can be true or false only by being pictures of the reality" (TLP 4.06), and, importantly, that "The propositions *show* the logical form of reality. They exhibit it" (TLP 4.121). All of this reflects the spirit of the Aristotelian position, almost its apotheosis. Note as well Wittgenstein's explication in his 1929 paper, regarding his own statement from the *Tractatus* that a proposition 'reaches up to reality' (TLP 2.1511), that "the forms of the entities are contained in the form of the proposition which is about these entities" (p. 169). This underlying 'logical form' that inhabits both world and words is key to Wittgenstein's own version of representationalism in the *Tractatus*.

In contrast to the identification in the *Tractatus* of logical form as what is the 'same' between propositions and reality, Wittgenstein in his later writings rejects such onto-logic commitments. Wittgenstein's turn is away from onto-logy to language and practice: thus Wittgenstein moves from

[73] Note that this latter statement (i.e., TLP 2.1512) is particularly important, as the notion of the function of measurement, the measuring rod, and the standard of measurement play important, subversive roles in discussions in his later work. See, for example, *Philosophical Investigations* §50.

"logic must take care of itself" (TLP 5.473) to "practice has to speak for itself" (OC §139). In other words, Wittgenstein shifted from his Tractarian onto-logic commitments to *grammatical* commitments in his later work (though some of the ideas and approaches of the *Tractatus* still served to shape Wittgenstein's later work). This shift receives explicit formulation by Wittgenstein in remarks such as that "grammar tells what kind of object anything is" (PI §373). In direct contrast to the Tractarian view of propositions (e.g., "a proposition *shows* how things stand *if* it is true. And it says *that* they do so stand." TLP 4.022), Wittgenstein now views propositions (i.e., signs, expressions), as well as the *word* "proposition," in terms of their role and place in language. He says, making specific reference to the *Tractatus*, "one thinks that one is tracing the outline of the thing's nature over and over again, and one is merely tracing round the frame through which we look at it" (PI §114). Wittgenstein continues his assault against the Tractarian view of propositions further on in the *Investigations*: "we call something a proposition when *in our language* we apply the calculus of truth functions to it" (PI §136), and that "what a proposition is is in one sense determined by the rules of sentence formation (in English for example), and in another sense by the use of the sign in the language-game" (PI §136).

As I noted above, Wittgenstein's later, post-1930's thinking about language not only stands in strong contrast to Frege's representationalist understanding of meaning as constituted through 'hidden' theoretical entities (i.e., 'reference,' 'sense,' 'thoughts,' etc.), and to his own Tractarian picture of meaning as committed to the idea of logical form as running 'hidden' beneath linguistic traffic, but stand also as responses to these views. The shift is from logical form to a picture of language based wholly on *how we use signs*. It is the life of signs tied up intimately and inextricably with the rest of our lives (i.e., the two comprising what Wittgenstein calls our "form of life") that becomes the focus of Wittgenstein: language is a practice that "has to speak for itself" (OC §139). The shift, I emphasize, is to a picture of language as activity, and thus a shift from the metaphor of 'having' to the metaphors of 'doing,' 'performing,' and, perhaps, 'moving' (see **Chapter 1**). Wittgenstein gives further specificity to this picture of language as activity by developing in it the picture of *games* – i.e., of *language-games*.[74]

Wittgenstein's methodology is guided by his notion of philosophy as the work of solving problems that emerge from misuses of language; in Gordian knot fashion, philosophy untangles us from the problems

[74] See, for example, Moyal-Sharrock (2016): "Wittgenstein's leitmotif was action. Wittgenstein saw action (or behaviour) as the root, manifestation and transmitter of meaning" (p. 117); Moyal-Sharrock (2010): "One of the important things Wittgenstein said about language is that it has its root in gesture – or, as he has also put it, in 'action'" (p. 292); and Smeyers & Burbules (2008): "Wittgenstein's later work revolved around the idea that human life begins in doing, not in thinking" (p. 185). I discussed the importance of the picture of language-games in **Chapter 1**, and will continue that discussion later in the current chapter.

we make for ourselves, showing us the way out of the intellectual traps (e.g., the "fly bottles," as Wittgenstein sometimes calls them – e.g., PI §309) that we work ourselves into. Philosophy does so by describing what we do, and by making 'perspicuous' our actual use of the relevant words/concepts (e.g., see PI §122). Thus philosophy lays out what we already know in ways that make more clear what was evident or obvious to us – that is why there is no point in philosophy setting out theses 'because everyone would agree with them' (PI §128)– philosophy just is bringing into view what we all of us already do know but have lost sight of (see PI §129). Thus, the '*grammatical investigation*,' as Wittgenstein's basic philosophical method, is in the first instance employed to resolve the philosophical problems which cause so much trouble, and to clear away "the confusions which occupy us" in philosophy (e.g., see PI §§132-133). One part of his careful, though not systematic, look at our use of signs is to consider how we learn how to use signs; that is, returning to and considering how we learn how to use signs is part of obtaining a clear picture or 'overview' (i.e., an *Übersicht*) of the signs we use. The 'scenes of learning and instruction' Wittgenstein describes throughout his works relate directly to the picture of language and meaning he is sketching. These scenes further show that we use signs in language without recourse to hidden entities which are the source of those signs' meaning. That is to say, we learn in the first instance *how* to use signs, i.e., how to do something. Most importantly, we do not, in the first instance, learn how to represent things separate from or independent of the signs we are learning to use. Further, in learning language we do not internalize rules as things, but rather we learn how to do things, i.e., make moves, recognizably so within a frame of rules. Consideration of scenes of learning and instruction is important in terms of developing a picture of learning that does not contain a picture of a gain in possessions (see the first metaphor discussed in **Chapter 1**), but that does contain a picture of increase in know-how, in technique, in ability, all of which are fully manifested in (actual) doing (e.g., see Williams, 1994). Here, again, we are shown a picture of language and meaning which takes *games* as its main, underlying gesture drawing.

It is also important that philosophy for Wittgenstein does not work in the coin of causal explanations – those are the games of physics, chemistry, or psychology, etc. (see **Chapter 1**). One danger in forming theories in philosophy is that we try to push our use of certain words beyond the 'normal' use(s) of those words, to take them out of their "original home" (PI §116) and *mis*-use them (see PI §90), and in doing so form the very 'fly bottles' into which we trap ourselves. A key methodological move by Wittgenstein in his philosophy is the shift from the idea of theory to the approach of 'forming pictures' of matters, i.e., of language and meaning; and the value (and danger) of pictures is in how we apply them. As I noted in **Chapter 1**, this is part of what makes writing with Wittgenstein so difficult – ' to

describe and not explain' – and to use pictures in place of theories.[75] Wittgenstein begins the *Investigations* with an example of just such a picture, saying that what Augustine provides is a picture of words and their meaning (PI §1). Wittgenstein is emphasizing that our use of a picture is quite different from our use of a theory, and that he saw himself only to be 'sketching pictures' of language. Wittgenstein describes his own endeavour in just these terms, in his "Preface" to the *Investigations*:

> The philosophical remarks in this book are, as it were, a number of sketches of landscapes which were made in the course of these long and involved journeyings. / The same or almost the same points were always being approached afresh from different directions, and new sketches made. Very many of these were badly drawn or uncharacteristic, marked by all the defects of a weak draughtsman. And when they were rejected a number of tolerable ones were left, which now had to be arranged and sometimes cut down, so that if you looked at them you could get a picture of the landscape. Thus this book is really only an album. (p. vii)

Pictures in this philosophical context are used to compare, to highlight, to bring out through contrast – pictures have an illustrative, illuminating function rather than an explanatory one (e.g., see PI §§141, 352, 570; Z §§ 245, 638; RFM IV 12ff). And the picture is, indeed, all we have: "it is not so much as if I were comparing the object with the picture set beside it, but as if the object coincided with the picture. So I see only one thing, not two" (PI §605; see also Z §262).[76]

Thus, within language one can propose theories, which comprises whole sets of inter-related language-games that make up a part of our language, i.e., making and proposing theories is one of the activities that we do in language. But one cannot propose causal-explanatory theories about language; *within* language no theories *about* language can be legitimately proposed, grammatically speaking, if they aren't to be 'inept or empty' (see PI §§120, 131). In the end one can only show or display (i.e., describe) a language, but not give explanations or accounts justifying or grounding it – doing these latter things are what language enables us to do. Wittgenstein points out in an extremely important section (i.e., PI

[75] The further difficulty here in learning to write with Wittgenstein concerns my own methodology, viz., how to progress from one picture to another picture without appearing to derive the second picture through a logical inference of some sort, and without appearing to be developing a theory derived from the first picture. In my methodology, one way of talking and viewing something is applied in developing a way of talking and viewing something else, but without change in the parts and organization of the first picture.

[76] Standish (2017) provides the relevant cautionary and instructional note here: "Wittgenstein is avoiding the fantasy that we just make it up as we go along, but he is also weaning us away from the idea that our thought merely traces articulations already inherent in reality" (p. 183).

§50) that a paradigm making commensurability and measurement possible cannot itself be measured. Similarly language makes explanation possible, but cannot itself be explained.

It is interesting that some of the groundwork setting out the logical (i.e., grammatical) impossibility of theorizing about language *qua* language was laid down in the *Tractatus*. A key claim in that earlier work was that language cannot be the object of its own explanatory investigations, but that rather language can only show itself. Wittgenstein delivers a series of points developing this argument in the *Tractatus*, saying: "A picture cannot, however, depict its pictorial form: it displays it" (TLP 2.172), and that "A picture cannot, however, place itself outside its representational form" (TLP 2.174). He continues:

> Propositions cannot represent logical form: it is mirrored in them. / What finds its reflection in language, language cannot represent. / What expresses *itself* in language, *we* cannot express by means of language. / Propositions show the logical form of reality. / They display it. (TLP 4.121)

He concludes by asserting that, "What *can* be shown, *cannot* be said" (TLP 4.1212). These passages from the *Tractatus* resonate with what Wittgenstein says in his later work: "In giving explanations I already have to use language full-blown (not some sort of preparatory, provisional one); this by itself shews that I can adduce *only exterior* facts about language" (PI §120, italics mine). Thus Wittgenstein argues that language shows only itself, and does not show any 'other,' 'deeper' reality beneath or behind it. That we talk about the world is just that we talk about the world. It is the talk that we have, and only the talk that we have to deal with. We don't have things about which we talk; we 'have things' only because we talk about them. What exists behind, beyond, or beneath talk is, by definition, unspeakable, unworded, non-worded. "What we cannot speak about we must pass over in silence" (TLP 7).[77] All of this applies with equal force as well to language as object of talk – there is no deeper reality concerning language itself to which we penetrate when we talk about language. All of this connects importantly to the notion of 'seeing aspects' that Wittgenstein discusses in Part II of the *Investigations*; indeed, this basic idea pervades and orients the whole of this thesis.

[77] The Canadian poet Tim Lilburn (1999) discusses this Wittgensteinian theme in a series of remarkable assays on the topic: "How does one address what falls outside reason's caricatures, that eludes language's efforts to circumscribe, that has no being if being is equal to comprehensibility, espiability of form? Here naming may be nothing more than ovation, or a mark of the assertions and reversals of apophasis, or a slight domestication of being in which we participate in what is beyond us, enjoy a brief contiguity with that uncontainability, like feeding birds in winter" (p. 62). Seeing and being in the world only in and through the signs we use – and the impossibility for us to get around signs – is a picture that both Wittgenstein and Lilburn work to develop.

Thus one is able to see a world, a world of things, only when one has words, a language. As Cavell (1979) has pointed out, "To know how to use the word "anger" is to know what *anger* is. ("The world is my representation")" *(*p. 185); that is, learning the meaning of words is to learn to see more-or-less determinate things. In Wittgenstein's remark: "The *somewhat queer* phenomenon of seeing this way or that surely makes its first appearance when someone recognizes that the optical picture in *one* sense remains the same, while something else, which one might call "conception", may change" (RPP vol. 1 §27), this *telling* phenomenon, which incorporates sameness ("in *one* sense") and change (in aspect), tells us something, i.e., gives us a clue, about words and the world, that we can only have the 'two' (i.e., words and world) together. Without words there are no things; 'what' is perceived without words (e.g., by a non-linguistic animal) is unspeakable; beyond or outside of statements, categories, and concepts, there is in such attempts to speak the unspeakable nothing we can say anything about. Thus, the signs we use and the uses of those signs we master, is how we 'see' things and 'see' a world, in this or that particular way. (""But after all, you must feel it, otherwise you wouldn't know (without looking) how your finger was moving." But "knowing" it only means: being able to describe it" PI, p. 185.)

Considering how Wittgenstein talks about measurement and its possibility in light of his picture of language and meaning may be helpful. It is in the context of a practice that we have things to measure and things that are measurable. Commensurability only emerges in practice; things do not exist having the property of being x units in measure in themselves, but only insofar as a practice of measurement, a contingent artifact of our body of performances, produces such a feature, i.e., those units of measurement and procedures of measurement. Wittgenstein says, "I am trying to say something like this: even if the proved mathematical proposition seems to point to a reality outside itself, still it is only the expression of acceptance of a new measure (or reality)" (RFM III 27).

Let me now begin to set out what Wittgenstein does say in the course of sketching his picture of language. This picture of language and meaning that Wittgenstein draws is composed of the 'parts' (e.g., see PI §526, PG §§115, 121) of grammar, language-games, and rules.[78] By sketching pictures of language

[78] "A picture is perhaps a still-life; but I don't understand one part of it: I cannot see solid objects there, but only patches of colour on the canvas. – Or I see everything as solid but there are objects that I am not acquainted with (they look like implements, but I don't know their use). – Perhaps, however, I am acquainted with the objects, but in another sense do not understand the way they are arranged" (PI §526). Wittgenstein never clearly or explicitly brings together language-games, grammar, and rules into the unity of a single picture (though see Wittgenstein's statement from the 'Preface' to the *Investigations* quoted earlier in this chapter), but I find it useful to think of it this way. Each 'part' may indeed be just one of several sketches drawn of the landscape of language, as per Wittgenstein's preface to the *Investigations*, and which can only in a loose sense be said to assemble together into one, unified picture. At any rate, this is one way to take the picture of things that Wittgenstein offers us. And

that include these parts, Wittgenstein provides a way of looking at and talking about signs and our use of signs, i.e., about language, meaning, and speaking meaningfully. As I have noted in my comments on language-games (i.e., in **Section 1.3**), Wittgenstein insists that we "look on the language-game as the *primary* thing" (PI §656), and this I take as encouragement to view language and meaning and our use of signs emphasizing the perspective of the picture of the language-*game* (Hintikka & Hintikka, 1986, for example, also emphasize language-games in their reading). Language-games depict most directly the *active*, *motile*, or *moving* aspect of language in the picture being sketched. Taking this encouragement seriously means that the picture of move-making in the (normative) context of games becomes central in considering and applying this picture of language (see my discussion of the second metaphor in **Chapter 1**). Wittgenstein says: "Of course, in one sense mathematics is a branch of knowledge, - but still it is also an *activity*. And 'false moves' can only exist as the exception" (PI, p. 227). Comments such as these by Wittgenstein make explicit the nature of language-games as being about activity, and more importantly about move-making. That Wittgenstein talks here about a '*false* move' is interesting – "false" in the sense that it violates the rules of the game, not "false" as in not getting reality right. That this is what Wittgenstein is drawing out in this picture is made clearer in the next line from this paragraph: "For if what we now call by that name became the rule, the game in which they were false moves would have been abrogated" (PI, p. 227).[79]

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again, this picture is not a theory intended to explain in causal terms language or meaning or particular instances of meaning, but is a way to survey the plain of life and language. Further, the ways I do talk about language-games, grammar, and rules are simply different ways to take, or look at, this picture that Wittgenstein sketches. One looks at pictures from different positions, and different ways of looking at a picture prove their usefulness and value in how one is able to go on in applying them, in how they allow one to go on (e.g., see PI §§352, 422-424). Further, as I suggest later, each of these parts of the picture may also profitably be viewed as different views of the same picture.

[79] Obviously there is a long list of passages in Wittgenstein's texts that name, identify, and/or articulate the nature of specific language-games. I will only provide a sampling of them here. In *Zettel*, for example, Wittgenstein identifies different kinds of language-games such as: 'determining how long an impression lasts by means of a stop watch' (Z §82); "the language-game of giving information" (Z §160); the language-games played in uttering, "what is that?" versus "what do you take that for?" (Z §417), the language-game played in uttering, "I am afraid" (Z §489); the different language-games, "Look at this figure!" and "Imagine this figure!" (Z §§621, 646). Perhaps the best list of specific language-games is set out by Wittgenstein at PI §23: "Giving orders, and obeying them – Describing the appearance of an object, or giving its measurements – Constructing an object from a description (a drawing) – Reporting an event – Speculating about an event … Making a joke; telling it – Solving a problem in practical arithmetic – Translating from one language into another – Asking, thanking, cursing, greeting, praying." At PI §25 Wittgenstein adds "Commanding, questioning, recounting, chatting" to the list. Note that these latter examples from the *Investigations* are all in an active verbal voice, i.e., present participles. Language-games are actions, doings, either basic, 'topic-neutral' actions – such as the "language-game of reporting" (see PI, p. 190) – or are identified by Wittgenstein as being more along the lines of regular patterns of certain (key) words – such as the language-games of "I mean (or meant) this," "I thought of …. as I said it," and "It reminded me of …." (see PI, p. 217). As a last example, and one which begins to draw out the distinction between language-games and grammar

Rules, in turn, are the part of the picture that concern giving active *form* to the different movement kinds or motile possibilities, i.e., they give form to the language-games that we use to make, follow, or move between the connexions between different signs/concepts. It may be helpful to view this picture as kin to Aristotle's form-matter distinction in order to make sense of the relation between language-games and rules. Rules in the first instance concern the 'how' or mode of movement; but rules have a secondary sense captured in Wittgenstein's expression, "the rules of grammar" (e.g., see PG §§12,14; PI §497), which may have to do with the connexions between signs understood in a normative way, i.e., connexions that we simply accept insofar as they are, in a sense, part of the group of 'logical musts' of our language (e.g., see PI §497; see also: "The connexion which is not supposed to be a causal, experiential one, but much stricter and harder, so rigid even, that the one thing somehow already is the other, is always a connexion in grammar" RFM I 128).[80]

Rules of language-games (and of grammar) – what Wittgenstein calls "grammatical rules" – need be distinguished from rule-talk concerning ordinarily productive means-ends type relationships (e.g., causal relationships, legal and legalistic rules, 'rules' of safety), and which have the basic form: 'in order to get A, do B.' Wittgenstein's picture of grammatical rules is that they bring one from one sign to another such that only in attaining the result has one followed a rule. To follow the grammatical rule *is* to achieve the result, and achieving the result *is* following the rule; the result is contained in the grammatical rule, as definitive of the rule.[81] A rule that is productive, on the other hand, can be successfully followed and the

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(see below in text), Wittgenstein, in a discussion in *The Blue and Brown Books* about the problems we tend to have with indexical words, says "but nothing is more unlike than the use of the word "this" and the use of a proper name – I mean *the games* played with these words, not the phrases in which they are used" (BB, p. 109).

[80] Speaking of 'rules of grammar' is interesting, and this locution may be an artifact of Wittgenstein's idea or strategy of likening language to chess. Chess, like language, is defined by its rules, and so "these rules belong to the grammar of a word "chess"" (PG §13). This is unobjectionable – the word "chess" is connected to these *expressions* of the rules of that game – that is part of the grammar of the word "chess." At the same time, the game of chess, as chess, must be played according to a finite set of rules, which nevertheless do not circumscribe all possible actions and aspects that feature in actual games of chess. Thus, Wittgenstein might move from grammar as connexions to the picture of those connexions as rules for moves that are made in otherwise rule-bounded language-games. More significantly, perhaps, we find Wittgenstein engaged in a back-and-forth discussion at PG §§ 133-134 trading between various expressions containing "rules" and "grammar." The picture that emerges from this particular discussion is somewhat fuzzy (again, as perhaps it has to be). Just which language-games Wittgenstein is playing with "grammar" and "rules," and what grammar of "grammar" and "rules" he is showing us, is not clear; further, the picture he is sketching out here is also entangled with the idea of the autonomy of language. Thus, as I point out in the text, it can be a struggle to find one's way to any kind of unambiguous picture (though that indeed may not be the expectation).

[81] In this regard, Wittgenstein says: "The arithmetical proposition is not the empirical proposition: 'When I do *this*, I get *this*' – where the criterion for my doing *this* is not supposed to be what results from it" (RFM VI 22). See as well: "To accept a proposition as unshakably certain – I want to say – means to use it as a grammatical rule: this removes uncertainty from it" (RFM III 39).

result not be achieved, for one reason or another. Such a rule is used to produce results, whereas grammatical rules must lead to the result, in that sense the grammatical rule contains its own result as part of the rule/rule-following. Further, rules that are productive can produce a range of results, all of which are acceptable as proper results of following the rule. But only by moving from one argument of the rule to the other indicated argument does one follow the grammatical rule. Getting to the right *place* is what amounts to following the rule correctly; the result is contained within the rule, and thus getting just this result *is* to follow the rule (e.g., see RFM I 7).[82]

I find tricky getting a clear view of this part of Wittgenstein's picture having to do with rules. One danger here is a temptation to subtly reify rules, to make them into a kind of 'hidden thing' that Wittgenstein was so adamantly set against ("… as if our usual forms of expression were, essentially, unanalysed; as if there were something hidden in them that had to be brought to light" PI §91; and "Since everything lies open to view there is nothing to explain. For what is hidden, for example, is of no interest to us" PI §126). Thus it is a matter of the emphasis we put on the nature of the identity statements we make in picking up on these relevant parts of Wittgenstein's picture, and which help us to resist the temptation to give a kind of priority (causal and ontological) to rules. For example, grasping a rule just *is* being bound in what one does; being bound in judgment *is* to be in accord with a rule. It is not a matter of first internalizing rules and then, as a result, being able to do things; and it is not that first internalizing rules gets you into the position of then being able to offer demonstrations to others (for example). Being able to do those things (or, better, doing those things), and being in the position to offer demonstrations (or, better, offering demonstrations) *is* internalizing rules. We could list rules for activities, but that would simply be one way to describe those activities that we do.[83] Doing things correctly, meaningfully, going on in the right way, *is* to follow the rules; following the rules *is* doing things correctly.[84]

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[82] See, for example, "I want to say that the *must* corresponds to a track which I lay down in language" (RFM III 50). See as well: "For if you give me a description of how people are trained in following a rule and how they react correctly to the training, you will yourself employ the expression of a rule in the description and will presuppose that I understand it" RFM VII 26).

[83] Part of what makes all of this tricky comes back to the original analogy with games, i.e., with "games" in the 'ordinary' sense, where we do talk of many games having rules that are prior in certain senses to instantiations of games-played, and rules that, in a manner, stand independent of the games themselves (for example, on the covers of the boxes of board games, in the clearly formulated rule books of games – and 'sport-games' – like golf, bridge, hockey, chess, and soccer). In such cases we recognize an institutionalized process of explicit, deliberate formulation or codification of rules that then can lead to changes in the way the games are played (e.g., in those cases where rules get changed). What thus is hard to grasp is that, for language, language-games and rules exist together, and one is simply another way to view the other, or are just different sides of the same 'thing' or activity. Even in mathematics, in simple equations like "$25^2 = 625$," the doing of the equation, i.e., the moving from one side to the other, *is* simultaneously the rule of it. It is not the case in this picture that we (first) *have* the rule, and

Grammar is the depiction of the *connexions* between signs (i.e., between words, expressions, sentences), and grammar forms the basic material with which we play language-games ("I want to say the place of a word in grammar is its meaning" PG §23; "What interests *us* in the sign, the meaning which matters for us is what is embodied in the grammar of the sign. … Grammar is the account books of language" PG §44). Grammar, for Wittgenstein, is wholly a matter of the connexions between signs. Wittgenstein says: "It [grammar] only describes and in no way explains the use of signs" (PI §496; see also Z §549 for an interesting view of this picture of grammar). Wittgenstein uses "grammar" to focus on connexions when, for example, he introduces the notion of the 'perspicuous representation' as a goal of grammatical investigation, inasmuch as some moment of grammar lacks in this sort of perspicuity, and "a perspicuous representation produces just that understanding which consists in 'seeing connexions' " (PI §122). Wittgenstein further gives us the picture of grammar as connexion between signs and connexion with 'forms of life': "If someone asks: "What do you mean by deterioration?" I describe, give examples. You use 'deterioration' on the one hand to describe a particular kind of development, on the other hand to express disapproval. I may join it up with the things I like; you with the things you dislike" (Wittgenstein, 1967, p. 10).

This picture is not without its exceptions, difficulties, and obscurities in Wittgenstein's discussion. Hintikka & Hintikka (1986) call Wittgenstein's "grammar," "his treacherous term" (p. 214), and at times there is indeed a slipperiness to his use of the concept. At one point in his *Philosophical Grammar*, for example, Wittgenstein talks oddly enough about the "grammar of a mental state or process" (PG §41). The relationship between rules, use, and grammar is hard to pin down at times (though the relationship between grammar and use can be developed with some clarity, I believe). As well, Wittgenstein says that one can play games *without* rules, making up the play as one goes along (see PI §83). This possibly

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because we have the rule, we can then move from one side of the equation to the other. We learn to do the equation, to use or produce it in appropriate ways in appropriate circumstances, and *in* this doing of it we have the rule of it.

[84] Wittgenstein draws attention to this difficult identity relation at many points in his later writing, though the exact import of what he says is rarely clear and evident (as perhaps it cannot be). For example, he says: "When I write down a bit of a series for you, that you then see *this* regularity in it may be called an empirical fact, a psychological fact. But, *if* you have seen this law in it, that you then continue the series in *this* way – that is no longer an empirical fact. But how is it not an empirical fact? – for "seeing *this* in it" was presumably not the *same* as: continuing it like this. One can only say that it is not an empirical proposition, by *defining* the step on this level as the one that corresponds to the expression of the rule. Thus you say: "By the rule that I see in this sequence, it goes on in *this* way." Not: according to experience! Rather: that just is the meaning of this rule." (RFM VI 26) Further, one sees emphasis on such identity statements in other thinkers' approaches as well, as they work to show the differences between Wittgenstein's picture of language and other pictures. For example, see Moyal-Sharrock (2003): "[Wittgenstein] sees that basic know-how as *logical* – and logical, *on no grounds*. The know-how *is* the ground" (p. 126).

represents something of the creative angle in human life, i.e., the characteristic breaking free of bounds and limits (though see my **Chapter 4** for more discussion on this point, in the context of the developing autonomy of learners). However, this does not threaten Wittgenstein's picture of language and learning, which concerns games bounded by rules (e.g., see PG §26). Further, it is not obvious how clear and finely tuned we need get Wittgenstein's picture of language and meaning for us to be able to apply it usefully – which, I suspect, will come out only when we do actually apply it.[85] Fine-tuning this picture and trying to demarcate clean distinctions and roles of the parts within it, may indeed be to go too far. On the other hand, it cannot be so fuzzy and indistinct that we have no hope of achieving much in applying it and viewing language through it. (The kind of panacea Wittgenstein suggests (see PI §77) does not exactly work here, given that it is precisely the expression "language-game" we are trying to understand.)[86]

What gets to be normative, as far as meaning and use go? Connexions between signs can be normative; the basic move-makings we judge as correct in particular language-games can be normative; and, following this, the rules which govern the form of language-games can be normative. All the same there is a looseness, a creative adaptability, and a tentative projective quality to language and the use of signs, and thus to what we can consider the normativity of meaning. For example, the words "rose" and "teeth" would seem to have little connexion between them (though one is sometimes said to "hold a rose between their teeth" in florid romantic gestures), but Wittgenstein's description of the poetic

[85] All the same, and as part of coming to grips with this picture of language and meaning, it is interesting to note that (1) Wittgenstein never speaks of the grammar of language-games, (2) that when he discusses grammar it is almost always exclusively in terms of the grammar of *signs* (apart from the few exceptions that I have noted above), and (3) that he never speaks of a sign as being a language-game (but cf. PI §71). For example, with regard to the connection between signs and grammar in this picture, Wittgenstein says such things as: "Cantor shews that if we have a system of expansions it makes sense to speak of an expansion that is different from them all. – But that is not enough to determine the grammar of the word "expansion" " RFM II 30; "If we study the grammar, say, of the words "wishing", "thinking", "understanding", "meaning", we shall not be dissatisfied when we have described various cases of wishing, thinking, etc." BB, p. 19; use and grammar go together for Wittgenstein, e.g., "It is one of our tasks here to give a picture of the grammar (the use) of the word "a certain"" BB, p. 135; "So is *that* what makes us believe a proposition? Well – the grammar of "believe" just does hang together with the grammar of the proposition believed" OC §313. As can be seen indicated in just these few quotations, there are subtleties and obscurities in Wittgenstein's use of "grammar" throughout his opus, and obviously enough one can turn all of this into something enormously complicated and arcane (as with Fregean theories of language and meaning), but in the main it seems safe to say that it is signs that have grammar in Wittgenstein's picture, and that the grammar of signs emerges aggregately from language speakers' various uses of those signs. But, again, there is only the use of signs that is depicted in Wittgenstein's picture, and a sign is only a sign insofar as it is used.

[86] That is, Wittgenstein recommends: "In such a difficulty [i.e., conceptual blurriness] always ask yourself: How did we *learn* the meaning of this word ("good" for instance)? From what sort of examples? in what language-games?" (PI §77). However, we only learn the meaning of "language-game" through Wittgenstein's use of it, so the situation here seems quite different from what would usually happen in other grammatical investigations.

phrase, “the rose has teeth in the mouth of the beast” (PI, p. 222) makes it out as a meaningful expression, and thus shows that connexion can be made out between these signs through certain locutions and the language-games played. What gets to be taken as meaningful in discourse, then, is dependent not only on the three parts of the picture of language but on context, circumstances, and situation as well (e.g., see PI §§498-500 for Wittgenstein on combinations of signs and meaningfulness). Responding to “hello” with the utterance “rain” seems meaningless – there is no such connexion between these signs in this context. But in another context, the expression, “I said “hello” to the rain,” is not only meaningful but can also be moving. In some sense there is only a thin normativity operative in some (much? most?) of our linguistic traffic, just as the rules of hockey frame but actually govern very little of what happens on and off the rink in an actual game of hockey. All the same, everything that happens in an actual game of hockey is understandable, i.e., makes sense *as hockey*, insofar as it is participation in that game, and insofar as it is framed within just those rules.

As I noted earlier, we can take up a perspective from which to view these main parts of the picture of language and meaning being sketched by Wittgenstein in terms of a *unity* of these parts – grammar, language-games, and rules – and thus how they relate to one another. One can conceive a strong mutuality between these parts of Wittgenstein’s picture, separable to some extent conceptually, but not to be talked about as identifying separate things *in re*, as it were. It is, in a way, a curious sort of picture. These different parts have to be taken together always; none can stand in isolation, but each must stand in a tight mutual interrelation with the others. All three aspects are in a kind of lock-step with each other. Signs come to have connexions (i.e., grammar) inasmuch as we actually make moves with them (“We may say: *nothing* has so far been done, when a thing has been *named*. It has not even *got* a name except in the language-game …”PI §49). Making moves (and, as moves, they are normative) requires rules for the regularity and relative sameness of those moves. Move-making as such, as has been noted, is to be viewed through the picture-lens of rule-bounded games. Move-making is responsible to, as well as being generative of, the very connexions that constitute signs without which there would be nothing to move or move between; and these connexions forged in activity grow into the grammar that signs have, which we can view as normative ‘rules of grammar,’ as Wittgenstein sometimes has it. One can only do things recognizable *as* moves within the context of games, i.e., rule-bound forms of activity. Moves are repeatable as *that* (i.e., same) move only within certain bounds; though there is mutuality here as well, as those bounds (i.e., the relevant rules) do not stand somehow outside of the moves themselves as some kind of object-ive constraint. Indeed, language-games as the aspect of this picture of language that is primarily rule-oriented (e.g., see PI §§7, 66-70, 82-83), there is a way to view this

such that language-games *are* their rules: "Following a rule is a particular language-game" (RFM VII 52).[87]

As I have indicated elsewhere (e.g., see **Chapter 1** and **Section 3.2**), one can make the focus of one's view of Wittgenstein's picture of language any one of these parts, and this will result in somewhat different views of things, as well as different attendant problems. The picture of grammar might mark out a path to semantic maps (e.g., see Van der Auwera & Plungian, 1998; Haspelmath, 2003); language-games emphasize activity and relationality through participation in a game played (necessarily) by others and through game-playing move-making; and the picture of rules framing linguistic action can lead to the search for normative aspects of language and meaning and the different ways in which an individual speaker can stand in relation to a rule (e.g., see Sellars, 1963b, 1974).

To complete the picture of language (at least for my purposes here), it is important to recognize the play of "same" and its cognates pervading the texts of Wittgenstein.[88] Wittgenstein trains a spotlight on these signs/concepts, providing us a way to re-picture them and to re-orient our thinking about them.[89] The basic idea within Wittgenstein's picture of language is that we do not see ('actual,' 'real,' 'independent') sameness or similarity between things and then learn how to apply the word "same" to *that* (and thus neither do we see sameness in the world and obtain our concept from that source, i.e.,

[87] There are very many references in Wittgenstein's work to this picture of a tight inter-relation between grammar, language-games, and rules as a way to view and talk about language and meaning. For example, see: "And that is why a concept is in its element within the language-game" (Z§391), with the "that" here referring to "… a language-game does not have its origin in consideration. Consideration is part of a language-game."); "Let the use teach you the meaning" (PI, p. 212); "Let the use of words teach you their meaning" (PI, p. 220); "The meaning of a phrase for us is characterized by the use we make of it. The meaning is not a mental accompaniment to the expression. … We ask: "What do you mean?", i.e., "How do you use this expression?"; "A game, a language, a rule is an institution" (RFM VI 32).

[88] There are many key passages in Wittgenstein's opus that concern sameness and similarity, measurement and commensurability. Passages that are important for me include PI §§371-379 (e.g., ""Before I judge that two images which I have are the same, I must recognize them as the same." And when that has happened, how am I to know that the word "same" describes what I recognize?" PI §378); RFM VII 59 ("How can I explain the word "same"? – Well, by means of examples. – But is that *all*? Isn't there a still deeper explanation; or must not the *understanding* of the explanation be deeper? – Well, have I myself a deeper understanding?"); PI §208 ("How do I explain the meaning of "regular", "uniform", "same" to anyone?"); PI §225 ("The use of the word "rule" and the use of the word "same" are interwoven."); and BB, p. 130 ("But why shouldn't what we call "the similarity striking us" consist partially or wholly in our being prompted to use the same phrase?").

[89] Independent of Wittgenstein's work on this topic is a small but important literature which is troubled by this concept, and Wittgenstein's comments on "same" are a crucial addition to this body of thought. As Goodman (1972) says, "As it occurs in philosophy, similarity tends under analysis either to vanish entirely or to require for its explanation just what it purports to explain" (p. 446). Goodman's nominalism is not entirely in accord with Wittgenstein's approach, but I think they are in some agreement in what a grammatical investigation yields of "same" and its cognates.

the concept 'same' is not to be explained in onto-logic terms). Learning how to use the word "same" and seeing sameness and similarity are intertwined with each other (once again I revert to Cavell's (1979) statement, that "to know how to use the word "anger", is to know what *anger* is" p. 185). We learn how to use "same" as we learn how to use any other word, i.e., by being shown, through training, and through practice and projection in community with others.[90] The uniqueness of "same" is that it plays a kind of role in Wittgenstein's picture of language not played by any other word. It brings together and focuses a range of features within this picture, e.g., of normativity, of being able to go on (in the *same* way) ("Now, however, let us suppose that after some efforts on the teacher's part he [the student] continues the series correctly, that is, as we do it" PI §145; "One might say to the person one was training: "Look, I always do the same thing: I ….." PI §223), and our '*agreement* in judgment' ("But isn't human agreement essential to the game? Must not anybody who learns it first know the meaning of "same", and do not the presuppositions of this include agreement? And so on" Z §428). Wittgenstein's sketching of his picture of language is shot through with use of the sign "same" and its cognates, but despite its critical role in holding this picture together, it still has to be a part of this same picture, i.e., it cannot stand outside it in some independent, objective manner giving in that way solid foundation to language (recall PI §120). Indeed, basic judgments of similarity or sameness can be said to represent a significant proportion of the bedrock propositions that we need to 'follow blindly' (e.g., see Williams, 1994, 2010). We learn what is 'same,' and what 'different,' at the same time we learn how to use new signs; practicing with new signs is at the same time learning the practices of comparing and measurement, of differentiating and identifying.

Comparing is a language-game, a technique, a practice. We have to learn how to compare and we have to learn which things are commensurable, comparable, have to learn how to use "same" and "different." In learning these things we simultaneously begin to see things as similar or the same.[91] The practice of comparing/measuring and using the relevant signs is what gives the learner the ability to see things in terms of "same-different," to see things this way only in the light of these aspects ("For only

[90] "One does not learn to obey a rule by first learning the use of the word "agreement". / Rather, one learns the meaning of "agreement" by learning to follow a rule. / If you want to understand what it means "to follow a rule", you have already to be able to follow a rule" (RFM VII 39).

[91] There is an important though difficult distinction at work here, viz., between seeing things *as* different, and seeing difference in things, i.e., 'simply' seeing difference. As Wittgenstein has put it, the first does not belong to perception, while the second does. For example, Wittgenstein says: "If I saw the duck-rabbit as a rabbit, then I saw: these shapes and colours (I give them in detail) – and I saw besides something like this: and here I point to a number of different pictures of rabbits. – This shews the difference between the concepts [i.e., of 'seeing' and 'seeing-as']. 'Seeing as …' is not part of perception. And for that reason it is like seeing and again not like" PI, pp. 196-197.

through a technique can we *grasp* a regularity" RFM VI 2). Seeing 'aspects' of things is, in the end, the business of language, of having mastered the right words in order to see the 'same' thing in different ways. Seeing and asserting 'same-different' requires the practice of the relevant 'measurement,' broadly taken. Thus we find Wittgenstein working out in the *Investigations* (particularly in Part II, Section xi) the difficult question of how we can see similarity (i.e., likeness, the same) without committing ourselves to making the claim that we see similarity *itself*, i.e., to a claim about seeing a thing that stands independent of our words. Through a sustained grammatical investigation of the 'change of aspect' involved in seeing some new thing *in* another thing while that thing remains the same, Wittgenstein begins to show how thought, seeing, and talk fit together ("When the aspect changes parts of the picture go together which before did not" PI, p. 208). Wittgenstein's analysis, as befits a *grammatical* investigation, ultimately concerns what we say and go on to say in the relevant circumstances. Wittgenstein always points to expressions ("Your questions refer to words; so I have to talk about words" PI §120), and the expression *is* the dawning of some particular aspect, the words constitutive of the experience.

Last, to reiterate what needs to be made clear in this part of the section, Wittgenstein's three parts of his picture of language and meaning, viz., grammar, language-games, and rules, are not theoretical entities (as per Frege) or reified psychological or mental states or processes (as per cognitivists); this is not an explanatory theory in which different and separable constituents need to be brought together to generate meaning. These parts belong to a picture of language from which we can view and talk about language, e.g., comparing it in its application to other things we say and do. It is a picture built upon the underlying gesture drawing of activity, of parts in motion. Further, the picture can show us a kind of unity or mutuality between the parts, depicting in a fundamental way an active relationality. There is no explanatory mechanism hypothesized here, no (cognitive/mental) apparatus manipulating representing entities, but rather a picture that allows us to look at language as many different ways to move between signs in connexion. Looking at language and meaning through this device of Wittgenstein's sketch, we can say that we speak meaningfully on the basis of the grammar and legislated moves embedded in the ongoing practice of language, through its organic chain of speakers and through its artifacts and embodied history. Language exists in its play and in its being played. Anyone's utterance is meaningful insofar as it is a sufficiently well-made and recognizable move in a language-game in which the play is with the grammar of the signs used. That is Wittgenstein's picture.

Let me give a very basic example illustrating the thrust of this picture. In some particular (and familiar/recognizable) context, someone says something to me, and I go on to say something (back to that person or perhaps to relevant others), and/or I go away and do various things. And that is how to understand (*tout court*) the meaning of what that person said; in other words, this flow of a bit of life and action is a full description of the use of that person's utterance.[92] It is also part of Wittgenstein's picture that this 'particular and familiar' context can be taken to be quite extensive, encompassing the general form of the relevant language-games played here, the grammar of the various signs used in those language-games, and the proximal and distal background circumstances, customs, routines, etc., of the culture to which these language users belong. But for the language move-makers in normal situations, this background remains as background.[93] Isn't this the import of Wittgenstein's very first descriptions of use in the *Investigations*? He begins that book with this quotidian example, which in superbly terse form sets out much of the picture of language and meaning he is drawing:

> Now think of the following use of language: I send someone shopping. I give him a slip marked "five red apples". He takes the slip to the shopkeeper, who opens the drawer marked "apples"; then he looks up the word "red" in a table and finds a colour sample opposite it; then he says the series of cardinal numbers – I assume that he knows them by heart – up to the word "five" and for each number he takes an apple of the same colour as the sample out of the drawer. – It is in this and similar ways that one operates with words. – "But how does he know where and how he is to look up the word 'red' and what he is to do with the word 'five'?" – Well, I assume that he *acts* as I have described. Explanations come to an end somewhere. – But what is the meaning of the word "five"? – No such thing was in question here, only how the word "five" is used. (PI §1)

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[92] Consider in this vein, among various other comments by Wittgenstein, the sequence of moves he makes between "meaning" and "understanding" in PG §34: "How was meaning given to the word "red"? Well, you point at something, and you say "I call that 'red'". Is that a kind of consecration of mystical formula? How does this pointing and uttering words work? It works only as part of a system containing other bits of linguistic behaviour. … And there is only one way to learn it: to watch how the word is used in practice. … So when I understand a sentence something happens like being able to follow a melody as a melody, unlike the case when it's so long or so developed that I have to say "I can't follow this bit". … Asked "what happened when you read that sentence with understanding" I would have to say "I read it as a group of English words linked in a familiar way". I might also say that a picture came into my mind when I heard it. But then I am asked: "Is that all? After all, the understanding couldn't consist in that and nothing else!" Well, that or something like it is all that happened while I read the sentence and immediately afterwards; but what we call "understanding" is related to countless things that happen before and after the reading of *this* sentence."

[93] In whatever sense one might want to take "background" here. An exploration of this sign/concept would open up a rather complicated discussion, which would only derail the current line of my thesis.

And isn't this as well, at root, the main underlying gesture drawing upon which Wittgenstein's picture of language and meaning is founded, and which he draws out for us (as an experienced and masterful artist might draw out as a demonstration for a novice) in the 'Slab' (or 'building block') language examples that also begin the *Investigations*, and that are also found throughout his later works? "Don't you understand the call "Slab!" if you act upon it in such-and-such a way?" (PI §6), and "In the practice of the use of the language (2) [i.e., the "Slab" language] one party calls out the words, the other acts on them" (PI §7; see also BB, pp. 77ff.). It is in doing things that 'meaning' resides, if indeed we can talk about meaning here without confusion.[94]

Making the right moves in language-games is certainly one way to take the picture of language and meaning being sketched by Wittgenstein. There is another, perhaps less obvious way, to take this picture, one that has considerable substantiation in Wittgenstein's writing once you begin to look for it. This is to take the idea of 'activity,' central to this picture of language and meaning, as captured not in terms of 'doing/performing' but in the terms of the third metaphor (see **Chapter 1**), i.e., 'moving.' Thus 'move-making' takes on different significance, and is to be understood not simply as 'moves in a game' but as mobility, travelling, reaching for, i.e., 'moves that get us somewhere.' In this way of looking at Wittgenstein's picture of language and meaning, having places to go and the means to traverse the paths between them correspond to the picture of grammar and language-games.[95]

The two books that have emerged from ethnomethodologist David Sudnow's (1978/2002, 1979) experiences learning and playing jazz piano have provided me with much insight into Wittgenstein's

[94] In other words, the main, underlying gesture drawing here is that understanding a sign is not the grasping of a thing, but is the doing of something. My understanding the call "Slab!" in Wittgenstein's example is doing certain, specific, recognizable, familiar things, i.e., fetching a slab and bringing it to the person who uttered "Slab!" Further, this underlying gesture drawing leads us away from the picture that I first understand the call "Slab!" and then, by virtue of that understanding, bring a slab to the utterer. That is to draw a causal picture of meaning. Rather, as I have said, for Wittgenstein, understanding "Slab!" *is* to fetch a slab and to bring it to the utterer of "Slab!" And so, to understand any sign*, is* to do appropriate, recognizable, familiar things. Thus one learns to understand signs (like "Slab!") by learning to do things, e.g., to bring slabs when "Slab!" is uttered. Wittgenstein's brief, action-oriented example of understanding your name near the end of *The Blue and Brown Books* is another clear example of this underlying gesture of the overall picture of language and meaning (see BB, p 172).

[95] There are many encouragements in Wittgenstein's writing to search for different ways to understand meaning (viz., different primarily from the Fregean, representationalist approaches to meaning). For example, Wittgenstein provokes just such a search when he asks, in likening understanding a sentence to understanding a theme in music, "Why is just *this* the pattern of variation in loudness and tempo? One would like to say "Because I know what it's all about." But what is it all about? I should not be able to say. In order to 'explain' I could only compare it with something else which has the same rhythm (I mean the same pattern)" (PI §527). The turn to David Sudnow's work – see the following paragraphs in my text – represents one avenue along which I search. Not being able to say 'what it is all about,' i.e., not being able to *give* the meaning of a sentence, leads us to a different way entirely of picturing meaning.

discussions concerning language and meaning. The core of Sudnow's position concerns the metaphor of having, finding, and achieving *places to go* as at the root of both language (and thus linguistic meaning) and music (i.e., see the third metaphor identified in **Chapter 1**). I find this idea most helpful, for example, in absorbing Wittgenstein's idea of understanding as knowing how to go on with its emphatic interest in movement, in getting to and arriving at next things correctly. Having this image of language in mind of having places to go makes more present the importance, depth, and range of the various spatial and travelling images and pictures throughout Wittgenstein's work. Further, the embodiment of having places to go, and the reaching for those places, helps inspire one's thinking about both the phylogenesis and ontogenesis of language development, as emerging from the activities of reaching, grasping, touching, gesturing.[96] I also proffer the suggestion that this angle helps us to make better sense of Wittgenstein's repeated insistence on Goethe's phrase, "In the beginning was the deed" (see OC §402; CV, p. 31; Wittgenstein, 1993, p. 420).

Sudnow (1979) argues that "improvised music-making and ordinary talking are deeply alike" (p. 3), stating:

> You go places, getting from place to place. You have to get places on time. You find places in the course of moving – without rehearsal, doing improvisation. You learn how to use your body to reach the whereabouts of places that form up the setting for such movements. There is reaching and stretching and recoiling and regrouping in this. In both music-making and talking, sounds are being produced – which is to say, distances are being traversed. There are communities of co-movers, and they define what good movements should be like. In both music-making and talking, there is a social world, an organization of ways of doing such movements, and an organization of ways of regarding them. … In all languages, pitch and tone are meaningful – or semantic, as they say – if pitch and tone are given a more useful and a broader formulation; that is, the achievement of places and not merely highs, lows, timbre. (pp. 3-4)

[96] There are substantial research literatures that investigate just these phenomena and their implications in human development, writ large or small. See, for example, Butterworth's (2003) seminal work on *pointing* and its emergence in human ontogenesis and its role in our socio-cultural history. See as well Zlatev (2015) on the emergence and role of gestures more generally in our species' evolution and in individual human development. Tallis' (2003) important book, *The hand*, takes up some of these issues as well, as do the earlier books by Wilson (1998) and Napier (1993) on the hand and its place in our socio-cultural evolution.

Sudnow goes on to reinforce this idea of *movement* as important, that "where by moving my mouth to say, "Please pass the butter," I get you to move your hand – movements moving movements" (p. 5). He says that,

> In all instances, we find the employment of the human body to achieve places in an organized way, and the study of languages could well begin with the description of that accomplishment. As for questions of meaning and reference and symbolism, these represent elaborate ways language has of saying that it is talking about itself. … I define language as improvisationally choreographed courses of movements, and conceive the study of getting places as the way to begin. (p. 5)[97]

This metaphor of 'reaching for places' ("a speaker who is reaching, stretching, finding places, knowing that he is finding places, speaking by knowing that he is finding places to go," p. 37) strikes me as a promising angle from which to view Wittgenstein's picture of language and meaning, in particular with respect to the picture's underlying gesture of activity. It is also a radical way to picture meaning – and it is linguistic meaning that we talk about here – one completely at odds with the Fregean picture.

Taking up this angle on Wittgenstein's picture of language and meaning opens up a different way to read the examples of arithmetical sequences that Wittgenstein is fond of using to illustrate important points concerning grammatical rules and understanding. With the image in hand of 'moving between places' that Sudnow fashions, even these dry, possibly undervalued, examples now take on a more vibrant, illustrative life, for they become *sequences*, movements from one element or member to the

[97] Wittgenstein's insistence on "in the beginning was the deed" (see above) is recalled to mind by Sudnow's comments. Thus one might speak of such *original* deeds as connected to achieving places – i.e., as literally achieving places – and derivatively to include *reaching* for, and *gesturing* towards or about, places. The importance in our natural history – and the natural history of any animal in its environment – of being in safe or dangerous places, of being in places with or without resources, of being in places with conspecifics or alone – is the sort of natural history background that one might build a picture of language around, taking seriously Wittgenstein's emphasis on deeds and on the roots of language in 'non-ratiocination,' 'natural history,' and 'forms of life' (e.g., see OC §475). The importance of the role of the *hand*, then, should not be overlooked, and should be part of a 'naturalistic' evolutionary counter to the cognitivist impulse in developing accounts of language. We can say that the hand grasps things and so comes to *have* things (which leads to one set of metaphors extending into epistemology and philosophy of language); we can also say that the hand *reaches for* things which exist in spatial locations, and further that in doing so the hand is keenly attuned or adapted to timing, in the sense that reaching and throwing and clasping, etc., depend on the hand getting the timing right else the hand misses its mark or the caress turns into a blow. Consider finally the idea of the prehensile hand in which fingers feel each other (e.g., see Butterworth, 2003, for a summary of background research on primates' capacities regarding the movement of fingers, etc.). All of this is more suggestive at this point than substantial. What is being suggested here is that there is considerable room to investigate the place of movement and reaching places in the phylogenesis of language and, by extension, in our pictures of language and meaning.

next, the lining up as in space and time (as indeed they are lined up when we speak, write, and read the physical signs). Here coming to 'know how to go on' in learning a sequence must be given a literal reading; we learn to go *from* one *to* the other, and from that one to the next, etc. And the sequence itself comes to life in our learning how to go from its members and from the sequence as a whole to other signs and sequences. A geography of sequences and numbers and their places with regard to each other and the movements from one to another to another begins to open up to the learner. In knowing how to go on one bridges the distance or gap between one member of the sequence and the next. It is not just about learning how to go on with numbers; it is about finding your way to the *place* of each number, travelling or moving back-and-forth sequentially, from number to number, from place to place.

Similarly we can view a conversation as a sequence of things said, one thing said after another, one thing connected to another thing in the sequence through language-games and signs' grammars, and opening up in temporal progression new places to go in the developing sequence. Our responsibility is to move or to get to one place after another in ways grammatically acceptable (i.e., this is a right place to go) in the sequence. Our ability to converse, to use language, *is* in our capacity to move from one place to the next in these sequences.

To 'say' something (in speaking, signing, writing, typing) is to move your body; to have successfully said something is to get to a place in *grammatical* space, to have achieved an arrival at a place, and in doing so to open up a range of other places to travel. *This* is meaning, i.e., having places to go is constitutive of meaning; this is to speak meaningfully, i.e., to move in the life of language. Sudnow (1979) says: "It is not the sounds that are so important but the places … It is a context of places at hand and at mouth – customary routings [i.e., Wittgenstein's "familiar paths"] and bodily manners of moving and aiming [i.e., language-games] and knowing where you are going from where you are" (p. 121). Grammatical rules, then, can be talked about as both the active form of language-games and rules, i.e., the how of 'moving from place to place,' and the paths that exist between places in a language, i.e., grammar.

There is indeed a proliferation of "place," "path/road," and "travelling" images throughout the later Wittgenstein. At multiple points in his work, Wittgenstein modifies the locution, "knowing how to go on," into "knowing one's way about". For example, Wittgenstein asks: "Can 'knowing one's way about' be called an experience? Surely not. But there are experiences characteristic of the condition of knowing one's way about and not knowing one's way about" (Z §516); "A philosophical problem has the form: "I don't know my way about"" (PI §123), and, last, that, "Language is a labyrinth of paths. You approach from *one* side and know your way about; you approach the same place from another side and no longer

know your way about" (PI §203).[98] Compare these with Sudnow's (1979) statement that: "I play the first seven notes of the eight-note major scale, and if I say I know what the last note will sound like, what I really mean is that I know just exactly where to go next" (p. 119).

Having set the stage through my discussion of Wittgenstein's picture of language and meaning, I will begin the shift to the application of that picture to sketch out a picture of professional learning and training. The material here in turn will be brought out more explicitly as I begin to apply this new picture of professional learning to more specific cases in **Chapters 4-5**. Learning and training, once one knows how to play (language-)games, is a matter of being shown examples, practicing move-making, and having more places to go, and professional learning is no exception to this basic picture. Again, I am strongly guided in the development of this picture of professional learning by an emphasis on language-games and grammar. Thus the main parts of this picture of professional learning will be (1) a picture of the process, or accomplishment, of having more places to go, or having more and 'better' moves to make, and (2) of having the means to travel between places, or in developing greater mastery over various language-games or techniques. Another way we might picture the process of professional learning is by talking of change of different kinds in knowing how to go on. In the context of this picture, the expression "knowing how to go on" can connect to many things: e.g., deeper familiarity with the grammars of relevant signs (which might be pictured as increasing familiarity with more connexions between signs); dropping 'incorrect' connexions; being able to play more language-games, or to play language-games 'better' in wider ranges of circumstances and situations. A passage emerging from Wittgenstein's development of his picture of language that is key for me is as follows:

> But if a person has not yet got the *concepts*, I shall teach him to use the words by means of *examples* and by *practice*. And when I do this I do not communicate less to him than I know myself. In the course of this teaching [i.e., in this case, of the word "same"] I shall shew him the same colours, the same lengths, the same shapes, I shall make him find them and produce them, and so on. … I do it, he does it after me; and I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way, or hold him back; and so on. (PI §208)

[98] I would offer as well that many of the things Wittgenstein says can be taken, in this reading of them, to suggest these metaphors of movement and places. To give one example (which has ramifications as well for the idea of the autonomy of language – see earlier in **Chapters 1** and **3**), Wittgenstein says that: ""There is no such thing as an isolated proposition." For what I call a "proposition" is a position in the game of language" (PG §124).

While this picture of 'training,' i.e., 'shewing examples,' practice, encouraging, discouraging, correcting, 'holding back,' etc., holds for *all* learning once we know how to play (language-)games, it is a picture that must hold for professional learning as well.

To begin, learners need both to share and develop a 'form of life' in common with those training them. That is, learners need to go along with encouragements in certain ways recognizable to their teachers, they need to care that others correct them, and care that others *care* to correct them, see that others are in the position to encourage or correct them and to care about *this*, etc. For all learners at whatever stage, these are in part natural reactions (e.g., what might otherwise be called "temperament," how one basically orients oneself to pain and pleasure and their objects) and part developmental or emergent reactions (e.g., reactions that develop as a result of life-course events and interactions with significant others, such as parents). How one receives the unfolding processes of training and carries on from there, we can say, depends on natural reactions and on the form of life in which one comes to dwell, which in turn depends on how one develops these abilities or capacities to receive and carry on with the elements of training. For example, Medina (2004) says in this regard that, "the learner needs to be sensitive and responsive to certain signs of approval and disapproval that are used to structure her behaviour normatively" (p. 83).

How does training, then, work for the mature language user in the context of professional learning? The objection can be that the notion of training is acceptable as a picture of what happens in the learning of novices, e.g., in the first learning of language or numeracy. But once a certain level of mastery of language has been achieved, that picture of learning needs to shift to a characterization of a person's learning as independent and autonomous and as controlled by one's own actions – in other words, the learner at this point in their development must be pictured as an autonomous, rational individual.[99] As a mature language user, one is no longer *learning* moves, but is *making* moves on their own in the relevant language-games in the relevant circumstances, all in the context of their own projects. A mature language user having, for example, mastered the techniques or language-games of asking for and giving reasons, asking for and delivering explanations, asking "why?" and saying why, etc., would constitute ways in which such speakers now operate with regard to their own continued learning. How

[99] This is part of my developing response to those Wittgenstein scholars who see the key transformative moment in an individual's development to be their entering into what Sellars (1963a) has called "the logical space of reasons." Those who take up this angle include Brandom (1998), McDowell (1994), and Bakhurst (2011, 2015). My initial analysis of this is that these thinkers emphasize the individual in their thought, whereas I emphasize the situative perspective, viz., participation in activity (i.e., in the language-game, what Wittgenstein calls "the whole, consisting of language and the actions into which it woven" PI §7). See my **Chapter 1** for further comment on this.

much is left for training to do, especially in the case of professional learners, when there is at least some mastery of these language-games?

To answer that, I return to the picture that in knowing how to play games one is by that fact now responsive to corrections and encouragement couched in normative terms, i.e., in the terms of how to make correct moves for *this* game or *that* game.[100] That is part of the grammar of "game." These corrections and encouragements take the basic form: '*that* is (not) how you ought to do/say *that*,' with many variations of this basic formulation in practice, some of which are non-verbal (e.g., through gestures, facial expressions, body language). I note here some caveats. Putting the matter in this way is not to offer a causal explanation; in terms of the relevant empirical talk, the developmental move from non-game-playing to game-playing is a contingent business, and can possibly vary across individuals, language groups, and even linguistic species. In a way, therefore, the question of *how* one makes that transition is an incidental one for my purposes, and for the purposes Wittgenstein had in setting out a picture of language. Further, I am of course not suggesting here that what we *really* do when we use signs is play language-games, or that language-games and game-playing constitute the real, subterranean, 'hidden' substrate of language. What I am doing is working out (with Wittgenstein as guide) a picture, a way of talking about things, and working out how the parts of that picture hang together. This applies as well with signs like "natural" and "form of life." By using these terms we similarly do not penetrate to any deeper, 'more real' level of language and life, but rather draw and apply certain pictures.

At the level of quotidian professional learning, such corrections and encouragements which bring one into or take one out of ways of talking and acting, might be complicated, subtle, and nuanced – but all the same the picture of training in professional learning adheres to this basic pattern. For example, a professional introducing new signs and explanations into their work environment may be encouraged insofar as others affirm or take up these new ways of talking, or corrected when their explanatory utterances fall flat and are not repeated or taken up in any way by their colleagues (i.e., as distinct from their utterances being explicitly negated or rejected in discussion with their colleagues). In the former case, the professional in question has received a kind of training in maintaining the use of these new

[100] These normative blandishments and corrections regarding correct move-making begin to be framed in terms of reasons once the language-games of asking for and giving reasons (etc.) are learned. But the basic frame of the training here, into these (more 'advanced') language-games, follows the same pattern I have just depicted in this grammatically-oriented picture of learning. We will see how this picture falls out in terms of usefulness, insight, clarity, etc., once we begin to apply it to cases and to other things we say in contexts of actual professional learning.

terms; in the latter case, they have received an implicit correction and so drop their use of the new signs and explanations. (Matters become complicated when one takes into account the multiple relevant communities with regard to both the individual professional and the new ways of talking, as a particular way of talking may be discouraged in one community while encouraged in another. However, the basic picture itself that I am sketching is not affected by such complications *in re*.)

What we can say, given Wittgenstein's picture of language and meaning, is that professional learning is a matter of (1) grammar, (2) language-games, and (3) pictures and their application. Learning the grammar of a word will, for professionals, be largely a matter of training in the broad sense outlined above. We cannot reason out the grammar of signs, but rather must be shown or exposed to how the word is used ("How did we *learn* the meaning of this word …? From what sort of examples? in what language-games?" PI §77; "One cannot guess how a word functions. One has to *look at* its use and learn from that" PI §340; "Let the use *teach* you the meaning" PI p. 212; "Let the use of words teach you their meaning" PI p. 220). It will be a matter of use and ongoing training that govern the development of my abilities to use signs correctly and meaningfully, to project them into new particular instances beyond the examples I have been given or the successful uses I have thus far made of them. Using signs or concepts correctly, i.e., making the right moves with those signs, in accordance with the connexions constitutive of their grammar, would be the matter of ongoing training, e.g., through trial and error, correction, reinforcement, example, and encouragement. The grammatically-oriented (i.e., non-empirical but developmental) picture of professional learning, then, that emerges from Wittgenstein's picture of language and meaning is as follows: We learn *how* to move from place to place, and *at the same* time we begin to acquire places from and to which to move. Once we have started on this way, which we did when we first learned how to play games, the rest of our learning is just the coming to be able to do more and more of these things. What else would it be, given this picture of language and meaning? We do not need to be committed, I think, given the perspective afforded by this picture of language, to say that we begin to do things in an entirely new way once we achieve certain thresholds of competence or have mastered certain language-games. Entering the 'space of reasons,' i.e., being able to play the language-games of asking for and giving reasons (etc.) within all the various contexts and circumstances, does not change the picture I have been sketching so far about professional learning and training. (Again, see my comments on my emphasis on language-games in **Chapters 1** and **6**.)

As I have argued, part of the picture of language and meaning that Wittgenstein sketches is that we cannot give a causal-theoretical explanation or account of language. At the same time, Wittgenstein is

not discounting that we still do play language-games of explaining.[101] He says, after all, that we give explanations in "language full-blown" (PI §120). However, there is an important sense, I think, in which explaining is a matter of showing, i.e., that in an explanation, one shows to another how to use the relevant signs in different language-games and in accord with certain contexts/circumstances. One comes to understand the explanation insofar as one does in fact go on to use the relevant signs similar to how one was shown how to use them. Thus, in the end, giving explanations is a matter of showing someone how to use the relevant signs, i.e., one shows another how to make just these moves with these signs, or one shows another just these kinds of paths between places. This angle of view is extremely important in the context of developing a picture of professional learning. In this way, then, I read such comments as Wittgenstein's, "Any explanation has its foundation in training. (Educators ought to remember this)" (Z §419), as drawing for us more of a picture of identification (i.e., 'an explanation is a kind of training') than one of genealogy (i.e., 'explanations have their roots in training, for example, in *other* practices or language-games in which we were trained').

There is some textual evidence for this angle of view on Wittgenstein's picture. For example, Wittgenstein's comments at PI §§208-209 are important here (and this is a text to which I have referred above): "… I shall teach him to use the words by means of *examples* and by *practice*. – And when I do this I do not communicate less to him than I know myself. … I do it, he does it after me; and I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way, or hold him back" (PI §208). At Z §319 Wittgenstein says: "I may now e.g. make a talkie of such instruction. The teacher will sometimes say "That's right." If the pupil should ask him "Why?" – he will answer nothing, or at any rate nothing relevant, not even: "Well, because we all do it like that"; that will not be the reason."[102]

In much professional learning, a good deal of explanation concerns attributing some general feature to some other general thing, or concerns re-describing a particular case in terms of general governing principles or laws, as might emerge from different kinds of research. To give a simple, concrete case,

[101] Which exactly are the language-games of explaining I think would not always be easy to determine, as what counts as an explanation is context-sensitive. For example, a description often counts as an explanation in the right circumstances of inquiry, and in other circumstances it serves just as a description, e.g., in the context of a story (though in stories explanations might be described).

[102] Wittgenstein's *Remarks on the Foundations of Mathematics* contains many passages working this vein as well. For example, Wittgenstein says there: "How can I explain this language-game to anyone? Well, I can describe an example (or examples). – In order to see whether he has understood the language-game, I may make him work out examples." (RFM VI 25).

one asks in a professional context (e.g., in a learning occasion involving social workers, or ministry bureaucrats with portfolios having to do with children, youth, and families), how some children are able to navigate successfully through significant developmental threat while many others do not. The explanatory-type response might be to attribute the feature or property of 'resilience' to children in the former group (and its absence in the second group), and to discount possible explanatory roles of other properties such as individual 'grit' (e.g., see Perkins-Gough, 2013). The language-games played here would vary according to the actual lived contexts of the various occasions, but certainly language-games of 'asking' and 'answering questions' are involved, as is the display in these explanations of certain signs and their connexions.

What happens in forming and delivering such an explanation? I suggest that in such discussions, the different signs are shown to stand in certain specific ways with regard to each other, i.e., "navigating through significant threat" stands in connexion with "resilience" but not in connexion with "individual grit." In explaining this, the grammar of the various signs is arrayed such that the learners are *shown* another way to use these terms, i.e., to make correct moves in the context of "resilience" talk. Learners are shown ways to use "navigating through significant threat" such that the sign "individual grit" is not part of its grammar, or in which the connexion or path between these signs is weakened or cut off. Thus there is no occult rationality or (innate) faculty of reason at work here, or to which we need to defer, in drawing a picture of this sequence of explanation-and-new-understanding, i.e., a new way to go on in talk of this developmental pattern. It is just a matter of grammar and showing one another how we talk correctly about things. What else can we say happens? (Note that I am trying to maintain this description of the process of explanation as a grammatical remark. This is also part of what makes writing with Wittgenstein difficult to achieve.) The subsequent changes in the abilities to go on in the correct ways that do happen may be given other kinds of accounts, e.g., psychological ones, but that does not affect the main outline of the picture of this learning situation, which is kept on the *plane of meaning*. The 'educator' in this situation would now look to see how their interlocutor went on to use the relevant terms in their ongoing discussion or in future discussions. Thus it is important that there in fact be some kind of ongoing discussion in which learners can manifest their understanding so that there is some opportunity for any 'relapses' in grammar to be discouraged, and for any correct projections of the grammar new to the learners to be applauded and encouraged in various ways, e.g., by seamlessly going on from what they say in the discussion. The course of the explanation could have gone the other way, in which one or more of the learning professionals resist the explanation (i.e., the attribution of the feature of resilience as a way to explain certain general patterns in development), by showing the

'educator' and the others that the grammar of "resilience" cannot include such a connexion or pathway to "successful navigation through significant threat" due to its connexion to other (problematic) signs. 'That is just not how that word is used,' would constitute the basic form of the rejoinder, and that the expression, "children who successfully navigate through significant developmental threat" requires talk in the form of a different account, i.e., that this sign needs to be connected up to other, different expressions through the links with different grammars.[103]

The thrust of this kind of grammatical perspective forms the principal theme for the rest of my thesis, which is to sketch and apply a picture of professional learning in which expanding learners' grasp of the relevant signs' grammar (i.e., giving them more places to go) and/or showing them how to move around in the grammar that they have through different kinds of language games (i.e., showing how to get around from place to place) are the main parts. In very basic terms this is the picture of professional learning to which we progress *from* the picture of language and meaning sketched by Wittgenstein. Through this picture of language we can envision further the process of professional learning situations in which learners show how they know how to go on – viz., by showing the places they have to go – and show how they play the appropriate language-games to get from place to place or to find or establish new places to go (possibly showing in these latter imaginative, creative ways of moving from place to place). Moves between places in grammar, along the connexions and pathways between signs, is constitutive of meaning; and it is this overall design of a view of things which moves *from* language and meaning *to* learning that I find both compelling and instructive for work and thought in the field of supporting professionals in their own learning initiatives.

Let me conclude this section of the chapter by observing that this is the start of my sketch of the picture of professional learning that I see can emerge from the application of Wittgenstein's picture of language and meaning. In the next chapters (i.e., **Chapters 4-5**) I begin to explore how we can apply this picture of

[103] Explaining the meaning of some word follows a similar, basic pattern as the above. We learn to use a new word in the way in which we use words with which we are already familiar: someone (or something) points to, gestures toward, or shows us these other sets of words. Otherwise put, to explain the meaning of a sign is to (begin) to set out the grammar of the sign, i.e., the web and weave of its connexions to other signs. In this way we learn to *adapt to* the existing grammar of signs; in learning a new word, we extend, multiply, or correct the connexions between the signs that we are familiar with. Questions of more refined differences between signs call for descriptions of variations in the circumstances and contexts which called for such differential use of the two signs. We offer up more signs, and by doing so present or show to others something of the connexions or paths between the signs proffered, i.e., we show the grammar of those signs. (A definition is a contribution to the grammar of a word; "Now a definition often clears up the *grammar* of a word" BB, p. 26.)

learning to more concrete issues and cases of professional learning. The discussion in the current chapter provides us with a way to look at and talk about actual professional learning activity, with one result that we tighten our focus in considering the work of actual professional learning *in situ*, to a view of the places the professionals have to go in their talk and the means they have of moving between those places. I turn now to consider how some philosophers of education have incorporated ideas of Wittgenstein's into their work.

3.3 Literature review

How have scholars in philosophy of education taken on Wittgenstein's ideas in discussing learning? Have any of these scholars made the attempt to discuss adult and/or professional learning? Have any of these attempts (if there have been any) been pursued from a perspective based on Wittgenstein's picture of language and meaning? If yes, on the basis of what angle(s) on Wittgenstein's picture have they taken their perspective and pursued their inquiries (e.g., focusing on games or activity, on rules, grammar, or on training)? In this section I very briefly review some of the literature in the philosophy of education, though I find little done there concerning adult/professional learning which incorporates ideas from Wittgenstein. My goal here is to continue to situate my own efforts to apply Wittgenstein's picture of language and meaning in drawing a picture of professional learning. One finding from this review is that my thesis offers a new perspective to the field for consideration.[104]

The literature on learning which takes up in a significant way a perspective from Wittgenstein can be divided loosely into three groups. The first group includes those scholars who concentrate mainly on *early* or *initiate* learning, that is, the first learning of novices (i.e., young children) into language, the idea here generally being that the learner is initiated (or 'encultured') into some practice. This group includes Meredith Williams, José Medina, Michael Luntley, and Paul Smeyers (though the work of Smeyers and his colleagues ranges over the learning of more mature speakers as well). I contrast this group's approach to initiate learning and its connection to the normativity of meaning with the work of Hannah Ginsborg, who is connected with the recent Kripkean tradition in thinking with Wittgenstein. Ginsborg departs somewhat from the Kripkean body of literature by taking up a Kantian approach and claiming priority for a *primitive* normativity different in kind from that discussed by Medina. The second group includes those scholars who focus on the learning of young mature speakers, i.e., students in school. This group includes Per-Olaf Wickman & Leif Östman and Wolff-Michael Roth. Despite the non-

[104] As with the literature review I offer in **Chapter 2**, this is a necessarily truncated review, and I have had to leave out various thinkers and their important contributions to the literature.

professional status of the participants in their investigations, there is still much of value that can be taken away from these thinkers' work, particularly in terms of their research methodology and sensitivity to the small changes in students' developing discourse. The third group consists of scholars who have taken up ideas from Wittgenstein to investigate professional learning. This group includes the work of Domenic Berducci and Sébastien Chaliès and his colleagues, and focuses on a rules-based perspective from Wittgenstein as guiding their research. While I find their approaches unsatisfying (and based on problematic readings of Wittgenstein), I value the spirit of their inquiries and their close attention to the discourse of the participants in their studies. In general, I find it interesting to note how many scholars set the individual apart from language, language-games, and practice, with the result that the problematic of interest becomes how the individual relates to the practice(s), etc., in question. I do not take that this is Wittgenstein's approach.

The contention of Meredith Williams (1994, 2010) is that "understanding the role of learning plays [in particular 'first learning'] sheds light on the nature of normativity itself" (1994, p. 175). Her interest is with obtaining a "genuine explanation" (p. 177) of this feature of normativity, and with how a "normative practitioner whose actions are guided by rules" is created (p. 181); she says that "Wittgenstein's concern is whether this picture of language and language learning [i.e., learning by ostensive definition] is adequate to explain the normativity of language" (p. 177). She provides a short summary description of normativity: "'Normativity,' as I shall use it throughout this paper, is restricted to performances, nonverbal as well as verbal, that can be judged to be correct or incorrect" (p. 179).

In her 1994 paper she discusses three roles that learning plays in the acquisition and determination of concepts and rules. First, learning plays a causally grounding role in fixing meaning for the initiate learner, and here she shows how Wittgenstein discounts ostensive definition in favour of ostensive training for this role, and introduces the notion of the 'stage-setting' by the mature language speaker to facilitate the training of the non- or early-language speaking child. Through stage-setting, in which "the status of the naïve learner's utterances (that, for example, they are taken as judgments or requests) is a function of the status extended to those utterances by masters of the practice" (p. 180), the child learns "to adapt her behavior to norms without recognizing that her behavior is normatively guided" (p. 179). The learner's behavior eventually shifts to being guided by norms *qua* norms. The second role that learning plays in the acquisition of concepts and rules is methodological. Here the key problems Williams identifies are: "How does the novice become a rule-follower?" and "How does the linguistically incompetent person become the competent language user?" (see p. 175). Here Williams introduces her

'manifestation argument,' i.e., that understanding is *public*, and the notion that understanding and practice are social, i.e., can only emerge in a social setting. These questions, then, are given a response in terms of a stage-setting that is "public and social" (p. 185) for initiate learning. In essence, Williams says, "we need to establish patterns such that individual behaviors occur because they are part of the pattern" (p. 187), and connects this to rule-following, in which there is a mutuality between acts and rules such that "the rule is made a guide, or standard, for action *by* our acting towards it in ways that are fixed by our training" (p. 188). This leads to the third role played by learning, viz., how we learn concepts is constitutive of what we learn. Here Williams argues that adopting or acquiring a concept is linked to mastery of technique (and that in training, techniques can only be shown). Techniques are "the regularities that create the space for going on in the same way" (p. 198) (i.e., make possible 'judgments of sameness'), and that it is for this reason "that one can say the process of learning is constitutive of what is learned" (p. 203).

José Medina (2002, 2004), following Williams, suggests that it is a "social and developmental account of normativity [that] is developed in Wittgenstein's discussions of language learning" (2004, p. 82). It is through the development of a '*second nature*' that ("primitive") normativity is made possible, and "we acquire a second nature by being socialized or acculturated in shared linguistic practices structured by norms" (2002, p. 282). Medina says that, according to Wittgenstein, "what is acquired in language learning … is a set of normative standards for the application of words" (2002, p. 282). Medina says:

> Language learning is thus conceived, on Wittgenstein's view, as a process of *enculturation* or *apprenticeship*: linguistic norms are learned by being acculturated into shared practices. In the training process, the teacher, by virtue of her competence in the practice, functions as a representative of the community of practitioners; and, as such, she has the capacity and authority to bring the behaviour of the novice into harmony with the behaviour of the rule-following community. The goal of the training process is to bring the pupil into the practice, and this is achieved by effecting a 'consensus of action' between the pupil and the teacher, and hence … between the pupil and the community of practitioners. (p. 83)

Even though Medina is speaking here of novice first-learning, I find what he says to be almost entirely applicable to the case of the learning of adults and adult professionals as well (*mutatis mutandis*). Taking Medina's statement here as applying equally well to mature language speakers is of a piece with my perspective on Wittgenstein's picture as a matter of learning language-*games*, move-making, and grammar, and as within contexts of appropriate communities of adepts and fellow speakers. As

indicated, my own position is that once one knows how to play games, it is a matter of exposure, training, and practice, in the embrace of community, to learn how to play *any* game; this is in essence a strong situative perspective. The important work of Gabbay & le May (2004, 2011), for instance, shows just this process in adult, professional learning (see **Chapter 2**). Teaching generally occurs in more diffuse ways in typical professional learning, though teaching can (and, for Schön, *must*) be instantiated in tightly paired relationships ideally between teacher/mentor/coach and student. All the same, the relationship, process, and outcome would be almost exactly as Medina describes it here.

As per Williams, Medina emphasizes "blind rule-following," which is the result of a process of 'internalization' of "normative standards" and "standards of correctness," which, in turn, is a result of acculturation (see 2004, p. 84; also see 2002, p. 183). And, like Williams, Medina is also concerned to set out an (explanatory) account in response to questions such as, "How does our behaviour become normatively structured?" and "How do we move from pure causal determinations to reasons and standards of correctness?" (2004, p. 84). Medina says that, "for Wittgenstein, a normative practice is a social practice that contains common ways of proceeding, shared techniques, which are culturally transmitted [i.e., which are taught and learned]" (p. 84). Thus for Medina it is learning that makes all the difference, and that the ('radical') transition he sees to be Wittgenstein's concern is due wholly to learning: "the dividing line between normative activities and mere causal regularities is a line that runs between the learned and the unlearned" and that "the presence of learning processes is the *only* warrant for the ascription of behaviour that admits normative evaluation" (p. 85). However, Medina (2004) struggles to produce arguments that support this claim. Medina's assertion that individuals develop 'normative attitudes' by joining (i.e., by being enculturated into) normative, social, common practices strikes me as circular. My own suggestion is that meaning is normative insofar as language *says* it is, as it were, i.e., that in the language-game *these* are the moves that can be made in such and such circumstances, and, by implication, that there are moves that cannot be made on pain of meaninglessness, confusion, the loss of ways to go on, etc. That is what I take the picture of autonomous language and meaning that Wittgenstein offers us: "Practice [i.e., language] must speak for itself" (OC §139).

Paul Smeyers and his colleagues (Smeyers, 1998, Smeyers, 2017, Smeyers & Burbules, 2005, Smeyers & Burbules, 2006, Ramakers & Smeyers, 2008) re-focus talk of rules and language-games in terms of practices, and devote considerable attention to the notion they derive originally from Wittgenstein that education is *training* or *initiation* into practices. Reiterating that human life begins in doing and not

thinking (e.g., see Smeyers & Burbules, 2005, p. 337), Smeyers (1998) encourages us to recall that "for Wittgenstein education is surely a practice" (pp. 303-304). The applicability of this across a range of ages and learning situations can be seen in Smeyers & Burbules' statement that, "[s]urely, there are parts of what constitutes formal education (schooling) that can still be seen as an initiation into practices, and the same is true for the professions, as in being trained to perform a particular job" (p. 446).

Smeyers and his colleagues emphasize that training is different from conditioning: the associations formed in training are "structured by a practice, which, for Wittgenstein, is rule-governed, that is, normative" (Smeyers & Burbules, 2005, p. 337), though little is said in these papers about what constitutes training. Smeyers & Burbules (2005) talk about the "structuring provided by the community" being "logically necessary" for learning, and that this "complex pattern is necessary for the token utterance or action to have significance" (p. 337).

Smeyers & Burbules (2006) discuss the notion that "part of learning a practice involves *practicing*" (p. 447), and indicate that what activities constitute practicing in learning a practice can be a complicated matter. They go on to say, on this basis, that:

> Analyzing the highly specific and very different ways of learning and enacting such practices (or practicing) can help us answer such questions [i.e., what kinds of specific practicings in a particular profession make for mastery?], because these may vary from person to person and context to context. (p. 448)

It is thus an empirical matter what learning activities lead to the 'same' practice, but that understanding one another, i.e., being able to go on in the same ways, making moves that are usefully recognizable by relevant others, is the end result of being initiated into practices and practicing. For Wittgenstein, and for the purposes of my thesis, the specific empirical-contingent activities that lead to mastery are incidental, as we proceed here on the picture plane of language and meaning only. All the same, the notion of doing as practicing will be important in my thinking about professional learning, and is as well guidance that emerges from the situative-type perspectives of Lave & Wenger and Schön (e.g., see **Chapter 2**).

For me, Smeyers' (1998) discussion also guides me methodologically in considering my approach to study professional learning. As Smeyers says:

> [I]t will be argued that instead of paying attention to prediction and interference in actions, educational research should focus on particular cases, on how things are. It too has to acknowledge the authority of the *form of life*: description and acceptance will therefore characterize primordially the endeavour to understand this area of the human. (p. 290)

For my own research it will be important to follow out this Wittgensteinian vein tapped by Smeyers, to set myself to learn from the professionals themselves, particularly within and the occasions of their own learning activity. I am encouraged, then, to turn directly to the particular cases of the actual talk of professionals themselves in the context of their own natural professional practice, structures, and environments (see **Chapters 5** and **6**).[105]

It is interesting to consider in which direction and in what kind of manner the line of influence runs between normativity and activities such as learning, initiation into social/common practices, training, enculturation, etc. I take it that these activities are emergent from the picture of language and meaning that Wittgenstein sketches, which includes the normativity of game-playing and move-making; for Williams, Medina, and Smeyers, the line of direction runs the other way, viz., learning, enculturation, etc., *explain* normativity in Wittgenstein's picture of language. As Williams (1994) says in this regard, "understanding the role learning plays sheds light on the nature of normativity itself" (p. 175). The positions of Williams and Medina (and to an extent Smeyers' position, though his concerns lean also towards the role that 'forms of life' play in practices and our initiation into them) unfold in the way they do because these scholars emphasize rules over moves (i.e., over game-playing). The position I have been developing from my perspective on Wittgenstein's picture of language and meaning, on the other hand, puts its emphasis on moves that one experiences or judges as correct, appropriate, and thus as meaningful. In the kind of position developed by Williams and Medina, moves (in language-games) are *inferred* to be correct, appropriate, and thus meaningful, *because* they manifest (appropriate) rule-following, which is different from a position in which it is moves that are *experienced* as correct, etc.[106] The point, however, in canvassing these positions is mainly to situate better my own efforts, and my aim is not to take up such contentious issues as the nature and origins of normativity.

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[105] To some degree this accounts for my interest in the work being done by Berducci, Wickman & Östman, Roth, and Chaliès and his colleagues (see below), and for the value I attribute to such efforts.

[106] I.e., as an infant experiences one move as correct in a simple peek-a-boo game, for example, a move that allows them to go on, and another move that they experience as incorrect, and find disconcerting and disabling in the course of the relationship moment. Exactly the same happens in adult, sophisticated instances of professional learning. As I note, however, advancing a notion of *experiencing* moves as correct/incorrect leads me only at best to point to territory into which I cannot practically enter in this thesis project.

One kind of objection to the approach developed by Williams and Medina is the argument developed by Hannah Ginsborg (2011, Ginsborg & Haddock, 2012) concerning the notion of *primitive normativity*. This is her Kantian contribution to the growing literature stemming from Saul Kripke's (1982) reading of Wittgenstein's purported meaning skepticism, Kripke deriving most of the flavour for his argument, in turn, from his reading of PI §201 (e.g., see Kripke, 1982, pp. 7ff.).[107] As with Williams and Medina, Ginsborg is concerned with how language and meaning become normative in the course of initiates learning language. Ginsborg takes Kripke's principal question to be, "whether my present usage agrees with my past usage" (2011, p. 232) as the key move challenging whether it can be said legitimately that someone means one thing rather than another with any utterance (e.g., see Kripke, 1982, p. 11). The crux of Ginsborg's argument turns on her rejection of the notion that the "ought" of language usage "has to be conditional on your past meaning or past intentions, or on a rule which you previously had in mind for the use of the term" (p. 232). This "ought," she argues, is "[independent] of any assumption about what you, or indeed anyone, meant previously by [the term]" (p. 231). Rather, the "ought" in question "expresses" what she will call, following a Kantian approach, "primitive normativity" (p. 233).

Primitive normativity is a (natural) disposition of humans to react in certain ways to certain kinds of training and environment, contra Williams and Medina (and Smeyers, to an extent) who assert that the normativity of language and meaning is a matter of acculturation or initiation *into* normative practice.[108] Ginsborg argues that normativity is a feature that emerges out of the individual learner in the right circumstances, while Williams, Medina, and Smeyers all argue that normativity is something outside the learner into which the learner must be brought, i.e., into which they must be trained. Ginsborg says, "[the child's] being disposed to go on after "40" with "42" rather than "43" is a reflection not of how she has been trained, but of her natural tendency to go on in a way which tracks the series of even numbers" (p. 236). Again, this is part of Ginsborg rejection of 'rule-following' as any kind of source of normativity, i.e., a rejection of the idea that the "[learner's] sense of the appropriateness of what she is saying thus derives from her recognition that it fits the rule she was following: a rule which she grasps, even though she is unable to articulate it" (p. 238).

While this view – and the views of many of her colleagues – is at odds with the view of many philosophers of education in the Wittgensteinian mold, I find that it does resonate at times with things Wittgenstein does assert. For example, taking up the Kantian theme (from Kant's *Critique of Judgment* in

[107] E.g., see Boghassian, 1989; Wikforss, 2001; Hattiangadi, 2006, 2007; Glüer & Wikforss, 2009; Whiting, 2016.
[108] For example, Medina (2004) says that the "blind rule-following of competent practitioners [of language] … results from the internalization of standards of correctness [i.e., normative standards]" (p. 84).

particular), Ginsborg says that, "to exercise judgment in this independent way [i.e., as per Kant] is to judge particulars to be contained under rules or concepts which are, so to speak, not already in the understanding but rather made possible by those acts of judging themselves" (p. 253). I find this to be something of familiar theme in Wittgenstein's work, not only in connection with the mutualities I have identified in the previous section and with what I have set out as the complicated and tight intertwining of language-game, grammar, and rule (i.e., through the ongoing use of signs), but connecting also with such related statements by Wittgenstein as, "My judgments themselves characterize the way I judge, characterize the nature of judgment" (OC §149).

My concern with Ginsborg's highly stimulating work is that no matter to what dispositions aim, they still in the end have nothing to do with meaning. Rather, the source of meaning lies in what a *language* does, as it were, and not what individual speakers do. It is the game of language and the appropriate moves thereof that make for meaning and for normativity. Utterances are meaningful by virtue of their place and role in grammar and language-games, and it is not that the *speaker* means (i.e., as an active verb) something by saying something, but that in speaking in context in accord with the rules and grammar, the speaker utters what is meaningful. Thus *this* problem of normativity that Ginsborg addresses and resolves in terms of a primitive normativity situated mid-way between (natural) dispositional and non-reductive accounts is a result of how she describes meaning and the use of signs in the first place. At the same time Ginsborg's work also provokes me to consider again the initiate learner's transition to game-playing. She says,

> Suppose that the child does react in this way [i.e., saying "42" after "40" *and* insisting that this is the right thing to say]. On the face of it, there is a normative claim implicit in her reaction: she is claiming that "42" is appropriate, or what she ought to say, given what she has said previously. (p. 234)

For me, this is the crux of the issue in considering how to talk about the initiate's beginning to recognize and play games, which, following Wittgenstein's picture, is the entry ground into language for individuals. Secondly, it provokes me to wonder whether the normativity of first games (e.g., simple 'peek-a-boo' games with infants) is different from the normativity of the child's saying "mama" just to their mother or "wawa" just with regard to water.[109] And is the normativity of these different – in kind?

[109] Though my phrasing of things here is problematic (i.e., "just with regard to water"), as it appears denotational in tone, and thus also appears to commit me to an ontology to which I do not want to commit. Such formulations are both the source of many problems (i.e., they lead us into "fly-bottles"), and are part of the picture of language

– from the normativity in Ginsborg's and Wittgenstein's much more advanced examples of counting by two, understanding how to continue more complicated number series, of the 'life of conversations,' etc.? (And what hangs on sorting out whether there is difference in these kinds of cases?)

Michael Luntley (2007, 2008a, 2008b, 2017a, 2017b, 2018) is interested in much the same Wittgenstein-oriented set of issues as Williams, Medina, and, to an extent, Smeyers, though he arrives as a radically different conclusion as a result of his investigations (though I find that he begins to approach something of Ginsborg's position in terms of 'natural reactions' in his later work). Luntley develops a rather provocative position, basing his arguments on what can perhaps best be described as a rationalist reading of Wittgenstein (e.g., see 2008a, pp. 697-699). The crux of Luntley's position is his development to the solution of the gap between being a non-language-using to a language-using being, which for Luntley essentially means the gap between a non-reasoning being insensitive to the normativity of meaning and a reasoning being who can ask for and give reasons justifying the correctness of their language use. As Luntley (2017b) asks in this regard: "Given the restricted ability of the pupil, how does a display of the teacher's extensive ability provide them with the resources to upgrade their impoverished ability? … How do we teach activities to those who are not already party to them, which means that they lack the resources for taking part?" (p. 440). Luntley's answer to such questions is that training cannot account for initiate learning, and thus the normativity of meaning for Luntley is only possible in terms of the 'logical space of reasons,' and requires a *sui generis* reasoning capacity.[110] So the key question for Luntley, then, is how *do* we develop the capacity to reason. Taking up Wittgenstein's notion of 'training,' which many philosophers of education have done in providing an account of how we become language-using beings on the basis of their reading of Wittgenstein, is, Luntley argues, conceptually inadequate to "bridge the breach between non-rational capacities and reasoning skills" (2008a, p. 699). Training, as such, can only causally impact non-reasoning capacities, and these can never of themselves result in children's transition from non-language-using (and therefore non-reasoning) beings to language-using (and reasoning) beings; only kind can lead to kind, and thus only reasoning can lead to reasoning (i.e., 'minimal reasoning' of some form can lead to reasoning in more robust forms).

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and meaning that Wittgenstein is working to reject. See also the difficulty in judging 'thresholds,' so to speak, and thus the nature of the normativity involved, in Wittgenstein's discussion of judging a 'first word read' at PI §§156-157.

[110] Luntley (2008a) says: "Paradigmatically, this point occurs when the pupil uses words with the recognition that they are used according to standards of correctness and incorrectness. To realise that there are standards of correctness for the use of words is to acknowledge that the use of a word is something that stands in a web of reasons. It is something that can be challenged and defended by the giving of reasons" (p. 697).

If one's goal is to think about an empirical solution to this problem of the gap between beings who can grasp the normativity of meaning (and thus who have the ability to use signs) and those who do not (or even, in my own terms, how infants make the transition from non-game-playing to game-playing), then Luntley offers useful guidance. In these papers he canvases three kinds of similar solution: (1) nativism (in 2007 and 2008a); (2) affective engagement as an innate transitioning mechanism (in 2008b); and (3) play, i.e., exploiting rhythmic patterning input and innate aesthetic sense (i.e., "the cognitive order in question is an order supplied by the imagination, an aesthetic sense that looks for, and creates, patterns that are, in the first instance, patterns of things like rhythm and rhyme" (2017a, p. 965). In the end, Luntley's quasi-Wittgensteinian solution to the problem of the gap between language-users and non-language-users is a matter of being born with enough of an innate "cognitive kit" that we can start to use reasons when stimulated by environments in the right ways.

Luntley's work, as I have indicated, stands in the tradition of rationalism, particularly in light of its emphasis on nativism, but more specifically it connects to the line of thought most strongly connected to Noam Chomsky and Jerry Fodor. For Chomsky, it is impossible, on empirical grounds, that we are able to learn a language principally through exposure as children to the spoken language around us. The amount of language we are exposed to, Chomsky argues, is simply insufficient to account for the language that we learn in the time we learn it. Fodor approaches the issue from the perspective of learning, arguing on conceptual grounds that learning through hypothesis formation and confirmation (which, he claims, is the only theory of learning we have), is conceptually incoherent, involving an irresolvable learning paradox, and so we must, in a strong sense, already know everything we need to know through what he calls a 'Language of Thought.' Both Chomsky and Fodor (and their adherents) thus adopt differing versions of nativism to resolve these genetic problems. Luntley follows their lead, though giving his solution a Wittgensteinian spin.

Domenic Berducci (2010) takes up elements concerning rules from Wittgenstein's picture of language to argue against an intellectualist conception of rules, which "assume[s] that rules are causal and mental phenomena" (p. 445). Berducci emphasizes the importance of employing "participant-generated rule-formulations as analytic descriptors" (p. 445), I gather as part of the community-based orientation he is desirous to display with regard to rules and to rule-formulation and rule-following (see p. 446). He also wants to show that means-end technical practices in science are a matter of "constitutive" rules (see p. 542), and to show the separation of "learning how (through the manifestation of a rule)" from "learning why (through rule formulation)" (p. 453).

Berducci explores the place and role of particular rule formulations in contexts of understanding, training and learning, and appropriate community (i.e., in the context of "community judgment"). While Berducci applies his thinking to rules that are productive in the context of empirical, contingent means-ends relationships (and not to the grammatical rules that Wittgenstein is primarily interested in – see **Section 3.1**), he nevertheless works hard to establish both the nature of the functionality and the normativity behind such rule-following in terms of participation in the appropriate community. He does this largely through an analysis in professional learning interactions of such language-games as 'giving rules,' 'following rules,' 'ordering,' 'instructing,' 'asking questions,' and of the grammar of such words as "rule." Telling others how to do things is certainly a part of professional training, and so articulating rules in professional practice is a language-game of much interest; a grammatical investigation of that would do much to clarify what we do and how the signs hang together in the practice of learning, and then following, such articulated rules. One utters meaningful rules (or orders, instructions, etc.) insofar as one makes moves legislated by the appropriate language-game(s) in the appropriate contexts and circumstances, and insofar as one plies to the grammar of the signs used in the utterances made/language-game(s) played. Only by following grammatical rules can we do things like utter (meaningful) rules, orders, instructions, questions and corrections.

Berducci's analysis focuses around a detailed description he provides of the case of the experienced biochemist teaching (i.e., 'training') the novice technician how to clean a specimen container called a "cell" (and then how to insert it properly into the spectrographic equipment). The actual, articulated formulation of the relevant rule, i.e., "cleaning the cell [i.e., the specimen container]" (p. 455) is minimal in the extreme, and is only 'fully' given through example demonstrations (i.e., by non-articulated, non-verbal means). As Berducci points out (see pp. 459-460), the actual rule formulation and demonstrating actions hardly begin to cover the indeterminate variations of movements and micro-movements that would constitute to all concerned 'cleaning the container' or 'a clean container.' Thus one interesting finding of Berducci's study, which is not highlighted by Berducci himself, is how little rule-formulation needs be articulated in teaching-learning situations in order for a rule to be taught, understood, and acted upon and followed. There is something remarkable in this kind of phenomenon (though its opposite is perhaps just as frequent), and is picked up by Wittgenstein in different ways, as well as by the conversation analysis researchers in their studies.

In a series of articles describing their work assessing the impact and effectiveness of preservice teacher training programs in France, Sébastien Chaliès and his colleagues (Chaliès *et al*, 2010; Chaliès *et al*, 2012;

Chaliès & Bertone, 2017) ostensibly situate their studies in terms of Wittgenstein's ideas about rules and learning to follow rules, ostensive teaching, and the use of examples. They state that this conceptualization comprises:

> Teaching the professional rules that will allow PTs [i.e., preservice teachers] to give meaning to their experience, explaining to PTs how the rules can be used, and helping the PTs to follow the rules in order to broaden their understanding of the classroom experience and enable them to act adaptively. (Chaliès *et al*, 2010, p. 768)

Chaliès *et al* conducted qualitative studies, gathering data from video-recorded classroom observation, video-recorded sessions between PTs and their cooperating teachers (CT) and university supervisors (US), and audio-recorded researcher-led interviews with the PTs (i.e., which provided self-confrontation data). The main focus of their analysis of these discursive data turns on the attempt to identify the rules explicitly identified by the different participants and, for the PTs, to show how these rules are ostensively taught by the use of examples (both through real-life cases by the CTs and via verbal means alone by CTs and USs), and how correction and encouragement is used by CTs and USs in supporting the PTs to follow the rules. Analysis also looks at how the PTs perceive and understand the CT and USs' efforts to exemplify and correct/encourage rule following.

Chaliès *et al* found hundreds of explicit rules articulated by the various study participants, with varying levels of success recorded in terms of the PTs' certainty about individual rules, their ability to "assign meaning" to their experiences (e.g., see Chaliès & Bertone, 2017, p. 662), and the extent to which they follow the rule(s) in their classroom practice. They also consider the nature of the PTs' 'interpretation' of the rules that have been articulated and in transfer issues. Chaliès & Bertone (2017), for example, say: "They [the PTs] are now able to build a system for interpreting the rules that authorizes an "extended" use of the meaningful links outside of the original situations in which they were learned" (p. 663).

For the most part, Chaliès *et al* are looking at empirical processes and the relevant means-ends rules which emerge from them – e.g., 'core muscle work needs to be part of the warm-up' – as exemplary of rules and rule formulations[111] These studies may be doing valuable work showing how certain

[111] This particular rule formulation was set for a PT in a physical education teacher training program (see Chaliès *et al,* 2012). Note that some of the rules that Chaliès and colleagues found articulated in the participant discussions were more straight imperatives, (e.g., "make sure the instructions are clear and concise" – Chaliès *et al*, 2010) or instructions or suggestions (e.g., "play with silence", "lower your voice" – Chaliès & Bertone, 2017). That these

propositions become the "aphorisms, maxims, and old saws" of professional practice, as Karen Montgomery (2006) describes them in her study on clinical judgment, but I would suggest that these are not the grammatical rules that Wittgenstein is most interested in. Finally, I am uncertain whether Chaliès *et al* need a Wittgensteinian framework for their otherwise important work. An alternate framework focusing more on the staged development of expertise, as developed by Dreyfus and Dreyfus (1986 – see **Chapter 2**), may be more useful.

My sense is that Berducci and Chaliès *et al* have both conflated grammatical rules with (ordinary) empirical rules that are contingently productive in a means-end sense. Grammatical rules (in the two senses) are what ground the meaningfulness of spoken statements, in this case, of spoken statements of rules or instructions, and thus are at root of our understanding, learning from, and following rules formulated in signs. Grammatical rules are for meaningfulness; rules that are productive are for achieving certain ends by certain means. When we misfire in our application of the former, there is meaninglessness, confusion, no understanding, and no way to go on (except in linguistically compensatory ways). When we misfire in our application of the latter, we simply do not achieve the ends we wanted, or do not achieve them as much or in the way that we wanted – but we still achieve an end, and it is easy enough to go on in different ways. Grammatical rules are more fundamental to language than this in the picture that Wittgenstein is drawing: "If you want to understand what it means "to follow a rule", you have already to be able to follow a rule" (RFM VII 39).

It is also perhaps easy to see the analyses of Berducci and Chaliès *et al* lending themselves more to basic programmatic approaches based on a particular reading of rule-following, though it is not clear how much they need draw from Wittgenstein for these purposes. Their studies work to identify the rule or rules the professionals in question articulate and follow, and by delineating these rules produce an understanding of those professionals' practices and learning. For Berducci and Chaliès *et al*, professional training is a matter of being given rules (through various articulations) that have in some manner the sanction of the relevant community, and in following such rules develop the requisite professional understanding or ability to go on in the correct ways. Grammatical-type studies of the language-games of asking for, giving, and following rules would indeed be no small contribution to the literature, and Berducci and Chaliès and his colleagues have made a reasonable start in this endeavour (and see my similar suggestion in **Chapter 4** with regard to the language-games of inquiry).

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various rule articulations represent empirical, contingently-productive rules is apparent in the papers' discussions of them.

Per-Olaf Wickman and Leif Östman (2002) and Wickman (2012) set out a research programme for studying learning purportedly based on (i) change in language-games of learners and (ii) on Wittgenstein's notion of propositions "standing fast," which the authors assume from Wittgenstein's *On Certainty*. In these two papers, Wickman and Östman endeavour to examine in examples of real discourse how language games change in the course of ostensible learning events. Appearing to take up a kind of problem-solving approach to learning (see, for example, Barrows, 1996), they attempt to sort out how needs for "new relations" come to light in what they call 'encounters', i.e., in learning events, and how "gaps" (i.e., between a current discourse practice and what is presented as a new discourse practice – see, e.g., pp. 603, 605) get 'filled' in such learning encounters. The upshot of their position is that people learn by construing relations of similarity and difference to what stands fast such that identified gaps – even transient, momentary gaps – are successfully filled. The successful filling of a gap is when the newly construed relations in turn stand fast. The encounters Wickman and Östman (2002) talk about are principally discursive ones, though they can importantly involve non-discursive, physical things, such as the pinned insects in the case study the authors discuss.

It is an interesting and provocative tactic for Wickman and Östman to draw from Wittgenstein the notion that some things within discourse or a language-game are "standing fast" (e.g., see 2002, pp. 604-605; 2012, p. 147). They say that what stands fast "is "what is immediately intelligible" or "immediate", that is, no additional explanations are needed for us to understand" (2002, p. 604).[112] Wickman (2012) says that 'stand fast' "is a very situational term", and that "a certain word may stand fast in one situation as part of an activity, but not in another" (p. 147). For example, Wickman and Östman (2002) indicate that the students' finding that what looks like "vessels" in the wings of their bumblebee specimen are called "wing veins" is a "putting fast" the relation between two things, i.e., between what looks like vessels and wing veins or, alternately, the relation of "similarity between bumblebees and wing veins" (p. 614); they go on to add that, "In [a passage of dialogue] the students talk about the antennae of bumblebees. Antennae are standing fast" (p. 614). However, I suggest that Wittgenstein does not hold that individual words are the sorts of things that can 'stand fast' – rather, it is empirical propositions playing certain roles that 'stand fast'.[113] It might be that Wickman and Östman

[112] "That which *stands fast* are all the words and actions that teachers and students use without asking what they mean. They simply use them" (Wickman, 2012, p. 147). Let me also note here as an aside that there are problems with the references given to *On Certainty* provided by Wickman & Östman, i.e., their page references do not match up with the standard 1969 English version of OC edited by Anscombe and von Wright.

[113] See for example Wittgenstein's comment that propositions of the form of empirical propositions, "form the foundation of all operating with thoughts (with language). – This observation is not of the form "I know …". "I

are playing loosely with various comments by Wittgenstein's concerning the *sureness* of language-games (e.g., see: "A *language game exists* in which this assurance is employed" OC §620; "The kind of certainty is the kind of language-game" PI p. 224). The notion that, as any quotidian, natural dialogue develops between interlocutors, new things that emerge in the course of conversation (e.g., words? phrases? observations?) are "put fast" (2002, p. 614) is puzzling, in any sense relative to the relevant notions set out by Wittgenstein. Better, perhaps, for Wickman and Östman's to have framed their notion of 'standing fast' through a consideration of notions more akin to 'commitment in dialogue' (e.g., see Walton & Krabbe, 1995).

However, it is interesting and provocative that the basic organizing assumption in Wickman and Östman's approach is that learning is a matter of comparing instances of something to what stands fast in order to construe relations of similarity and difference. This strikes me as important and heading in the right direction. Wickman and Östman (2002) say that "bumblebees perpetually receive new meaning during the encounters of the students, when they learn new things and new ways of talking about bumblebee morphology as the practical [sic] proceeds" (p. 615), and this seems basically right to me. The students learn how to use "bumblebee", though at this point in their learning they still have very little ability in how to use the word – that is, they have mastered little of the grammar of the sign/concept. Finding their way to more and more of the relevant grammar through various means and coming to know better how to go on in more and more of the ways (i.e., having more places to go) that are recognized and approved of by adepts and masters such as their teacher and entymologists and apiaists, is what constitutes their learning about bumblebees. This process does not, however, entail that the *meaning* of "bumblebee" changes all the time, as Wickman and Östman suggest, but that it is more appropriate to say that the students are learning more and more how to use "bumblebee," perhaps by employing the sign correctly in more and more language-games and in more and more situations.

Wittgenstein has been a long-standing presence lurking in Wolff-Michael Roth's thought (Roth & Bowen, 1995; Roth, 1997, 1998, 2015). In many of Roth's works, one or more ideas of Wittgenstein's get gestured towards in the course of the paper's argument or presentation. Roth (1997) appears to be Roth's first significant attempt to bring to bear on concrete, classroom situations some of the ideas of Wittgenstein (and Heidegger), and to bring into sharper analytic focus what happens in these teaching-

know …" states what *I* know, and that is not of logical [i.e., grammatical] interest." (OC §401). Note, of course, Wittgenstein's discontent with putting matters this way, i.e., concerning "propositions of the form of empirical propositions", in OC §402.

learning situations. In this early paper Roth takes up two main ideas from Wittgenstein: (1) that the notion of 'family resemblance', as applied to language games, is a lever to understand how learning happens (pp. 148 ff); and (2) that the goal of students' learning is to generate "some resemblance to language games in scientific communities" on the relevant topic (p. 150). In *Designing Communities* (1998), in which he which delivers careful and thorough analyses of actual classroom discourse and interactions, Roth sets out the notion of 'language-games' as one fundamental part grounding the analytical approach he takes here. However, in this text Roth works on the basis of a fairly unique understanding of 'language-games,' conceiving this as through various lenses outside of Wittgenstein's own articulations of it, e.g., through pragmatism, Davidson's notion of 'passing theory' (1986, via Rorty, 1989), interpretive theory (via Winograd & Flores, 1987), and situated learning theory. Roth (2015) is his most concentrated effort to make sense of some of Wittgenstein's ideas about language, and to draw these into his own thinking about teaching, learning, and discursive activity in classrooms. Roth insists we absorb in a serious way Wittgenstein's point that we take "the language-game as the primary phenomenon" (p. 35; but see also the complexities of PI §656). Roth puts the emphasis here on (social) *activity*, on the game-playing aspect, and that we ought to take "the collective, motive-oriented, productive human activity as the fundamental unit of analysis" (p. 35). While conceding that Wittgenstein continued to use the terms "understanding" and "meaning", Roth maintains that Wittgenstein at the same time still advocated for their abandonment (e.g., see p. 49), based a reading of selected passages from Wittgenstein's early manuscript, *The Big Typescript* (2005), as well as from the *Investigations*. Roth hopes that this 'pragmatic perspective,' informed as it is by the work of Wittgenstein, will "[change] the ways in which we describe knowing and learning; and it changes the ways in which we have to consider and plan for learning experiences" (p. 48).

Stimulated by this reading of Wittgenstein, Roth argues for an eliminativist position regarding "meaning" and "understanding," pitching four main arguments for eliminating from use these words/concepts. I consider just one of these arguments here, i.e., that these terms refer to troublesome metaphysical entities. As such, they are (by definition) 'inaccessible,' and thus impossible to denote, refer to, or "point[ing] to" (e.g., see p. 29). If we cannot denote or 'point to the thing directly,' Roth's assumption is thus that these purported/theoretical entities are not useful, 'have no place in our considerations' (p. 49), are not even "available in language itself" (p. 42), and thus we can have "no need to seek recourse" to such hidden things (p. 35). By making the case for an eliminativist approach with regard to the troublesome words "meaning" and "understanding" in considering learning in science classrooms, Roth infers that he can then open up space for what he calls a "pragmatic/pragmatist

approach" to language and therefore education. Wittgenstein's (later) work is shepherded into duty for both these moves, though note Wittgenstein's notions of language-games and the autonomy of language being corralled here into an uncomfortable partnership with the Marxist-oriented thought of Vygotsky and cultural-historical activity theory.[114] Thus, given his reading of Wittgenstein, Roth holds that problems of denotation arise when we posit 'immaterial, metaphysical entities/things' as the referents of the words "meaning" and "understanding," which, Roth claims, constitutes the normal use of these words. Since reference fails in such cases (though this conclusion is given to us only by stipulation), the words for these metaphysical things cannot be used in the kinds of accounts Roth wants to give for learning and teaching as, in effect, there is nothing there about which we can say anything.

I find useful, and heading in a direction I favour, Roth's interest in analyzing with close attention student and teacher discourse, particularly in the movement in discourse from idea to idea, from place to place, or from one way of talking about something to another way of talking (which involves change in the way participants see the relevant things). All the same I find Roth's reading of Wittgenstein unsatisfying, noting among other things that the shift Wittgenstein makes, but Roth does not, is to talk of this movement from place to place in discourse as itself constitutive of meaning and understanding.

In brief, this short review has illuminated the gap in the literature concerning a careful application of Wittgenstein's picture of language and meaning in the context of professional learning, or the application of that picture to develop a picture in turn of professional learning. While I am sympathetic to, and interested in, the desires of various thinkers to find some kind of leverage in understanding learning through reading Wittgenstein, I cannot see my own way to a clearer view of professional learning by virtue of these otherwise interesting and profound efforts. I conclude that there is most certainly much room to explore in thinking about the application of Wittgenstein's picture in these pedagogical matters. All the same, one thing with which I am most impressed in many of these thinkers' work is the effort and attention they devote to looking at how the learners themselves talk. Given my developing interest in how professionals talk as key to viewing their learning – a direction I begin to

[114] Recall again how it is that Wittgenstein does in fact speak about this feature of autonomy in the context of his picture of language and meaning. For example, he says: "Grammar is not accountable to any reality. It is grammatical rules that determine meaning (constitute it) and so they themselves are not answerable to any meaning, and to that extent are arbitrary" (PG §133). Here Wittgenstein re-positions us so that we view signs like "meaning" differently, shifting our perspective away from any manner of reifying meaning independent of language. As he says in the *Investigations*, "One might say: the axis of reference of our examination must be rotated, but about the fixed point of our real need" (PI §108).

follow out through my consideration of Wittgenstein's picture of language and meaning – there is indeed something valuable to take away from these investigative efforts.

Chapter Four

The Curious Case of the Professional Learning Paradox[115]

4.1 Preamble

In this chapter I explore a variation of the curious problem of the 'learning paradox' as it applies to professional learning. Specifically I argue that a 'professional learning paradox' can be seen to emerge from considerations concerning learning in the application of Wittgenstein's picture of language and meaning, as well as from considerations concerning the thought of educational theorists such as Schön (1983, 1987) and situative theorists such as Lave and Wenger (1991). For my own part I do not believe that there is any particular (dis)solution of this species of the learning paradox. The work of this chapter is to show how it emerges and to describe it in the terms offered up by Wittgenstein. I hold that, given just these 'premises,' the professional learning paradox as I portray it is simply an unavoidable situation. I also hold, however, that there are better and worse approaches to working through it. Further, this chapter serves as a useful lead-in to the discussion in the next chapter where I begin to apply the picture of professional learning to the case of professionals' actual learning. The current chapter serves as well as a kind of transition from the more abstract discussion about language and meaning in **Chapter 3** to more concrete particulars concerning real professional learning situations.

Let me offer first a quick word on the nature of paradox. Rescher (2001) says that, "a paradox arises when a set of individually plausible propositions is collectively [i.e., in the aggregate] inconsistent." (p. 6) Thus Rescher claims that a paradox is not a problem/mistake in reasoning but in substance, as "a dissonance of endorsements" (p. 7). Rescher interestingly puts it that paradoxes all arise through "aporetic overcommitment" (p. 15) to all the propositions in the set being considered. Resolution is usually effected by abandoning those propositions to which we overcommitted. There are different kinds of paradoxes, the most dramatic being antinomies, which point to inconsistencies in the logical assumptions that we hold. The basic 'learning paradox' arises given a particular rendering of learning within the context of certain sets of assumptions about rationality and knowledge. Its general form is: a person can learn something if and only if they already know that thing. Note that I am not interested in this paper in the issues of properly formulating or resolving the learning paradox itself, which strikes me

[115] This chapter is a version of my Gardner (2017).

as a deeply contested problem.[116] Rather I wish to use it to help me to frame a more specific problem of practice pertinent to my own work in the professional development field, which concerns how professionals can make significant strides in their learning on their own or in peer groups.[117]

The problem of the paradox of *professional* learning can be seen to emerge only through a consideration of Wittgenstein's picture of language and meaning and through the thinking of such educational theorists as Schön and Lave & Wenger. The learning paradox does not emerge in the same way from representationalist or cognitivist perspectives on language, meaning, and learning – though for some cognitivists the learning paradox is the route to inferring as necessary some form of nativism (e.g., in the work of Chomsky, Fodor, and Luntley). It is interesting as well that what I suggest is a problem here has, as far as I can see, been neither identified nor discussed in the literature concerning Wittgenstein and education.

The classical version of the paradox of learning is set out by Plato (1961) in the dialogue *Meno* (see 80 d-e for a concise statement of the argument). Moravcsik (1978) provides a clear formulation of the problem:

> It is not possible for a man to inquire either into what he knows or into what he does not know. He cannot inquire into that which he knows, since if he knows it there is no room for inquiry. On the other hand, he cannot inquire into that which he does not know, since in that case he does not know what it is that he should be seeking. (p. 54)

This is the *Meno* version of the learning paradox, viz., that one cannot even start inquiry that can lead to knowledge. Plato's later dialogue, the *Theaetetus* (1973), sets out a different version of the paradox. There the focus of the argument is on the nature or definition of 'knowledge', which in the relevant part of the dialogue for us is taken to be true judgment/opinion (see *Theaetetus*, 187e-201c). What is of interest here is the dialogue's concern for the problem of *how* we can tell true from false judgment. The point that I am interested in (at 199e – 200c) is that, on the models of knowledge constructed in the dialogue, one cannot tell that one has knowledge or not-knowledge (i.e., true judgment or false judgment). The attempt to determine the one from the other leads either to an infinite or a circular regress (see 200b-c). So the two main issues of the learning paradox are, without *already* knowing what you set out to learn, (1) how one can even get started in inquiry (*Meno* version), and (2) how one can

[116] See for example the innovative debate carried out in the *American Educational Research Journal* in 1999-2000 with regard to Richard Prawat's (1999) article on the learning paradox. (See AERJ 36(1) and AERJ 37(1).)
[117] And "significant" in terms of the goals and desires as set out by the learning professionals themselves.

know when one's inquiry has succeeded (*Theaetetus* version). Versions of these two aspects will be important for our later discussion.

Wittgenstein himself did not explicitly consider the learning paradox, for reasons which I will indicate below. However, a number of thinkers over the last 50 years have been interested in it. For example, Polanyi (1967) framed the problem in the context of the "experience of seeing a problem … for to see a problem is to see that something is hidden", i.e., a possible comprehension of a (new) coherence of particulars (see p. 21). Polanyi sees the paradox emerging only insofar as it concerns what he calls *explicit* knowledge; the resolution of the paradox is through an intimation of the relevant *tacit* knowledge (or, otherwise, in the intimations that are afforded by tacit knowledge). For Polanyi,

> Tacit knowing is shown to account (1) for a valid knowledge of a problem, (2) for the scientist's capacity to pursue it, guided by his sense of approaching its solution, and (3) for a valid anticipation of the yet indeterminate implications of the discovery arrived at in the end. (p. 24)

So we have "tacit foreknowledge of yet undiscovered things" (p. 23), which answers for the *Meno* version of the paradox, and before the "fruitfulness" of the truth of discoveries reveals itself we are "aware also of the hidden implications of a scientific discovery" (p. 23), which answers for the *Theateatus* version.[118]

Other modern versions of the learning paradox proceed on the basis of a kind of *reductio* argument, as powerful evidence of the 'aporetic overcommitment' spoken of by Rescher as characteristic of paradox. Fodor (1980) provided the seminal modern version of the paradox, setting it out in terms of the Chomskyan perspective in contrast to the Piagetian approach. The paradox emerges from the assumption that learning is a matter of hypothesis formation and confirmation by individuals, which

[118] Burbules (2008) provides an interesting perspective on tacit knowledge and teaching, discussing these notions in terms of Wittgenstein's comments on teaching and learning, on 'showing,' and in terms of Wittgenstein's own example as a teacher. This is not the place here to dispute in detail Burbules' argument, but as with a lot of thinking about the issue of tacit knowledge it rests on an unwarranted asymmetry, viz., if I *say* p, a proposition, it is assumed that p somehow exists in me, and if I *do* x, an action, it is assumed that the 'know-how' or 'capacity to x' somehow exists in me. However, why not similarly say that it is the '*capacity* to say-p' that instead exists in me, rather than saying that p somehow exists in me, and thus that the saying of it is straightforwardly non-problematic and so *not* requiring the advertence to something tacit? It strikes me that this proposal is closer to the heart of Wittgenstein's picture of language.

Fodor claims is the only theory of learning that we have.[119] Thus Premise 1 of Fodor's argument is the conditional:

1. If someone learns concept C, then this was done through the formation and confirmation of the hypothesis that some set of instances are C (i.e., belong to category C).

Such theories have no way of accounting for the origin or manner of acquiring concepts *as contained in* hypotheses (see Premise 2 below), and in fact must assume them as "given" in the learning schema (1980, p. 146). Assuming the child's developing cognitive capacities to be a sequence or "series of logics" (p. 147), getting from one stage to the next in development by learning (i.e., hypothesis formation and confirmation) is problematic inasmuch as "such a hypothesis can't be formulated with the conceptual apparatus available at [the earlier] stage 1" (p. 148). In other words, "it is *never* possible to learn a richer logic on the basis of a weaker logic" (p. 148). This amounts to Premise 2 in Fodor's argument:

2. But: someone can form and confirm hypothesis C if and only if they first use C to assemble the set of relevant instances.

And that is the paradoxical result, i.e., that we have to *use* the concept in hypothesis formation prior to and in order to learn the concept. And so the conclusion is:

3. Therefore: the *reductio* leads to the Platonic route, i.e., to a kind of nativism concerning (innate) concepts.[120]

All that learning theories can do is to indicate how beliefs get fixed by studying statistical associations between hypotheses/beliefs and experience, circumstances, etc., but cannot account for how we get from one conceptual system to a 'higher' one. Such movement can *only* be explained within a nativist framework in which sets of innate concepts emerge as the individual matures, as stimulated by experience and maturational changes. As Fodor (1980) states in this much-quoted passage:

> … there literally isn't such a thing as the notion of learning a conceptual system richer than the one that one already has; we simply have no idea of what it would be like to get from a conceptually impoverished to a conceptually richer system by anything like a process of learning. … The only intelligible theory of enrichment of conceptual resources is that it is a

[119] Note that Bereiter, as I discuss below, follows Fodor in this in the body of his argument, but takes the *reductio* to lead in a different direction.
[120] Which concepts, or what in particular, is innate, has been part of the debate among nativists.

> function of maturation, and there simply isn't any theory of how *learning can affect concepts*. (p. 149)

Like Fodor, Bereiter (1985) situates the learning paradox as properly located within constructivist and cognitivist perspectives:

> ...learners must grasp concepts or procedures more complex than those they already have available for application. Thus the learning paradox descends with full force on those kinds of learning of central concern for educators, learning that extends the range and complexity of relationships that people are able to take account of in their thought and action – the kinds of learning that lead to understanding core concepts of a discipline, mastering more powerful intellectual tools, and being able to use knowledge critically and creatively. (p. 202)

Bereiter identifies the roots of this paradox in the general systems problem, viz., "how can a structure generate another structure more complex than itself?" (p. 204), with the more theoretical question specific to human development being, "how can the development of complex mental structures be accounted for by mechanisms that are not themselves highly intelligent or richly endowed with knowledge?" (p. 205). The learning paradox arises for Bereiter, as it does for most others, largely from the cognitivist stance he adopts: thus the paradox issues from the general question of "the extent to which experience can modify cognitive structures" (p. 202). Importantly, Bereiter situates the paradox in the context of the issue of "self-generated cognitive growth" (p. 205).

Bereiter's (1985) resolution of the paradox concerns combining various less-problematic mental resources for a constructivist approach, such as "adapting already-existing systems to new uses" (p. 209), imitation (p. 211), various learning support systems (pp. 211-212), and so on. This solution, which Bereiter himself recognizes as insufficient, is not without its problems. Bereiter concludes this paper by clarifying that the source of the learning paradox is to be found in the constructivist perspective, i.e., that it "spring[s] from one central problem – the problem of explaining how complex knowledge is constructed by the learner" (p. 222).[121]

[121] It is salient to point out here the contrast between this *constructionism* described by Bereiter from the kind of *constructivism* one might reasonably attribute to Wittgenstein, in which knowledge is not some item (i.e., a thought, a proposition) held or grasped by an individual cognitive agent, but should be talked about in terms of relationships to language and community, i.e., a form of moving from place to place within language.

Connected to his (1985) response, Bereiter's (1991) later contribution takes up a complexity route, arguing that a connectionist approach holds the most promise for a resolution of the paradox, being neither a nativist argument nor a learning theory premised on hypothesis formation and confirmation, the latter of which, if taken "too literally" (p. 297), leads to just such problems. He formulates the paradox in terms of learning, i.e., "what is to be learned must already be known in order for learning to take place" (p. 294). The resolution of the paradox is given here through connectionist models, which "provide demonstrations of systems that can acquire apparently rule-guided behavior without its involving any internal representation of rules" (p. 295). Connectionism, then, would be the third way that Fodor could not see.

Finally, Luntley (2008a) attempts to resolve a variation of Fodor's formulation of the learning paradox, viz., concerning the genesis of new concepts. Taking up a cognitivist stance and developing further the main thrust of his general philosophical approach (e.g., see Luntley 1999, 2007), Luntley resolves this issue by working out an affective process that, through a mechanism of sub-conceptual discrimination, is able to generate a certain range of new concepts. This avoids the paradoxical aspect as Luntley describes it, i.e., hypotheses formed out of discriminations which assume the operation of the concept yet to be confirmed (e.g., see Fodor's argument above). However all that Luntley might be said to have shown is that we can (i.e., might possibly) discriminate certain aspects of social behavior at a sub-conceptual level – assuming that affective response is indeed sub-conceptual and minimally rational (i.e., assuming that it possesses enough of both 'worlds'). Luntley's evidence base for his argument "draws on developmental studies of infant cognition" (p. 12), though in fact this 'base' consists only of a few unsourced anecdotes which have the appearance of being constructed for just this purpose.[122] As we have seen, however (see **Section 3.3**), Luntley has another reason for taking on the learning paradox which is more important for his overall project – it helps to support his general argument against what he considers the mistaken Wittgensteinian view of 'training' and socio-cultural influences as sufficient to account for the transformation of persons in their development from being non-linguistic and non-reasoning to being reason-using and linguistic.

[122] Various others have treated the learning paradox, taking up different approaches. For example, Prawat (1999), Glasersfeld (2001), Hoffman (2003), and others have explored solutions based on pragmatist perspectives employing Peirce's notion of 'abduction.' Note finally that the term "learning paradox" is used in far looser ways as well in the contemporary literature. See, for example, Armitage *et al* (2008), where the paradox is identified as the practical problem that learning about resource and environment management is generally recognized as important though little is actually done in the relevant sectors to encourage it.

It is reasonable, I think, to hold that the learning paradox *per se* is not a problem in the terms set out by Wittgenstein. In brief, for Wittgenstein concepts are not self-identical mental-cognitive states or structures that one either has or does not have, but rather 'general' signs consisting of indeterminate connexions to which we travel according to context and circumstance by our move-making in language-games. (Put more prosaically, concepts are signs that we actively employ in different ways to do different things in various circumstances.) The paradox depends on discontinuities between the contents and structures of understanding, whereas for Wittgenstein understanding is a matter of the continuous interactions within a community and its form of life. The problem of the paradox as it is understood by Fodor, Bereiter, Luntley, and others, is how structures can generate new, different structures; whereas for Wittgenstein, inasmuch as 'meaning' is *not* spoken of as the act of individuals or as facts about them, as members of communities we are invited to move actively into more and more sophisticated uses of signs within living economies of signs.[123] At any rate, this brief survey is sufficient to set up my own problematic, and I turn now to what I call the "professional learning paradox".

4.2 The professional learning paradox

In terms of the learning of professionals *in situ*, that is, in the context of their work environments, we can assume for the moment that there is little problem with regard to some of the learning that does in fact take place. In many situations there is already a place or 'post' ready (see, for example, PI §§29-31, 257) for new *information* that is encountered in the course of daily work or in professional learning situations (given, of course, that one knows how to play "the language-game of giving [and receiving?] information," Z §160).[124] The learning paradox for working professionals arises more in terms of deepening of understandings or in learning new ways of seeing and going on in professional practice.

The professional learning paradox begins to emerge from a reading of Wittgenstein that emphasizes (a) the notion of learning as 'training' and (b) that learning is gaining mastery of the grammar of signs and

[123] At the moment I am not completely confident that the learner paradox finds no traction in the ideas of Wittgenstein. As I argue below in the terms provided by Schön, could it be the case that the learning paradox arises in those cases in which progress from mastery of one kind of language-game to another (more sophisticated?) language-game is in question? Something Wittgenstein says in *On Certainty* in this regard gives me pause. He says there that, "if we compare our system of knowledge with theirs then theirs is evidently the poorer one by far" (OC §286). This seems to resemble at least the kind of set-up for the modern species of the learning paradox. However, the notion of 'training' as fundamentally at root in all learning may be the way in which learning paradoxes get dissolved in the frame of ideas provided by Wittgenstein.

[124] Note that my parenthetical comment here is not a throw-away one; taking in new information is a skill that does need to be developed, and thus the training that might be necessary to develop one's ability to play this particular language-game (or set of language-games, if it is complicated skill) would be on the table in terms of potential professional learning initiatives. (This is both an empirical and a grammatical comment, I should think.)

(possibly) the learning of new language-games or the enhancing of skill in the language-games one already knows to play, and the connection between these two. One cannot reason out *in toto* a particular sign's grammar – see OC §475 and Z §545 for different kinds of perspective on this point – but rather must be brought into engagement with its grammar by other means, i.e., by being shown, through training, and then practice, encouragement, dissuasion, etc. (e.g., see PI §§143, 145; RFM VI 18). The grammar of a particular sign is contingent on the language, the result of the history of a culture, of the actual uses played with that sign in numerous language-games. Creative endeavours – scientific or artistic – are bounded on many sides by existing grammars and by the language-games familiarly played with the relevant signs surrounding the new. The new uses of (new) signs that may result may be taken up by others, entering practice and culture to become hardened as they might into forming new connexions within grammars, or these new signs may remain local and quickly fade away. One way of looking at professionals and their expertise is that they are adepts, or masters, in the grammar of certain signs and in how to travel between the places marked out by these grammars; they know how to go on in using these particular sets of signs (and in the associated material practices). Learners, novices, those on the periphery of the relevant communities of practice, on the other hand, know little of the places to go, and cannot find their way between places on their own.

The point I need here to bring out the particular paradoxical aspect of professional learning is that we can learn certain things only by being shepherded along by others, that those who have mastered the relevant grammars and ways of moving between them must perforce guide novices into using signs in the prescribed ways. The problem in professional learning is thus that either one receives the relevant training into the grammar new to them from someone who has the necessary mastery, or one is left unguided to find a way into the new grammar. The problem begins to seem paradoxical insofar as, *practically*, it is for the most part impossible for relative novices in professions to be trained by masters – bluntly put, there are far more professionals wanting to learn than there are relevant masters able and willing to teach.[125] This is especially so when the desired learning crosses disciplines; for example, in cases where educators or government bureaucrats desire training in developmental science.

Obviously I am moving somewhat freely between philosophical remarks and empirical remarks about learning and teaching. However, what we can say is that this paradoxical problem of professional

[125] This practical paradoxical problem is essentially a problem of the mismatch in numbers; in addition, existing adepts or masters who have the expertise in the relevant grammars, language-games, and material practices may have the desire but not the *ability* to teach. Certainly this can be ameliorated by teaching the adepts to teach. But this secondary problem just reduces to the issue of the mismatch in numbers.

learning emerges from proceeding in line with the application of Wittgenstein's picture of language. In the language of the situative theorists, the problem would concern how one might get drawn in from the periphery to the core of a community of practice without interacting in appropriate ways with members of that community, i.e., with those closer to the core. Indeed, this may be logically impossible. Since it is the community that defines and gives form and substance to the relevant practices, even to engage in the practice *qua* practice one must interact with the community in specific ways. That is, it's not a practice – and not learning – if it is not done in relation with certain others. If on the other hand it is somehow possible to proceed to bootstrap oneself from a community of practice's periphery towards its core, then one would gain new practice, i.e., learn, only in grudgingly slow, haphazard, and accidental ways.

In general a situative approach will involve an account of knowing/learning in terms of changing participation in a community's practices, and in this respect we have here a fundamental theory of learning and epistemology. Thus the fundamental character of knowledge and learning concerns their relational aspects, that is, they are constituted in the first instance by social activity. Learning, understood in terms of participation, "focuses attention on ways in which it is an evolving, continuously renewed set of relations" (Lave & Wenger, 1991, pp. 49-50), and that learning "is not merely a condition for membership [e.g., in a particular community of practice], but is itself an evolving form of membership" (p. 53). Learning, then, is being able to do more and more of what the other members of the community can do, especially as these activities are performed and modelled by the adepts, masters, or experts in the community. In other words, learning is increasingly *knowing how* to go on in the ways the community can go on.

Lave (1993) says elsewhere:

> That there is no such thing as "learning" *sui generis*, but only changing participation in the culturally designed settings of everyday life. Or, to put it the other way around, participation in everyday life may be thought of as a process of changing understanding in practice, that is, as learning. (pp. 5-6)

Distinguishing cognitive theories from the situative approach, Lave (1993) goes on to say:

> The difference may be at heart a very deep epistemological one, between a view of knowledge as a collection of real entities, located in heads, and of learning as a process of internalizing

> them [cognitive theory] versus a view of knowing and learning as engagement in changing processes of human activity. (p. 12)

To some extent the learning paradox *per se* can only gain rocky purchase in a situative approach. If I can draw further connection here with some of the things Wittgenstein says, we can see that the learning paradox depends on discontinuities between the contents and structures of understanding, but in a situative context understanding is a matter of the continuous, generative interaction within a community. The modern learning paradox is about how it can be possible for structures to be able to form new, different structures, whereas in a situative approach it is rather the case that members of communities are invited to move actively into more and more sophisticated uses of signs within living and evolving economies of signs.

As I have already intimated, the crux of this professional learning paradox can be seen, I think, most clearly in the work of Schön (1983, 1987), in which both the *Meno* and *Theaetetus* versions are relevant. Schön affirms the basic learning paradox problematic in the context of professional learning, i.e., in "teaching and learning of any really new competence or understanding … the student seeks to learn things whose meaning and importance she cannot grasp ahead of time" (1987, p. 83). The *professional* learning paradox arises, in turn, in the context of practical constraints on professionals inasmuch as Schön argues that a 'coaching' relationship is necessary for a range of professional learning. In brief, then, (i) students/novices do not know what questions to ask (*Meno* version), and (ii) when they do ask good questions in their learning process, they do not see them as good and so abandon them, or do not see lines or threads of inquiry as promising and so abandon those as well (*Theaetetus* version). Importantly, Schön resolves the learning paradox by accepting it.

Note that for Lave & Wenger (1991), the decentering of the master/coach-student relationship is important inasmuch as it is part of the emphasis on how a community organizes itself, both in general but specifically with regard to its learning resources. The shift signaled here is one towards "the intricate structuring of a community's learning resources" (1991, p. 94). While I think this is for the most part descriptively sound, I also think that this diffusion of learning resources precisely plays into the problem of the professional learning paradox, i.e., in the guise of peer groups struggling to learn on their own, at a remove from those close to the core of the relevant community of practice.

But for Schön, an active, positive coach–student relationship in professional learning and development is necessary. He says in this regard, for example, that "students must be engaged in learning by doing and

in dialogue with someone in the role of coach" (1987, p. 162). Thus the basic *Meno*-version learning paradox (i.e., in order to learn something we already need to know that thing in some manner) entails that the student on their own does not know what needs to be learned, and so will never learn it. The paradox is *practically* resolved, however, by accepting it, i.e., in terms of situating learning in the context of a dyadic relationship in which the relevant knowledge *does* already exist. As part of this dyadic relationship between coach and student, the student is now part of a single entity, so to speak, that does know what is to be learned. Within this fairly tight dyadic relationship, the coach – who does 'know' – finds whatever means are needed to motivate the student to initiate relevant dialogue *in any way*; this allows the skilled coach to use various (training) techniques to draw the student into a productive 'learning circle', and "so the stage is set for a continuing dialogue of actions and words, of reciprocal reflection in and on action" (1987, p. 166).[126] In this way (and for the situative approach to learning as well), the stress gets put on teaching, training, and learning practices, a knowing-how, situated both in the immediate and in terms of the history and body of practice of the discipline or community of practice (viz., in terms of grammars). This stands most powerfully in contrast, for example, to the notion of transfer of objective, inert, knowing-that, i.e., propositional concepts/knowledge, as typical of most representational cognitivist-oriented approaches to learning. Thus, for Schön, these coached learning situations are such that the coach "knows that the student … can get good reasons for acting only by beginning to act. However much the master may dislike asking the student to give up his autonomy, he must invite him to enter into a temporary relationship of trust and dependency." (1987, p. 95) Indeed, Schön says that students "do not as yet have the idea of a learning process in which imperfect actions are continually modified through reflection-in-action" (1987, p. 291), but it is this process all that same that must happen. The student's learning is dependent "on the career of his dialogue with the coach" (1987, p. 169), and such dialogue in turn is dependent on the positive nature of the relationship between coach and student.

It is possible to hear another echo here, between this characterization of the coach-student activity in Williams' (1994) take on Wittgenstein and the notion of 'stage-setting', inasmuch as this notion can be applied to non-initiate learners. Williams argues that "naïve learner's utterances" get provisionally taken

[126] We can hear an echo Schön's developmental notion of the 'learning circle' in Wittgenstein. In this regard Medina (2002) says: "The "circle" created by the process of training into a technique consists in the following: that what the learner is trained to do, blindly, becomes the criterion of identity for what he is doing. Thus the end of the process becomes the beginning: what is obtained by the learned procedure becomes criterial for having followed that procedure. The actual applications of the rule thus fix the normative standards of similarity that define what counts as following a rule" (p. 161).

in teaching/learning sequences as proper linguistic behaviors, and that this status is "extended to those utterances by masters of that practice … the initiate learner speaks, makes judgements, requests, and the like only by virtue of a courtesy extended to the learner by those who have already mastered the practice," as the way to draw learners into normative behavior (p. 180; also see p. 185). This can be taken as a view on an aspect of 'training', i.e., the gradual mastery of a technique under the guidance of knowledgeable others. What is more useful is the notion that a coach will encourage repetition and practice of the relevant signs' grammars through the play of different language-games, this pedagogical activity or intervention based on what the student actually says and does. See, for example, Schön's (1983) extended description of the interaction between a resident and their supervisor in a psychoanalytic training situation (see pp. 108-127) for the pointed responsiveness of the supervisor to the student's descriptions, interpretations, suggestions and hypotheses. This angle is absolutely crucial for both Schön and Wittgenstein, i.e., that the *reaction* of the other is the basis on how we proceed in learning. In the case of the coach-student relationship it is the mutual reactivity of each to the other, and Wittgenstein charts out his concern for this aspect of reaction between the different parties in learning situations in multiple places throughout his work (e.g., see PI §§143-146, 185-186, 208).

Learners on the basis of their own developing understanding can be blocked in their learning, and we can perhaps usefully employ Wittgenstein's statement, 'a picture can hold them captive' (PI §115) in such cases (though Wittgenstein had a different context in mind for this statement in the *Investigations* – and being held captive by pictures is only one way of learners' learning getting blocked). Learners get stuck in that they can 'see' neither the detrimental aspect of their current picture of things nor any positive aspects of different pictures or approaches that might promote understanding. The coach finds ways to liberate the student past such blocks in understanding. This *Theaetetus* side to the professional learning paradox thus is seen in the importance of the coach helping students begin to recognize – to begin to see – what they could not see before, viz., a good solution or thread to follow. For Schön, one ideal for professional learning is the *reflective practicum*, in which students at all career levels are guided in a variety of ways by coaches/teachers/mentors (see, for example, 1987, pp. 157-172). Schön (1987) says in this regard, and with learning in design (e.g., architecture) in mind, that,

> A designlike practice is learnable but is not teachable by classroom methods. And when students are helped to learn to design, the interventions most useful to them are more like coaching than teaching – as in a reflective practicum. (p. 157)

To present matters in this way has the implication that autodidacticism is, with regard to certain learning, impossible. This is the crux of the professional learning paradox: that without the necessary coaching relationship (i.e., in Schön's terms, and by extension in Wittgenstein's terms), professional learning of the kinds we're interested in is not possible given the constraints of professional work life. The practices that would enable individuals to be able to learn how to go (correctly) on are absent, and the normative pressures – i.e., from environments/communities of practice and from the active presence of masters of the relevant techniques – that could be brought to bear to influence new learners in the relevant ways do not exist. It would be like trying to learn how to play chess or hockey from a single page torn at random from a chess instructional book or a hockey magazine. With no one who knows how to play chess or hockey to guide you, to help you gain the capacity to make the moves in the game, it is unlikely you would get very far in your desire to learn how to play those games.

But are these conclusions reasonable – i.e., that if there are no coaches there can no (professional) learning of the kinds we are interested in, and that, given the practical reality of many professionals but few experts in all the relevant fields who can serve as coaches, there can from that perspective be no learning? At first glance these conclusions seem somewhat odd. Of course we learn (don't we?). But there is empirical evidence to the contrary, indicating that professional learning is difficult, lengthy in process, and can be very hard to produce. Let me provide a few examples of this.

First, in a study by Judith Little (2002), she discusses a narrative which shows, in part, several educators in their working group resisting a new (and, from one perspective, correct) way of talking about relevant matters that is put forward by one of the discussants. It's a promising line of inquiry to consider and to follow out, but the group cannot see the need to work through their colleague's repeated suggestion; indeed, some members of the group show considerable impatience with their colleague's suggestion. From my own perspective as a researcher, the new way of talking is something potentially fruitful they need to consider; Little shows (though does not focus on this) that the group simply cannot recognize this, despite the repeated provocations of one of their peers.[127]

Second, two studies by Hoekstra *et al* (2009, 2011) provide evidence in this regard. In the earlier study (2009), a group of educators were tracked over the course of a year in terms of change in their conceptions and behaviours with regard to a developmental construct important for their pedagogy. The educators were to engage in their own learning efforts, and after a year little change was recorded.

[127] I discuss Little (2002) again below in **Chapter 5**.

In the continuation of the study as reported in the 2011 paper, one educator was followed over two years, and change in their take-up of the same developmental construct was assessed. Left to their own learning efforts, very little change was observed. It was only when they were paired in a mentor-type learning relationship that evidence of learning began to show.[128]

Finally, in my own work with educators and other professional groups in the social services, particularly in the context of peer group professional learning, I have seen how challenging it is for such groups to move their thinking and discussion out of the pictures and narratives with which they're familiar, and to move into ways of talking and seeing that are new and different for them. I have found often enough that even professionals interested in developing new ways of talking about their own practice find it difficult to enter into solid inquiry about why they might need to (re-)consider their practice and the nature of the pictures behind those practices. Despite decades of enthusiasm for reflective practice, reflection as a body of language-games is still something difficult to master for many professional groups; it requires (in my view) hard-to-obtain combinations of training, practice, supportive working environments, community, and the political will of their organizations.

In order to understand better how professionals learn, there is a need to observe both successful learning initiatives and those that are less successful. It is an issue of how both researchers and the professionals themselves conduct, document, publish, and discuss research about failure to learn, and this is a constraint on what we can learn about learning. Without question there are good reasons to focus on positive outcomes and not belabour 'shortcomings' (e.g., see Torbert, 1981; Noddings, 1986, 1988). Nodding's notion of a caring collegial community is an example of such a positive reason, in which collaborative inquiry and genuine mutuality between colleagues will make for the most effective research *for* teaching/professional development. However, despite such constraints with the relevant, published literature, there is all the same still a considerable body of literature about the difficulties inherent in professional learning, and which sets out various diagnoses and solutions.

However, despite its seeming impossibility, it remains that the only feasible resolution of the learning paradox specific to professionals concerns the exigent necessity for the autodidacticism of professional learning, i.e., that it is principally through communities of peers and interaction with others at similar

[128] Of course, one has to look carefully at the methodology and implementation of these studies in order to commit to their inferences. For example, in the Hoekstra *et al* (2011) paper, attention needs to be given to the investigation into the relationship between the various learning activities and the outcomes in question, whether the first year prepped the educator for the outcomes recorded in the second year, and so on.

levels of expertise that professionals will have opportunities to somehow bootstrap their own learning. See as well in this regard Bereiter & Scardamalia, (1993) (e.g., pp. 104-109), on their idea of the sub-culture of experts and its role in supporting professional learning.[129] If the situation is as I describe it, the question then is how professionals *on their own* can draw themselves into new practices or train themselves to take on new grammars, learn new language-games, and see new aspects of things.

4.3 Responding to the professional learning paradox

I have argued that the professional learning paradox emerges from the application of Wittgenstein's sketch of a picture of language and meaning, and in the last third of this chapter I argue that framing professional learning in the light of this sketch also allows us to begin to develop ways that may help lead us through this paradoxical situation. To reiterate, the issue that has emerged is how individual professionals or professional peer groups on their own obtain the training necessary to allow them to find new, relevant, and correct places to go and to learn new move-making techniques needed to get them to these new places.

Three important points need to be made here. First, unless organizational and practice environments change substantially, we need accept that the professional learning paradox inescapably remains a paradox or problem. Given the practical realities of the situation, diffuse learning environments and coaches' action 'at a distance' will be the best that we can generally do, given the practical logistics of the situation (i.e., many professionals, few potential and relevant coaches/experts, many new things to be confronted and learned).[130] I suggest we might have to be satisfied with this and to find the best, most creative and intelligent ways to optimize learning possibilities within these constraints.

Second, a goal of training is to help in the development of autonomous participants who can interact in community with others. There are two basic senses of autonomy that we might talk about here: (i) being limited to existing language-games and grammar, and (ii) going beyond existing language-games and grammar. In the first sense a person is autonomous insofar as one regulates one's own behavior with regard to making the right moves with the right signs in the appropriate contexts and circumstances, i.e., one can go on in the right ways without the continuing encouragement, correction, and guidance of

[129] Though note that Bereiter & Scardamalia (1993) also discuss the "heroic element," i.e., the individualism of expertise in this section of their book.

[130] The idea of 'training the trainers' needs to be considered, but given (i) the great variety of learning needs of any group of professionals, and (ii) the fact that 'trained trainers' is just a variation on expert coaches' 'action from a distance,' this option does not go far to ameliorate the paradoxical situation faced by learning professionals.

another who is adept in the relevant ways. In other words, one has learned how to play the language-game, and now one does play it. But we can go on to talk of forms of autonomy stronger than this important though limited form, especially given the background of the contingency and changeability of language: "… but new types of language, new language-games, as we may say, come into existence, and others become obsolete and get forgotten." (PI §23). Thus, in the second sense, a person either might be able to adapt to new grammars or language-games on one's own creative initiative, by virtue of the characteristics of practices and grammars one has already mastered, and not have to be shown or trained into the practice by others, or might go beyond existing grammars of signs and the practices connected to them, innovating new forms (which might extend from the sublime to the banal). I will return in a moment to the question whether there is much room for this latter kind of creative, innovative linguistic autonomy of individual speakers and groups. For example, new ways of talking need to get taken up by the relevant community or communities if they are going to come to constitute new additions to our systems of signs, and not simply be considered nonsense. Ignored by others, new ways of talking remain local and eventually disappear.

Third, and connected to my last point, these aspects of the growing autonomy of learners still play themselves out in the arena of training, of master-novice relations, and the normative pressures of communities. In other words it makes sense to speak of adult professional learning as still a matter of being trained in various ways into new grammars and language-games.[131] I interpret statements like, "but how can I explain it [i.e., in this case, a specific language game] to anyone? I can give him this training." (RFM VII 40), as applying generally, i.e., to adults as they encounter and learn new signs, new grammars, and new or better move-making skills.

Let me return to this issue of autonomy in the development of language speakers, as it is an important one, and as just noted has ramifications for my overall project. Peters and Stickney (2018), taking up points from Medina (2004) and from RFM VII 61, state that "… the higher goal of initiate-training is to open possibilities rather than fix them" (p. 72). That is, learning to play games and thus, simultaneously, to abide by the rules framing or structuring those games, makes possible the doing of things recognizable and understandable by others, and in turn allows the learner to recognize and understand, and to be able to go on in various ways, from the behaviours and utterances of others. This occurs and is made possible within the more-or-less broad arenas of action framed, given, or made possible, by rules

[131] As I pointed out in **Chapter 1**, Wittgenstein does also talk about adults taking on new grammars and language-games. Recall: "… when the boy or grownup learns what one might call special technical languages, e.g., the use of charts and diagrams, descriptive geometry, chemical symbolism, etc., he learns more language games" (BB, p. 81).

and language-games. All of this seems the best place within which to consider autonomy. However, part of what Peters and Stickney (2018) go on to explore is the idea that (an inevitable?) part of autonomy is that speakers contest language-games *per se* (see, for example: "*Our* need here is to see that simplified learning practices occasion philosophical investigations; they give us a perspicuous view of how pupils come to play, and later contest, certain language-games within the complex weave and rapid flow of life" p. 87). It is this stronger interpretation of "autonomy" (see my distinction above) that I am interested in considering here.

I would argue that once you know how to play some game, you can come to play it creatively, imaginatively, innovatively, with flourish, and these all within the rules. And it does seem possible to talk about sometimes stretching or bending the relevant rules of language-games, and at times breaking them and forging new ways to go on.[132] But where does this latter claim come from, and what evidence – what *kind* of evidence – is there for making it? The idea from Wittgenstein's picture is that rules/language-games frame and contain action, but do not guide it in every instance (e.g., see PI §68).[133] Indeed, the idea is that one does not follow a rule (or rules) in doing any one thing or in making any one utterance, but that one abides by rules that allow one to do this action or make this utterance, such that it is appropriate, recognizable, understandable … and meaningful. That the utterance does something legitimate within the language-game *is* its meaning, but its doing is not the causal result of following rules, and indeed its 'meaning' does not stand outside of these immediate actions in the particular context in which it is performed. In other words, one's action or utterance is not meaningful by virtue of its connection to some other thing that is its source of meaning; it is the doing of that action

[132] Recall Wittgenstein's comment having to do with his method in just this regard: "Here I am stating something about the grammar of the word "language" by connecting it with the grammar of the word "invent"" (PG §140). My concern is that we can be led to reverse the kind of relationship we have with language as set out by Wittgenstein in his picture of language and meaning, viz., that we (as increasingly autonomous agents) control the nature of language, thus situating the source of meaning in a sense outside of language. This is the kind of ontological commitment that Wittgenstein stays clear of in drawing his picture of language.

[133] To return to the picture of playing games for a moment, most moves made by players in a hockey game, for example, are not the result of directly following rules, but are better understood as creatively-responsive improvisation, depending of course on the skill of the players. I would suggest that there is even creative improvisation in abiding by the very explicit and carefully monitored off-side rules (for example). In the context of playing a hockey game, though, one cannot *contest* such a rule (though can context particular rulings made on its basis). In play there cannot be bending, stretching, or breaking that rule (i.e., not without a set of very particular consequences ensuing). However, hockey comprises a family of games, in which different variations are based on modified versions of the rules. Thus ringette, for example, which is very hockey-like, has a modified version of the off-side rule. However, a lot of what I am considering here can take us in too many directions away from the focus of my thesis project, which is to draw a picture of professional learning influenced by Wittgenstein's picture of language and meaning. I offer these comments here more as a way to show the complicated nature of this part of the picture, and that these important issues will not be easily or quickly resolved.

or utterance itself that is its meaning, as that action or utterance stands within (the form of) the rules of the language-game.[134]

At any rate, the idea of stretching, bending, breaking, going beyond rules and language-games, is a statement perhaps suggested to us by analogy, and it strikes me that any number of conditions and caveats must surround such a claim with regard to any particular language-game or set of rules. Is it the possible that in many – or all? – particular language-games, one could not break any rules of proceeding legitimately with that game without simply becoming incoherent, in which no one could understand what you are doing. (Garfinkel's (1967) early experiments conducted with the participation of his students are instructive in this vein.) What would be an example of bending or breaking such rules such that a new, understandable way of going on was forged and that nonsense was not produced or was not taken as evidence of madness? I might talk about some matter in a new way, and in doing so offer a new way of seeing things, but does that necessarily entail bending or breaking rules? For example, can one start to ask questions in a new way without ceasing to be asking questions? It is conceivable to envision new language forms emerging, and new language-games of certain kinds starting up, if indeed those ways of performing get taken up by others and do in time get established as parts of the language. However, it would seem that such questions bring us into the empirical-historical realm of the development of real languages in time. Need this be our concern here? Is it better to consider Einstein's theory of general relativity as a new language-game, bending or breaking rules (though which ones?), or rather to describe it as a new picture, i.e., as a new and to some extent different perspective around which to organize our talk about certain things, recognizing that in speaking it one still played all the same language-games played by others? Simply saying new things, or talking about familiar things in new ways, or even dropping old ways of talking about things, do not strike me as best described in terms of bending/breaking rules, but rather as still working within the frame of existing rules/language-games. Innovation or creativity in such a case as the relativity theory example can be viewed as remaining within the (broad, fuzzy, ill-defined) frame or context of rules in which we have all been abiding, and is not at all a violation of them but rather an exploration of the possibilities made possible by them, even though we now talk about things differently than before. And perhaps that is the best way to view autonomy in the context of Wittgenstein's picture (which returns us to the original quote from Peters

[134] This, I think, is a general danger that tempts us in discussing Wittgenstein, i.e., we are still tethered to the picture that there must be some kind of *objective* source of meaning, something that stands outside of language. Resorting to what the community does is one such picture of meaning seeking objective anchoring; the gesturing towards 'forms of life' and/or our 'first nature' is potentially another such picture. These pictures run counter, I think, to the idea of the autonomy of language that is an important part of Wittgenstein's picture.

and Stickney (2018, p. 72) above). As well, this way of considering autonomy has implications for how we draw a picture of professional learning, which begin to emerge in the next chapter of this thesis.

Let me return now to the main theme of this chapter, i.e., professional learning, training, and the paradox. In a significant sense everyone can be a novice in some regard, i.e., in attempting to learn new approaches or subject matter (that is to say, learning how to achieve the new places marked out by the grammar of new signs or of modified existent signs). I urge that it makes sense to say that it is training that occurs – oftentimes – in less than explicit ways in diffuse social settings, for example, in cases in which no one else picks up on the particular way someone attempts to do or articulate something, with the result that that way of seeing and putting things is dropped.[135] Thus a professional might try out different articulations of a particular point, and the silence and non-reactivity of her colleagues to certain of her offerings is the kind of reaction that dissuades the use of those particular articulations and encourages one to gravitate instead towards those articulations that garner more positive reaction and uptake. Such cases I take to be a kind of training, and in this way the development of an individual's autonomy plays out on this kind of collective stage. Likewise training can occur in situations where one acquiesces to ways of putting things the group applauds, and where subsequent repetitive practice within the group using this formulation reinforces its increasingly-extended use. In this manner and in the dynamic aggregate, new ways of talking and acting amongst a peer group form and begin to take hold. There is considerable affinity here with the sort of position on learning as set out by 'community of practice' theorists (e.g., see Lave and Wenger, 1991) and by some of the socio-cultural theorists (e.g., see Rogoff, 1995; Rogoff *et al*, 1996).

To pick up on the more creative, innovative aspect of autonomy, though still within the context of the training of adults who are adapting to new (for them) grammars, one way to approach the professional learning paradox impasse that may be productive begins to suggest itself, i.e., through the practices of *inquiry*. Wittgenstein makes two important points about inquiry and question-asking. First, he explicitly identifies inquiry as a language-game (see PI §23), and thus there must be rule-bound ways of making

[135] For example, one may articulate a new connexion between one sign and another, which, if accepted, would forge a pathway between the two signs that did not exist before. The specific locutions doing this, e.g., "Something causes some other thing" or "Something is better than some other thing," may be understood after a fashion, i.e., the locutions are not meaningless, but all the same they are not picked up by others in that no one goes on with this connexion, and no one makes any further moves on the basis of this new connexion. Thus the relevant signs do not become parts of each other's grammar, at least not via *these* connexions. However, that the locutions attempting to mark out new connexions in such cases are 'understood after a fashion,' is a bit problematic, if 'understanding' and ' going on' are taken as linked. Dealing with the *new* is tricky, I think, given the picture of language and meaning sketched by Wittgenstein, and needs further attention.

moves with signs constitutive of 'asking questions' (and a range of associated move-making with regard to responding to questions, etc.) Note that inquiry would comprise a family of variously related language-games: ironic questions, sarcastic questions, 'rhetorical' questions, leading questions, questions asked while already knowing the answer, exploratory questions, 'how to ask for a name' questions, questions asking for information, strategic questions (e.g., asking a question to get your interlocutor to say/admit something they are otherwise reluctant to articulate, thus giving the question-asker some form of an advantage), and so on.[136] Thus it is more apposite to speak in the plural here, of the language-game*s* of inquiry," etc.

What would also be involved in looking carefully at the language-games of inquiry would include such practices as sustaining/maintaining a thread of inquiry (versus drifting away from it) and inferring/drawing something from a line of inquiry (versus settling for vague inconclusivity). Here something along the lines of a grammatical investigation would yield rewarding understanding, i.e., various perspicuous representations of the relevant grammars and move-making. There may be other relevant, associated practices (and are these language-games?), but it would be up to the 'grammatical investigation,' should such be done, to bring these into clearer view. Further, I would hazard that there are various kinds of moves in the different language-games of inquiry that would prove to be more or less fruitful in the context of professionals attempting to bootstrap their own understanding on new and difficult matters. For example it would seem worthwhile to examine more carefully the move-making

[136] What is difficult here, and what I have so far only alluded to in this thesis, is where to stop in identifying particular language-games. For example, is the idea of the practice of rhetorical question-asking particular enough in our discussions about the language-games of inquiry, or do we need to dig down to more specificity (for example, to different kinds of rhetorical question-asking language-games differentiated on the basis of purpose and circumstance)? The question, I would suggest, is ill-begotten, implying that there is a real substratum that we can find. Instead ask, 'how do we learn the technique of rhetorical question-asking?' Well, we learn by observing, i.e., by being shown examples of rhetorical questions being asked and observing what happens afterwards and how others know how to go on with them (and so on). "This is how we ask rhetorical questions!" Is one being shown a 'bedrock' practice in such instances? I am uncertain about that. Would the same kind of trouble ensue as with disputation about bedrock propositions (e.g., see OC §§301, 369, 507) if an instance of rhetorical question-asking were disputed? And is that the proper test for bedrock practices? If we turn to consider rules, we say not that a hockey player is following rules in the particular instance of taking a slap shot in a particular hockey game, but is responding to circumstances and the flow of play in that particular game, improvising on that basis, though within the frame of certain rules, i.e., the rules of the game. Is one similarly not following specific rules in producing a rhetorical question, but simply acting in response to the particular context, and with one's action framed within more general rules of question-asking? Can we say that the rules of games and language-games are in a sense basic – and general, in their applicability across concrete instances – in framing action; but the actual moments and movements of game-playing can be indeterminately multifarious within those bounds? For what purposes – philosophical or practical or quotidian – do we need to identify the kind of language-game? In practical terms, for example, when we ask of our interlocutor something like, "What kind of question is *that*!?"But what philosophically is our concern with such explicit identifications?

that constitutes *rhetorical* question-asking and the general consequences of making just those moves with signs, particularly in the context of professionals' learning dialogues with each other. This is, of course, to steer things into empirical matters, at least in part – noting, though, that how anyone goes on to respond meaningfully to rhetorical questions, to continue the example, is also a grammatical matter. I will say that, in general, there is much of process value in asking questions in learning situations (at least, the asking the right questions, given the particular context). Both asking and responding to questions allows one to look and see better how the interlocutors see the world, i.e., which connexions they articulate, which is to see the nature of their mastery of the relevant grammars.

The second things offered to us by Wittgenstein is that, insofar as each kind of inquiry is a language-game bound by rules, i.e., each is a matter of certain kinds of move-making, it is something that we learn. More strongly put, these are practices into which we are trained by adepts or masters, both as child-novices learning our first language, but also as mature language speakers continuing to build, expand, better, and refine those various move-making skills. We are drawn into (or grow into) the relevant environment of practices that surround us with regard to these move-making skills just as with any other technique. Wittgenstein's analogy in *On Certainty* is indicative of just this pedagogical point:

> That is to say, the teacher will feel that this is not really a legitimate question at all. … The teacher would feel that this was only holding them up, that this way the pupil would only get stuck and make no progress. – And he would be right. It would be as if someone were looking for some object in a room; he opens a drawer and doesn't see it there; and he closes it again, waits, and opens it once more to see if perhaps it isn't there now, and keeps on like that. He has not learned to look for things. And in the same way this pupil has not learned to ask questions. He has not learned *the* game that we are trying to teach him. (OC §315)

The value of questions of all sorts in dialogue is that the performances of asking and responding to them can bring into view places that had not yet come into view (or had not yet come clearly into view) or can begin to make familiar places that were not yet familiar to the interlocutors, and this in ways unique to question-asking (as opposed to, for example, assertion-making). Questions can help drive interlocutors into more active relationships with one another, promoting action and reaction, and in which we confront with one another in more vibrant ways the connexions between signs and places. Question-asking can be one of the more intimate kinds of language-game we play; in the give-and-take of a question-asking-and-responding sequence, we reveal of ourselves how we do indeed know how to go, and 'how to go on' in many senses. And like any language-game, skill in questions (both in the asking

and responding to them) needs be developed, through example, training, and practice. Further, it strikes me that it is through the various language-games of inquiry that we can see most clearly the strengths and limits of the autonomy of learners. This is particularly so in those cases where learners begin the process of asking about and questioning both the ways they have talked about the relevant issue or topic and the pictures that have guided them in their talk. Question-asking also can bring learners up against the limits of their own learning process, where they come to face, for instance, the learning paradox.

My suggestion, then, in beginning to consider and talk about a way that at least helps learning professionals through the professional learning paradox, is to focus on developing the move-making skills of the body of language-games comprising inquiry.[137] Thus learning sessions set up for and by professionals that make the deliberate and explicit focus on questions asked and considered by the participants themselves, questions that push after the connections between new signs and their grammar and what participants can talk about now, would be to take seriously this insight and would help serve the goal of professional development. For instance, it may prove just the right inquiry-based start for professionals approaching new content purportedly pertinent to their practice for those professionals to formulate clearly the questions concerning *why* it is important to engage with the new material, and to ask themselves in their peer groups why their existing way of seeing things might need to be changed. (In my own professional experience, questions such as these are in fact rarely asked or deliberated upon in actual professional learning events.) In terms of working to understand better or differently the relevant matters of their practice, the suggestion I am offering is that skilled and ongoing inquiry both about the material and about how they themselves have begun to talk about that material, learning professionals on their own can begin to sort out new grammars and new ways of going on. Further, through the linguistic activities initiated by skilled and thoroughgoing inquiries, learning professional can begin to make familiar to themselves the new places and paths between those places, by active participation and repetition and practice. ("We talk, we utter words, and only *later* get a picture of their life." PI, II, p. 209) Thus through practice with the language-games of inquiry, learning professionals can at least begin to find some ways to navigate through the predicament of the professional learning paradox. (Again, while these suggestions have a strong empirical component – e.g., whether in fact such better-developed skills actually do make a difference – all the same they emerge

[137] Or at least to increase professionals' ease and familiarity with the practice. With the potential 'intimacy' can also come potential risk, and in my own experience with professional groups in learning initiatives, the risk is all that they can see in question-asking.

from the application of Wittgenstein's picture of language and meaning, and can be considered as part of the picture of professional learning I am developing.)

In terms of building skills in inquiry, I suggest, like Schön, that the emphasis be on doing, on example, practice, and training. Again we trespass onto empirical ground here, but my suggestions is that these kinds of learning sessions need consist of something other than transparently-didactic lessons in question-asking (viz., telling learners how to ask questions) if they are to be effective and have the desired effects on continued professional learning. The picture as I see it has it that such occasions need to focus in other ways on showing how to ask and work with questions that are productive of advancement in knowing how to go on in relevant ways, and in practicing these ways of doing things. It is of a piece of the growing autonomy of the professionals in question – and respect for that autonomy – that professional learning and growth happen in the terms of the emergent questions of practice asked by the learning professionals themselves.[138]

All of this leads me to make a political point. An organizational culture that values and supports the ability of its professional members to ask better and better questions, and to handle in more and more sophisticated way the questions that are asked, stands at least at an advantage in facing the professional learning paradox. The main point I am making is that there will be no emergent questions of practice, or at best ill-considered ones, if the practice of inquiry is not encouraged, supported, and intentionally developed. In part, this speaks to the nature of an institution's attitude towards its professional staff, whether it is in terms of respect for *experts* with appropriate ranges of autonomy, or in terms of its professionals as *functionaries* fulfilling tightly-constrained and designated programs of intervention and monitoring.

These pedagogical concerns surrounding the issue and response to the professional learning paradox highlight the important need to respect the talk of professionals, to find it worth attention and

[138] Certainly the importance and role of inquiry is a significant topic in the education literature – see, for example, Bereiter and Scardamalia (1993); Argyris (1976, 1982, 1986, 1989); Smith (1982); and see the concept map (Figure 1.1) of learning in Novak and Gowin's (1984/2002) book on learning how to learn. See as well the literature on more inquiry-focused pedagogical theory: for example, Hmelo-Silver and Barrows (2008); Blanchard *et al* (2009); Oliveira (2010); and the work of van Zee, Minstrell, and Schoenfeld, who provide multiple analyses of discourse in learning sessions, with an emphasis on the kinds of questions with which session participants work (e.g., van Zee & Minstrell, 1997a; van Zee & Minstrell, 1997b; Minstrell, 1999; Schoenfeld *et al*, 1999; van Zee, 2000, van Zee *et al*, 2001). See as well the work of Haroutunian-Gordon (1991, 2009), who emphasizes for learning the development of skill in asking different kinds of questions, particularly interpretive questions. Finally, the tradition of problem-based learning certainly falls within the notion of practicing skill in move-making in the language-games of inquiry: see for example Barrows (1996).

resources, and to take an interest in the talk of professionals as being at the core of their evolving expertise. Even in the case of professions in which material practice is important, there is still great importance given over to talk in learning situations (e.g., see Schön's examples of coaching and learning in a design studio (1983, pp. 76-104; 1987, pp. 44-118), or the talk involved in the learning work of a master musician (1987, pp. 175-216); see also Douglas Harper's (1987) wonderful study of a skilled – and articulate - mechanic). An organization must value the talk of its professionals, if it is to be concerned with their evolution as experts, and must devote resources to learning initiatives and environments that have their focus on the talk of professionals (as opposed simply to the delivery of programs or the circulation/management of information). I suggest that following the application of Wittgenstein's picture of language and meaning allows for a case to be built in this regard.

We can extend a bit further the talk here concerning the political implications of these pictures of language, meaning, and learning that I have been sketching, to consider the basic idea of political activation through expanding connexions between signs (i.e., through an expanding mastery of signs' grammars). The general outline of this picture would look something like the following. We can talk of control over a professional group being achieved in part by constraining what the members of the group can talk about, and thus what they can legitimately 'see' as professionals. Finding ways to limit connexions and the opportunities to build connexions (i.e., through professional learning initiatives or environments), and keeping 'acceptable' connexions contained only within a very restricted area (of legally-allowed or profitable practice, for instance), we can say, are ways to exercise control over a group of professionals. Expanding the group's hold on various connexions, on the other hand, and developing the group's skills in various kinds of move-making, is a risk to an organization's control over its professionals and its power to govern and guide practice. Schön's distinction between 'Technical Rationality' and the artistic freedom of the reflective practitioner can be seen in this light as well.[139] The practicing professional working only within the constraints set by the relevant machinations of Technical

[139] And to which we can also connect Bereiter & Scardamalia's notion of the expert constantly and progressively reinvesting in their own learning and development; we can connect these ideas as well to Argyris' interest in the reflexivity of 'double-loop learning,' which he takes as critically important for the possibility of significant professional learning and development. As is well understood, there is a powerful connection between education and the ways in which power gets manifested, and the case here with professional learning I should say is no different in this regard. This is largely the point of Freire's work, for instance, and is emergent in many thinkers' work, from Plato through to Marx and beyond. It is certainly a basic lesson any good propagandist understands. In connection to all of this, it is also perhaps instructive here to reflect back upon some of the discussion considered in the educators' learning sessions in **Chapter 5**, in particular recalling what seemed to be a powerful connexion between those participants' talk of the nature of anger and the signs and concepts of professional limits and (legal) responsibility.

Rationality has little free play or responsibility for the growth of their own understanding and approach to the problems of their practice. Professionals in these kinds of working environments are typically unable to do much beyond following more-or-less rigid protocols and programs which originate in external authoritative sources and are designated as the principle or only modes of practice behaviour. The work of Clandinin & Connelly is relevant in this regard as well; they canvas these matters in terms of the split working personality of the professional. To look ahead, we can continue in this vein by reflecting upon some of the discussion considered in the educators' learning sessions in the next chapter (i.e., **Chapter 5**); there, as we will see, participants in professional learning sessions were reluctant to go very far at all in some of their discussions, citing various limits in their roles as professional educators. Does this show, in such cases, the connexions between those participants' talk concerning human development with the signs and concepts of professional limits and (legal) responsibility?[140] Here we return to talk of how organization and professionals understand each other, and in what terms (i.e., signs, concepts) they talk about each other (with an 'organization' represented not only by administrators, bureaucrats, boards of directors, investors, etc., but also by formal discursive objects such as mandates, organizational vision statements, codes of ethics and behavior, etc.).

Let me leave the political and return to the paradox of professional learning. For despite my enthusiasm for the potential rewards for learning professionals from enhancing move-making skills in the language-games of inquiry, I still see two main problems here. The main thrust of my suggestion has been that one kind of training can make possible or open us up to other kinds of training, i.e., knowing how to play well different language-games of inquiry makes possible more productive attempts to take on substantive content (e.g., the grammars of constructs from developmental science, and the pathways between the places marked out by those grammars – see **Chapter 5** for the case of educators' professional peer group learning). However, it strikes me first that attempting to learn language-games of inquiry replicates one of the main problems inherent in the learning paradox, that is, the learners of these techniques in turn still require interaction with a suitable coach/master/adept in order to learn

[140] How do we consider this kind of thing? Are we describing a picture, around which these learning participants organized their talk? Are we describing rather a kind of conflict, or at least an opposition, between different kinds of language-games? Is this more a matter of the grammar of certain of the signs that these speakers were using, viz., in the orbit of the sign "human development" for these professionals are there powerful connexions to signs of "professional limits/responsibility" and "administrative oversight"? Or is something deeper, more 'foundational,' in a sense, at work here, such as certain bedrock propositions, beliefs, or practices? For my own part, and on the basis of my own experience, I find that the course of professional learning rarely has to do with bedrock, and is far more about signs' meanings, how to manoeuvre between signs, and pictures that guide or 'captivate' us – though not in the sense of pictures that more fundamentally "lay in our language" (see PI §115).

how to do inquiry well, to be drawn into this set of practices, to develop mastery in these techniques. That advantage here, of course, that, as adult speakers, the learning professionals will have attained to some mastery of the language-games of inquiry, unlike the situation of facing a new subject matter concerning which one has had little or no experience at all. In both cases, however, where there is some experience of the relevant grammars or some mastery in the move-making skills of the relevant language-games, these may instead prove as such to be more detrimental than helpful in the short run, maintaining learners on wayward tracks or paths, as it were, and keeping them away from more 'correct' ways of going on (and 'correct' as set out by the practices of adepts nearer the core of the relevant communities of practice). Supporting learners to break free from the constraints or captivity of their familiar ways of going on may precisely require the intervention of an expert coach, who can see what the learner cannot.

Second, even when the techniques of inquiry are mastered, the learning paradox will still apply in those cases of learners trying to learn new, substantial content. No matter how well one asks and deals with questions in general, one is still faced with both the *Meno* and *Theaetetus* versions of the learning paradox when trying to find and adapt to the grammar of the signs of the new content material. A good example of this difficulty can be found in a special issue of the journal, *Discourse Processes* (1999), in which various contributors focus on analyzing from different perspectives one long transcript concerning medical students' discussion in their problem-based learning session.[141] The students in this discussion ask a considerable number of questions, and there is considerable interaction between them as they consider the questions and responses they proffer to one another. But it is clear from the transcript that the course of their learning was still very much dependent on the minimal but expert intervention of their tutor, who helped the students identify good questions and promising lines of inquiry/discussion. (Note, of course, that in the basic problem-based learning paradigm, the instructor, tutor, or facilitator must operate in a subtle way, participating in the discussion but neither formulating in clear terms the questions needed to be asked nor providing answers to the questions formulated by the students (e.g., see Barrows, 1996). As Roth (1998) has commented (though with regard to younger grade-school students): "On the basis of my data, the claim that good question techniques require a great deal of competence in the discursive practices of the subject matter domain appears justified" (p. 194). I revert here as well both to Smeyers' (1998) remark that, "he looks for the underlying problem, the right

[141] *Discourse Processes*, 27(2), 1999. The entire transcript in question can be found in Koschman (1999), pp. 110-117. Eight different papers analyzing this transcript and commenting on each other's papers comprise this special issue.

question to ask" (p. 294). This also echoes Schön's interest in the issues of the proper framing of the problems of practice, which occurs largely through the 'artistic performance' of the professional (e.g., see 1983, pp. 62-63, 165-166).

At the same time I do not want to diminish the possibilities and promise of increased mastery of inquiry techniques. Apart from bowing down to the exigent need of the learning situation and (as per Schön) offering and running expert coached sessions, or affording opportunities as close to this as possible (e.g., perhaps through extensive 'train the trainer' programs), it strikes me that enhancing inquiry move-making skills as much as is feasible seems the best route forward in confronting the professional learning paradox. Indeed, the very nature of the professional learning paradox as I have described it makes inevitable the search for these kinds of directions, focusing on the self-directedness and capacities of the professional individuals and peer groups themselves. In this regard, then, I remain optimistic (or at least fight against pessimism), that discursive techniques exist that, robustly provisioned by the relevant institutions, can go a long way to serve professional learning outside of the kinds of reflective practicums favoured by Schön as the ideal. This in turn brings us back to the political, viz., that affording learning spaces and resources appropriate to the autonomous and self-directed learning of professionals, is part of the regard and value those institutions have for both the ongoing evolution of professional expertise and practice and for the professionals themselves, that is, how each side talks about and sees the other.

Chapter Five

The Application of Wittgenstein's Picture of Language and Meaning to Talk about Professionals Learning Something New – The Case of Educators Learning in Peer Groups

5.1 Preamble

In this chapter I consider the dialogue and interactions of professionals as took place in a qualitative study I conducted on educators' professional learning sessions, sessions which were set up and run by the educators themselves in order to learn about the developmental construct of self-regulation. I do so in the terms of Wittgenstein's picture of language and meaning and the picture of professional learning I have been sketching on that basis. In other words, I am looking exclusively at how these professionals learn how to talk meaningfully. This study was one of many parts of an ongoing collaborative initiative involving Dr. Stuart Shanker's MEHRIT Centre at York University, the Canadian Self-Regulation Initiative in Vancouver, B.C. (http://www.self-regulation.ca/), Pearson Canada Publishers, and various other organizations, groups, and individuals across Canada and internationally. I will say more about this study in a moment, and will provide some basic background about self-regulation. First I will draw together again the approach to considering professional learning that I have been fashioning.

So far in this thesis I have done the work distinguishing Wittgenstein's picture of language and meaning from representationalist and cognitivist accounts. We do not look for hidden beliefs, thoughts, representations, or processes of thinking; rather we look simply to how speakers use signs. The basic idea I develop here is that the learning of professionals can be seen – usefully and fruitfully – in the light of the picture of evolving mastery of the use of signs, i.e., of gaining more and/or different places to reach for; a picture, in other words, drawn on the plane of meaning. The work done in professional learning initiatives, then, is seen in the light of this perspective, of finding and employing pedagogical techniques and approaches that afford learners (1) more of the right places to go, (2) that develop and sharpen learners' abilities and skills in moving between places, and (3) that train or initiate learners into new language-games, if what are deemed relevant language-games are indeed missing from learners' repertoires and need to be played. We learn how to use a sign in learning what places we can go with it (which *is* meaning) and in playing language-games that move us between these places. This is a way to look at what professional learners do in their learning, a way guided by Wittgenstein's picture of language. In this chapter, then, I begin to work out in direct terms how an application of Wittgenstein's

picture of language and meaning would go in considering an actual instance of professional learning (i.e., through the narratives of small groups of professionals' recorded discussions in their learning sessions). Application in this manner is projection, and the issues are whether this picture of professional learning remains consistent with what Wittgenstein says about language and meaning, as well as how much is illuminated and brought into new light about professional learning by such application. This movement from picture to picture is the key piece of my thesis; it explains in part why little of the material from those who have endeavoured to use Wittgenstein's ideas to think about education find a place here in my project. As I pointed out in my literature review in **Section 3.3**, while there has indeed been important work done in various areas of Wittgenstein-inspired thinking about education (e.g., concerning the nature and emergence of normativity in language), nothing has been done which works from Wittgenstein's picture of language and meaning to a picture (and its application) of professional learning. This is the contribution that this thesis makes.

For anyone reflecting upon instances of professional learning, this picture of learning affords possibilities for making inferences about what places learners do have to go, from the observation of the places that participants do in fact actually reach for in their talk. Thus it is important to make a prime focus in educational research the close observation and examination of the ongoing *talk* of learners. The places speakers reach for in their talk shows how they see the world, i.e., shows what aspects they do see. In such educational contexts, comparing what learners actually say with how experts and adepts (or authoritative documents) talk about the matter in question, we thereby not only obtain a means to judge the 'correctness' or 'meaningfulness' of learners use of relevant signs, but we can also begin to infer differences between what aspects of things learners see with what others more versed see. I will return to this perspective in a moment.

I reiterate my emphasis on the picture of the language-game and move-making over the picture of rules (as was emphasized by Berducci and Chaliès *et al*, for example) in the picture of professional learning that I am drawing and applying here. Recall that in playing an actual game of hockey, for instance, each move made by a player is not itself a product of following a rule, but is framed *by* rules, i.e., the rules of the game within which an indeterminate multiplicity of actual, specific moves is possible. Each particular move made is understandable insofar as it is framed by those rules, by the evolving life of the game, and in a particular game by the moves that preceded and follow that specific move. In a similar way, what one actually says in a moment of a professional learning discussion is not the product of following a rule but is made and is understandable within a frame of (1) rules of particular language-games (e.g., how we

ask certain kinds of questions, offer descriptions, rebut objections, proffer explanations), (2) the connexions between signs, and (3) the moves that are actually made in this discussion. For example, a species of answer concerning 'resilience' or 'grit' (to return to the example in **Chapter 3**), is what meaningfully follows a question concerning "navigation through significant threat," given the appropriate contexts; an indeterminate number of moves not in accord with such connexions would be illegitimate moves in the context of the game played in such a discussion, and thus would be meaningless, or at least call for a variety of reparative moves. Nothing legislates absolutely particular utterances and responses in a moment of professional learning dialogue, but these are still contained within the relevant rules – viz., this is one way amongst many in which to play this game within this set of circumstances.

A further angle of the perspective this picture of language and meaning gives us here is on the importance in professional learning of the self-awareness of one's talk, such as would concern one's talk about one's own talk.[142] Self-reaction, then, i.e., reaction to one's own talk, is an important part of the attention given to reaction that I have been stressing (see **Chapter 3**).[143] Being aware of your own performance in the form of reacting to and talking about your own performance (which is itself a performance in talk as well), gains its importance precisely from the perspective on language and meaning being offered up to us by Wittgenstein. Signs' meanings emerge in the active relationship between persons, as they react to others' (and to their own) varied uses of signs. Key questions that would help orient individuals' or groups' performances in learning might be: "How are we talking about the relevant things?", and, "how do we want to be talking about the relevant things?" Learners responding to both these questions in the context of their professional learning may benefit from interaction with outsiders, ideally with expert outsiders if none already participate in the group, though this is not necessary. As seen in **Chapter 4**, however, this is what can lead us into the professional

[142] I take it that this is one way to talk about a central methodological theme in Wittgenstein's work, i.e., that we proceed and resolve – and dissolve – difficulties and obscurities through talk about our talk. Philosophically this is the concern of the *grammatical investigation* (e.g., see PI §§120-122, 132-134), but at least the basic ethos of that approach holds as well for more quotidian concerns, such as how professionals talk about the things they are trying to learn, as in the kind of case before us now. "One cannot guess how a word functions. One has to *look at* its use and learn from that" (PI §340).

[143] For example, as Wittgenstein says, "But how do I know that your mind catches hold of the same object as mine? Well, for instance by the very way you react to my command, e.g., "Copy the colour". But in this case, you will say, we can only recognize what is essential to his reaction by having him copy more and more colours. Presumably this means that after a few such reactions I will be able to see others in advance; and this I explain by saying: Now I know "*what*" he is actually copying."(RPP I §298)

learning paradox, which as I argued is a source of difficulty impeding the possibility of professionals' learning.

Given the application of the picture of having places to go (i.e., to the use and grammar of signs), and to place-finding and move-making as fundamental to language and meaning, can a more perspicuous view, as it were, be obtained about the activity that takes place in actual, particular, learning situations? What seems important in Wittgenstein's picture of language and meaning is focus of attention on the sequences of moves being made by participants in their learning endeavours; indeed, without knowing how participants move from place to place one will know little of either their understanding or their learning, i.e., because just those moves *are* their understanding. These understandings can, as we turn to the practicalities of professionals' learning, serve as basis in some forms of adjudication concerning how participants can materially go on in their learning of the relevant matters. It is from this stance or perspective of learning participants' developing mastery of signs that we talk about participants' understanding and ongoing developing mastery of the relevant subject matters. From this vantage point we observe and talk about participants' range of employment of various signs in various language-games in their learning efforts (e.g., language-games of asking, describing, telling stories, rehearsing, explaining, contesting, negating). It is from the perspective afforded by this stance that these features of talk can be brought out into stronger focus, which in turn can serve to open up possibilities for new ways of going on in how we together as professionals learn.

Let me return to one part of Wittgenstein's picture of language, i.e., seeing aspects, as a further preface here to my application of Wittgenstein's picture of language to develop a picture of professional learning. The relationship between talking, experiencing, doing, and, in particular, to 'talking meaningfully' as knowing how to go on in the right ways, is a tight one. Despite certain distinctions between these signs in our common use of them, Wittgenstein sketches that relation in quite a different way, stimulated in part by the challenge of the puzzling phenomena of the "dawning of an aspect" and "changes in aspect" he struggles to understand in Part II of the *Investigations* (see particularly Section xi). For example, in this regard Wittgenstein says:

> In the triangle I can see now *this* as apex, *that* as base – now *this* as apex, *that* as base. – Clearly the words "Now I am seeing *this* as the apex" cannot so far mean anything to a learner who has only just met the concepts of apex, base, and so on. – But I do not mean this as an empirical proposition. / "Now he's seeing it like *this*", "now like *that*" would only be said of someone *capable* of making certain applications of the figure quite freely. / The substratum of this

> experience is the mastery of a technique. / But how queer for this to be the logical condition of someone's having such-and-such an *experience*! After all, you don't say that one only 'has toothache' if one is capable of doing such-and-such. – From this it follows that we cannot be dealing with the same concept of experience here. It is a different though related concept. / It is only if someone *can do*, has learnt, is master of, such-and-such, that it makes sense to say he has had *this* experience. / And if this sounds crazy, you need to reflect that the concept of seeing is modified here. … / We talk, we utter words, and only *later* get a picture of their life. (PI, II, pp. 208-209)

So we can say that we have experiences of this-or-that kind or aspect only insofar as we have mastered in this or that way the use of relevant signs/concepts, viz., that we already know how to go on in the right ways. In Wittgenstein's picture, to say that mastery of a technique is had is grammatically required to *also* be able to say that one experiences – or can experience – a this-or-that of some particular kind (viz., one has to learn how to use the word "dog" in order to be able to experience dogs).[144] As Wittgenstein says, "grammar tells what kind of an object anything is" (PI §373 – and see again Cavell, 1979, p. 185, on this matter, i.e., to know the meaning of a word is to know what that thing is). All of this has powerful ramifications for my account of professional learning. For one thing, only those who have mastered the requisite techniques can judge of others and be able to join in on agreement in the judgment of knowledgeable others, e.g., that some learner has experience of this-or-that kind. How one talks about the world is how one sees the world; and how one sees the world a matter of the way of talking, of 'going on,' into which one has been somehow initiated, drawn, or brought, i.e., into using particular signs in particular ways. Thus, to look ahead in this chapter to my discussion of the case of

[144] I find introducing the notion of 'technique' here to be somewhat tricky. Understanding the meaning of a sign is given fully in how we use that sign, i.e., through the various techniques we employ in using that sign. But to say that "our assimilation of [a] word as the bearer of a specific technique," as Stephen Mulhall (2001, p. 257) does, is a picture of things that I find confusing. (And it is a puzzling phrasing that Wittgenstein himself uses – see, for example, the critical comment from the *Investigations*: "To understand a sentence means to understand a language. To understand a language means to be master of a technique" (PI §199).) We can use the 'same' word or sign in many different ways, i.e., through many different language-games in many different situations and in accord with the range of the grammar of that word or sign. Our ability to use this word or sign is either shown through a mastery of many different techniques – which may be employed for other words or signs as well – or it is a global, complex technique encompassing many different kinds of linguistic actions. For example, what could be the 'specific technique' that the word "ball" bears, or what technique the word "thinking" would bear, a word which Wittgenstein calls a "fluid concept" (e.g., see PG §65) and a "widely ramified concept" (e.g., see Z §110)? At the same time, Wittgenstein does speak of technique in using words, though I do not think he tightly links a specific technique to a specific word. For example, see: "For he must say that spontaneously [i.e., the utterance, "That looks red"] once he has learnt what "red" means, i.e., has learnt the technique of using the word" (RPP I §326; see Z §418).

educational professionals learning about self-regulation, we can say something like the following. One person *sees* someone (e.g., a student) running out of energy and in need of some form of recovery insofar as that person can and does talk about this in *that* way; another person in the 'same' situation *sees* that student misbehaving and in need of corrective discipline insofar as they can and do talk about this in *that* (different) way.[145]

This notion of seeing aspects also holds for observers of professional learners and their learning activities, who as well see the world in terms of how they can talk about it. Observers see the world of learning and learners in a certain way, by virtue of how they have been trained to talk about such relevant matters. If, for example, observers they have been trained in talk connected to Wittgenstein's picture of language and meaning, they see and can go on to talk about such things in the terms of language-games, following rules, and grammars, of places and paths between places, etc. If, on the other hand, they have been trained to talk in Positivistic, cognitivist terms, they talk of, see, and look for representations, computational mechanisms, contents, beliefs and desires, etc., and find meaningless talk of "language-games," etc., in describing and explaining professional learning. Given this tableau of powerfully differing aspects, one can imagine how various practical problems – of communication, for example – might begin to emerge. However, this is an area in which one can also begin to apply Wittgenstein's picture of 'change in aspect' to potentially practical effect (e.g., in being able to talk in the terms of both perspectives, one potentially gains the capacity to maneuver to better effect between the two in appropriate circumstances).[146]

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[145] But this is difficult and complicated. The work of the eyes and hands in a professional artist's drawing, for instance, may show what is understood to those who *already know how to look*. Indeed, one may never have words in such cases that do more than gesture loosely at what one can do with one's hands – though one's basic judgments, barely articulate, can show how one understands what one stands in front of. What it is that one experiences, then, lies in wait for expression, though there is a mutuality here that is difficult to articulate. We experience as *familiar* certain ways of going on, but can be blind to other ways of going on. The process of professional learning can be the process of opening eyes to other paths and to making the experience of these ways familiar. At any rate, these points deserve far more extensive and separate treatment, and many counterexamples need be dealt with. However, for the purposes of this thesis topic, we continue without engaging much more with these particular issues.

[146] Of course Wittgenstein does not talk this way in his discussion of 'seeing aspects' and 'change in aspect,' i.e., in terms of potentially practical effects. The suggestion of the argument here – and I will go no further here with this – is that talking in certain ways and seeing different aspects might help serve as an ability to bridge differences in view in cases of working through analyses (etc.) of professional learning situations. Wittgenstein says: "I am shewn the duck-rabbit [i.e., Jastrow's optical illusion – see PI, p. 194] and asked what it is; I *may* say "It's a duck-rabbit". But I may also react to the question quite differently. – The answer that it is a duck-rabbit is again the report of a perception; the answer "Now it's a rabbit" is not. Had I replied "It's a rabbit", the ambiguity would have escaped me, and I should have been reporting my perception" (PI, p. 195); "If you search in a figure (1) for another figure

In terms of how participants intercede in their own learning discussions, recall Smeyers' (1998) remark on Wittgenstein's philosophical methodology: "He looks for the underlying problem, the right question to ask" (p. 294). In the context of a professional learning session discussion, then, such a well-delivered question or comment may serve to put into question a path and a connexion someone follows, and be what opens up the possibility of other paths and connections (see **Chapter 4**). Here we do often ask for reasons, for warrant, or for robust or rich descriptions (and how 'robust' the descriptions are or can be will tell a lot about the places a learner can go), etc. In accord with the perspective of Wittgenstein's picture of language and meaning, such descriptions of learning interactions and the careful looking at what learners do and say, are what are fundamentally important in reflecting on learners' process, whether that reflection is done by the learning group itself as a whole, by an individual professional on their own, or by an expert coach or facilitator working with the group to support its learning efforts. (Note that I am not so much concerned in this thesis with the nature and role of actual facilitation and facilitators as played out in real professional learning situations. See my comments on this in **Chapter 6**.) As was noted for both Schön and Wittgenstein, the reactions to and between learning participants are vitally important for the learning process (see **Chapter 2**); different ways to proceed can open up depending precisely on learning participants' responses and talk with each other. Thus the importance of the back-and-forth in learning situations of the various language-games involved in telling and showing. The range of activities that comprise language-games of showing one another things is important for both student and teacher for the processes of learning and teaching. In contrast, a participant's 'telling' in a learning situation, for example that they know or understand something, will often not be sufficient for the purposes of ongoing processes of teaching/learning. Rather, it may be important that the learner shows in various ways that they understand the matter in question, and understanding here meaning saying/doing just *these* various things: "Suppose I have taught somebody to multiply; not, however, by using an explicit general rule, but only by his seeing how I work out examples for him. I can then set him a *new* question and say: "Do the same with *these* two numbers as I did with the previous ones"" (RFM VII 4; see as well Williams, 1994, 2010, on what she calls the "manifestation argument," i.e., that understanding must be public and social).

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(2), and then find it, you see (1) in a new way. Not only can you give a new kind of description of it, but noticing the second figure was a new visual experience" (PI, p. 199). From such comments as these by Wittgenstein I would begin to build the argument that I am suggesting here.

5.2 The educator learning study: Professional learning in peer groups[147]

The qualitative study itself was completed during 2014-2015, and involved four groups of educators from four different school boards located in South-Central Ontario.[148] This was a longitudinal qualitative study, the focus of which was to observe the dialogue of the groups in their own natural professional settings. Some of the context for these natural professional settings is given through the Ontario Ministry of Education's promotion of what it calls "collaborative inquiry."[149] In other words, these meetings to learn about self-regulation were undertaken by these educators as one aspect of their own deliberate and self-guided ongoing professional development. In general, such collaborative inquiry groups are a normal part of educators' professional life in Ontario.) The study's three formal research questions were as follows:

1. How do educators understand the construct of self-regulation?
2. How does educators' understanding of self-regulation change over time?
3. How do educators explore the construct of self-regulation (i.e., what are the ways in which educator peer groups discuss the construct so as to learn about it)?

A most important feature of this study was that the discussion groups were all initiated and conducted by the educators themselves – this was subject matter with which each group wanted to come to better grips, having begun to recognize the potential importance of the construct to their own professional practices. These collaborative inquiry sessions concerning the topic of self-regulation were all organized by the participants themselves largely through consensus methods.

Groups of educators organized themselves to meet to discuss and learn about self-regulation; the target identified by the groups was to meet for these learning discussions 2-4 times per group. Because of

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[147] This project was approved by the York University Office of Research Ethics (Certificate #: e2014-296), and was approved through ethical review at each of the participating school boards. A copy of the consent form used in the study can be found in **Appendix 1**.

[148] Note that one of the educator groups managed only to meet once for a brief session (1 ½ hours) of 3-4 planned sessions before teacher action in the Spring 2015 forced the cancellation of the remaining sessions. Since very little was achieved in this group meeting beyond rehearsing the purpose of the learning sessions and planning for the subsequent sessions, nothing more than general information could be collected from this group. Two of the other groups had to give up one session each as well due to teacher action that Spring.

[149] See as background to this aspect of educators' professional learning and development: Special Edition #16 of the Ontario Ministry of Education's *Capacity Building Series* (September 2010), *Collaborative Teacher Inquiry* (http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_Collaborative_Teacher_Inquiry.pdf); and Special Edition #39, *Capacity Building Series* (September 2014), *Collaborative Inquiry in Ontario: What have we learned and where we are now* (http://edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_CollaborativeInquiry.pdf).

teacher action that year (see **footnote 4** above), one of the groups had to cancel all of their substantive learning sessions, and two of the groups had to cancel one session each. One of the groups which had scheduled two sessions was able to complete both. By the end of the study, one group had met for three full-day sessions, one group for two full-day sessions, and the third group for two half-day sessions.

Only educators participated from the respective schools/boards, i.e., there were no outside participants, plus the author, who participated only minimally in the discussions. These sessions were for the most part lightly facilitated, and facilitated principally to keep groups to the agendas set by themselves. Those who might be designated 'facilitators' were educators from the schools/boards themselves, and participated in general like any of the other discussants in the sessions, sharing their narratives, asking and responding to questions, etc. None of the participants were represented as 'knowledgeable' about the area of self-regulation, with one noted exception being one educator who had a more official link with Stuart Shanker's MEHRIT group.[150] The groups ranged in size from 8 to 24 participants; and participants were mostly teachers, though a few others from different sections of the relevant school/board systems did participate as well (e.g., administrators, librarians, social workers). Participants were mostly from elementary schools, though a small number came from secondary schools as well. These meetings ran January – May 2015; all meetings were audio-recorded and then transcribed by the study researcher. All research ethics protocols were followed in the study; as noted, the study received its clearance by York University's Research Ethics Office (October, 2014). The result from this study important for my work in this thesis is that recordings/transcripts of seven half-day/full-day professional learning sessions are made available for consideration.

The educators' explicit and stated desire in these learning sessions was to develop their own understanding of the construct of 'self-regulation'. Self-regulation has taken on pedagogical importance in elementary and secondary education in Ontario, with one aspect of self-regulation formally included as an evaluative category on report cards from kindergarten to grade 12 (see report templates at http://www.edu.gov.on.ca/eng/document/forms/report/card/reportCard.html). Moreover, a concern with the self-regulation of students had found its way into many school board and school materials and

[150] As far as I could tell, this latter person was also still in the early stages of learning about self-regulation, and was only slightly more advanced in their understanding about the topic than the other participants. However, this assessment is based solely on my observation of this educator's participation in the relevant group's discussions.

processes.[151] The Ontario Ministry of Education, as another indicator of the importance of the construct, has, among other things, produced a number of important documents either focusing on self-regulation or including it as an important component in education.[152] Many educators in these groups had attended one or more of Dr. Shanker's presentations and were interested in exploring what seemed to them a potentially very salient component to their practice.

The construct of self-regulation is indeed a very important and appropriate concern for any of the human services professions (i.e., education, health services, social work, police and legal systems, recreation, etc.) Self-regulation has become a construct of more general professional interest, and has been picked up in other organizations outside of education.[153] The construct of self-regulation has been in use for a considerable time in many guises in the biological and developmental sciences. In common usage, "self-regulation" tends to be conflated with "self-control" and "will power," and while these can be spoken of as aspects of self-regulation, these are only one part of the science and discourse concerning this feature of dynamic systems, which of course includes living organisms (e.g., see Burman *et al*, 2015 for a valuable study concerning the range of uses and understanding of "self-regulation"). Further, taking "self-control," for example, as synonymous with "self-regulation" is misleading, and will miss the richness of the construct of self-regulation, a richness that leads to many exciting possibilities for action and thought. Understanding some of the exceptional richness of this construct in the case of human life and development, which comprises many functional levels of our life (i.e., at biological, neurological, emotional, cognitive, and social levels), makes possible a whole range of understandings of human behaviour not available in other ways of viewing ourselves (e.g., at behavioural levels, or in terms of folk psychological categories). From these understandings whole new ways of interaction between professionals and clients, and between professionals, is made possible.[154]

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[151] See, for example, the introductory booklet for full-day kindergarten at the Toronto District School Board (http://www.tdsb.on.ca/Portals/0/EarlyYears/docs/ComeLearnWithUs-KinderRegBooklet2018FINAL.pdf), or the materials provided on self-regulation through the Durham District School Board (http://www.ddsb.ca/Students/SafeSchools/Pages/Self%20Regulation/Introduction.aspx).

[152] See, for example, Research Monograph #63 (February, 2016) of the series, *What Works? Research into Practice*, titled *Understanding Self-Regulation: Why Stressed Students Struggle to Learn*, by Dr. David Tranter and Dr. Donald Kerr (http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/ww_struggle.html); see as well the 2013 research brief prepared for the Ministry, *Think, Feel, Act: Lessons from Research about Young Children* (http://www.edu.gov.on.ca/childcare/ResearchBriefs.pdf).

[153] See, for example, the Canadian Foundation for Trauma Research and Education, who do self-regulation therapy training.

[154] Many excellent books pick up on self-regulation and ways of interaction, including Fogel (1993), Greenspan (1997), Greenspan & Shanker (2004), and Lillas & Turnbull (2009).

However, it is at the same time important to note here that the particular subject matter of interest to professionals in the context of their own developing expertise is incidental to the thrust of the argument of this thesis. Though I consider the professional learning of educators in this chapter, what I am doing here is developing further my sketch of a picture of professional learning applicable to any and all kinds of professionals, whether police officers, sports coaches, CAS workers, teachers, psychologists, administrators and bureaucrats, public health nurses, etc., to stay only within the sector of social services, broadly understood.[155] Ideally the learning situations should involve professionals in learning about what they themselves have identified as issues or problems pertinent to their own understanding of their evolving expertise, and ideally as well in forums of their own choosing.[156] The excitement of learning what is important to you, and about which you see the relevance and contribution to your own practice and profession, is obviously important and should be a part of how professional learning situations unfold.[157] But these features are as well quite incidental to what I am doing. What I am working out here is a way to approach professional learning of any kind, on any topic, and concerning any professional group. As I have indicated in the early chapters of this thesis, I am developing a picture of professional learning giving us a perspective from which to view professional learning. The challenge and uniqueness in developing this picture is that it, in turn, is drawn on the basis of a picture of language and meaning (i.e., Wittgenstein's picture), as an attempt to be able to say things in a more 'fundamental' way about professional learning (i.e., "more 'fundamental'" than quantitative studies, for example, or studies concerned with knowledge mobilization or research transfer).

5.3 The aim of this chapter

It is important to note again that this chapter is not about self-regulation, nor are the formal research questions of the original qualitative study my questions here, and nor is this chapter's work only applicable to educators. Here I am interested rather in how the participants in their learning discussions talk about the relevant matters and how they conduct their own learning exercises, an interest I pursue from the perspective of Wittgenstein's picture of language and meaning. Thus to a large extent a detailed understanding of self-regulation is quite secondary and incidental to the work of this thesis. What I am focusing on is what is shown in the group discussions in terms of the different processes of moves made by the learning participants, the language-games in which these moves are made, and

[155] My own professional work experience ranges across these professional groups and beyond.
[156] Certainly the work of Bereiter and Scardamalia lends force to this point of view. See my **Chapter 2**.
[157] This is also a basic principle of adult learning. See, for example, the chapter on 'Self-directed learning' in Merriam, Caffarella, & Baumgartner (2007 – pp. 105-129).

participants' attempts to find places to go (i.e., as constitutive of their work to understand the subject matter at hand). This kind of attention to what happens, and this kind of approach, holds for any group of professionals and for any topic that is the subject of the learning initiative. Of course, in the context of actual practice situations and the unfolding learning activities of a particular group of professionals wrestling with particular content, attention to the details of the relevant subject matter would be entirely salient, importantly so in considering whether and how professionals are making advances in the development of their mastery of the use of the relevant (new) signs, and subsequently considering the nature and necessity of the group's further learning activities. However, I am here in this thesis project focusing more on the form of approach, so to speak, and so abstract over the (still important) details of whatever the subject might be, while noting again that the subject matter details will depend on the nature of the professionals' expertise and the particular subject matter that is of interest.

Smeyers (1998) says, "careful reading in this way [i.e., of Wittgenstein on his philosophical approach] would not lead to the development of theoretical views, or any such thing, but it would change the *researcher*: the world would come to be looked at differently" (p. 305). Applying Wittgenstein's picture of language and meaning to develop a perspective on professional learning, we then say, results in the heightened sensitivities of observer and (potentially) learners to the discursive happenings and processes unfolding in learning occasions, e.g., in terms having to do with the mastery of use of signs. One wants to be alert to those points in any learning activity in which telling does do useful work to help build participants' grasp of the grammar of relevant signs, for instance, or as part of how learners find more places to go and in gaining familiarity with new move-making (as per, for example, PI §§525, 534, 595-596). Similarly, close attention needs happen to the points in a learning occasion where learners require some place or way of moving between places to be shown, as part of the training needed to be able to go on in just these ways. In this way we ask: Through what language-games do the showings happen – e.g., through describing, explaining, questioning, speculating, dissenting, telling, doubting, and what are the particular contexts in which these happen? We might ask further: What do we learn about our picture of professional learning from observing such happenings, e.g., what might we add to our picture by applying it in these ways? It follows from this picture as well that attention need be paid to the work that practice and example do to make familiar the relevant grammars and paths and pictures. But practice also has corrective possibilities as learners practice talking in the presence of experts and

adepts.[158] It can also have growth or generative possibilities as places to go become more apparent in the talking both amongst the learners themselves and/or with any experts, adepts, or coaches participating in the learning discussions/activities.[159]

Following Bakhurst (2016), the *conversational* ideal is to bring together participants into discussion from different 'sectors,' such as practice, science, management and policy, and even art, to creatively engage with each other's ways of talking about the things of interest to all, and by that means to be able to talk and see things in richer, fuller ways.[160] Bakhurst, thinking with Michael Oakeshott, says that,

> The perspective from which the voices in the conversation of mankind are perceived to be in conversation is that of the learner. … Oakeshott's vision expresses an ideal of fellowship … where scholars and students in many different disciplines are expected to be able to converse with one another. This is an ideal of academic community where everyone, scholars and students alike, is a learner, and there are opportunities for informed conversation between thinkers who occupy very different walks of academic life. (p. 9)

At the same time, within this context of creative conversation, Bakhurst argues that there is still need to be initiated into the languages of the conversation. He says,

> If you lack the basic concepts in a domain, if you do not have a feel for the kind of explanation and argument employed there, you will not be able to learn by observation, reasoning and testimony, since you will not know what to look for, how to work things out for yourself, or how to take instruction. In such a situation, you need to be 'initiated into' the domain in question, so

[158] *Ideally* in the presence of experts and adepts. However, as I will take pains to point out, some measure of corrective possibility exists in professional peer group learning, either when difference in the level of mastery is shared between the participants, or when recourse can usefully be had to materials produced by adepts, or through various techniques (or language-games) applied to participants' conversation by the participants themselves, e.g., rigorous inquiry and reason-seeking, both in terms of discussion about the topic and discussion *about* their discussion of the topic. (See my brief discussion of Bakhurst in the next paragraph.)

[159] Again, it is important for me to maintain that this is a perspective from which to view these things, and to resist fashioning a pedagogical *programme* or universal approach to all professional learning situations. At most I am developing a picture through which, in its repeated application, important sensitivities to certain features of learning situations and talk are brought out, heightened, and further developed. Such possibilities are opened up precisely through the application of Wittgenstein's picture of language and meaning to whatever the specifics might be of each individual occasion of professional learning. This is an ethos of attending, guided by the reminders, hints, and sketches of language provided by Wittgenstein, but not a programmatic application of a general metric.

[160] In other words, to expand participants' holds on different grammars, to develop the possibility of having more places to go.

> that you 'grasp' the relevant concepts, 'pick up' the forms of thinking or ways of acting that are characteristic of the domain. … Prior to that [i.e., such mastery] the learning process is a matter of finding your way – or being led – into the domain in question, and the relation of teacher and learner is akin to master and apprentice. (p. 17)

In this chapter I consider closely what groups of one kind of professional, i.e., elementary and secondary school educators, do and say in their efforts in self-organized, conversation-oriented, peer-groups to learn about a particular developmental construct. This is done principally to illustrate the ideas from Wittgenstein with which I am engaged. Whether they can be taken up and put to use in other professional settings has to be part of my own ongoing professional development, though it is my suggestion that they can. I will say a few things here to help orient the reader to the particular subject matter discussed by these groups of professionals, i.e., the subject of self-regulation; and I will say more about self-regulation where necessary over the course of this chapter. However I will keep such background information to a minimum. Again, I think there is little need to understand much about the particular subject to gather the thrust of my argument here, which emerges wholly from an application of Wittgenstein's picture of language and meaning.

Essentially, the main idea is that an organism's process of self-regulation concerns both how the organism manages the flows of energy *within* itself (see, for example, Lillas and Turnball, 2009, Chapter 2, esp. pp. 48-72), and, in turn, how these are affected by the energy flows *outside* and impinging on the organism (e.g., light, temperature, sound). All energy flow from the environment impinging on the organism has some effect on the organism's self-regulation, e.g., causing the release of various kinds of hormones.[161] Certain energy flows, for example, are stressors, in that the organism increases activity in the hypothalamic-pituitary-adrenal (HPA) axis, thus increasing the flow of cortisol, among other endocrinological events, which manifests itself in anxiety and distractedness, which in turn can be signs of hyper-arousal.[162] And so on. All of this is important for understanding the organism when it faces certain stresses when, at the same time, it needs to focus attention on achieving different kinds of tasks

[161] Note that developmental scientists talk about distal (or exogenous) and proximal (or endogenous) environments in this regard; proximal environments can, in a certain sense, be considered to exist within the organism, relative to the biological structures affected (e.g., see Schmidt *et al*, 2009). Further, it is the notion of organisms-in-environments that is important here – and a flow of energy from an environment can only be said to *impinge* on an organism when the organism *reacts* to it, and the 'how' of an organism's reactions is essentially what self-regulation is about.

[162] Extending this idea, *all* expenditures of energy by the organism can be considered stresses. E.g., see Shanker (2016), esp. p. 5; but cf. pp. 97-99.

(e.g., in the case of humans, tying one's shoes, driving a car, talking with a friend, buying groceries at a store, doing a presentation in front of others, etc. – and, of course, being in learning situations). Individual organisms react in the particular, differentiated ways they do to energy flows/stressors for a great variety of reasons, both phylogenetic and ontogenetic. Thus, even quotidian or mundane things like the sounds emitted by the various mechanical devices or operations around us, or the quality of the light, the colours in the immediate environment, or the feel of the surfaces with which we are in contact, can serve to affect our processes and state of self-regulation. And there can be considerably large differences in such reactivity across any randomly assembled group of organisms/people. In Shanker's (2013) examination of self-regulation, various domains of the human organism are identified that are involved in inter-connected ways in the organism's constant self-regulatory activity: biological, emotional, cognitive, social, and pro-social domains. A stress may impair or enhance the functioning of various aspects of these domains, i.e., serving to up- or down-regulate an individual. Thus it is considered important for professionals such as educators, whose work is primarily in the engagement with others, to know how and why these things happen in the context of the many learning and social situations in schools, and it is precisely these sorts of accounts which have caught the interest of educators. Indeed, the different groups of educators that participated in the study used Shanker's (2013) book as their main reference material, and spent time, in the discussion groups or on their own, reading this book.[163]

A second, and different kind, of background concern is useful to note upfront, having to do with groups that are at the beginning or *in media res* of developing their understanding of the relevant signs and concepts. For such groups, the ways they use the relevant signs vary from the use of those same signs by other groups, particularly and most substantially by groups of recognized adepts or experts in the relevant fields. Alternatively, in some cases the new sign gets taken up and used by learners in ways far more connected to their use of other signs more familiar to them, which thus entails uses by learners which are quite different from the uses of these signs by those considered more advanced in the relevant content area. In these cases the 'new' signs are used in the other, more familiar ways, and so

[163] There were other, shorter documents that Shanker had written that were accessed by the different groups, for example a summary-type paper published through the Ontario Ministry of Education (see Shanker (2013) paper, "Calm, alert and happy" at http://www.edu.gov.on.ca/childcare/Shanker.pdf). As well, for those who are interested, Dr. Shanker's self-regulation work continues: see https://self-reg.ca/. Notice the 'definition' given to "self-regulation" on this 'Shanker Self-Reg®' website: "**Self-Regulation** refers to how people manage energy expenditure, recovery and restoration in order to enhance growth. Effective self-regulation requires learning to recognize and respond to stress in all its many facets, positive as well as negative, hidden as well as overt, minor as well as traumatic or toxic".

adopt the normative hold that these familiar paths possess, which may be considerable and (thus) resistant to change. In such cases one picture of things might also be said to contend with another. Thus the group of learners and the expert groups are at variance in their use of the relevant signs; they do not agree in their judgements about the correct use of the relevant signs, nor do they agree in such judgments as concern the relevant similarities and differences. This 'conservatism' in learners' use of signs, if that's the way to name this feature, may promote resistance in jettisoning old uses and associations and learning new uses for such signs. Thus it may be important that learners get initiated into the use and grammar of the signs by adepts or experts on an *ongoing* basis, and important as well the ongoing, deliberate practice by learners in using these signs as part of learning how to go on in the 'right' ways and gaining familiarity, as per experts' and adepts' uses of the signs (e.g., see Smeyers & Burbules, 2005, pp. 341-342, on the 'complexity' of practicing).

A useful example of the development of a single group's use and familiarity with certain signs/concepts, and their grasp of the relevant connexions between signs can be found in a study by Judith Little (2002). Little describes the interactions of a group of educators meeting to discuss a new programmatic element being introduced and integrated into their curriculum. In Little's examination of the dialogue of the group, one participant repeatedly presses a particular line of inquiry which challenges and heralds potential change in the group's use of certain signs. An interesting and valuable feature of Little's example is that this participant's line of inquiry and the potential change in use and grammar is resisted by the group. The group wants to evaluate the new curriculum element, but discuss potential evaluations in terms of trying out different – and unmeasured – variations of it across their different classrooms. The one participant iterates throughout the discussion that such variations may pose methodological problems if their goal is to assess the effectiveness of the curriculum-based intervention. This participant with comments like the following (offering up to the group connexions between "doing the same thing," "how the program works," and "success"):

> So what I'm asking though is what we are doing if we make a decision that we're not all going to do the same thing with [the new curriculum program] and how it works and us having an opportunity to measure about how successful the [new curriculum] program is in the unit, in the course? (p. 940)

This participant's concern is with a fairly basic methodological principle in evaluation (i.e., consistency in intervention delivery – e.g., see Patton, 1990), but it has no take-up in the group's discussion; the group does not overtly disagree with this principle, but rather shows that they cannot go on with such signs

and their connexions. Their actual use of such signs as "measure success" shows a certain range of places they have to go from it, and one of the pathways from this phrase leads the group to talk of "doing different things in each classroom." One way to look at this bit of discourse is that, on the one hand, it is known that relevant experts and adepts in the evaluation field talk about measurement *this* way, and that a particular, localized group of non-experts learners, such as this group of educators from one school in Little's case study, talk about measurement *this other* way.[164] Such stories concerning the varying uses of signs illustrate aspects of the professional learning paradox, in which a particular group settled on a way to use (or not use) certain important signs struggles to bring in line through their own efforts their ways of talking and using signs with the uses of those signs by experts residing deeper in the relevant communities of practice. Another lesson to draw from this example is that changing use of signs can be difficult. Further in this regard, Wittgenstein says:

> It is very difficult to describe paths of thought where there are already many lines of thought laid down, – your own or other people's – and not to get into one of the grooves. It is difficult to deviate from an old line of thought *just a little*. (Z §349)[165]

The ease or difficulty of changing 'lines of thought' (i.e., 'ways of talking'), and how such lines or ways get changed, strikes me as largely an empirical matter. This latter concern is, I think, again tied to what Wittgenstein has to say about the *familiarity* of paths of language (as per, once more, such comments as PI §§525, 534). How such impasses can be overcome through different group dynamics is not my primary concern here, which has rather been to develop a way to talk about and see such learning situations. Such empirical/pedagogical matters, however, *do* become the concern of educators who make the effort to look closely at how professionals talk in their learning activities, with the expectation that from such efforts certain pedagogical levers and processes can be developed and implemented in

[164] Note that Little (2002) takes up another approach to look at the dialogue of the participants in her study. However, this does not affect the point I am making here, of which I take Little's case study to be an excellent illustration.

[165] It would be useful to be able to identify what stands as bedrock for any group of speakers. For example, socio-political ideological differences may be so hard to bridge precisely because of what constitutes each group's bedrock layer, and a bedrock layer in propositions or beliefs more substantive than "I have two hands" (OC §125) or that "the earth existed long before my birth" (OC §288), e.g., in such propositions as "might makes right" or "God speaks directly to us through our ministers' interpretations." If this does make sense in terms of Wittgenstein's picture of language and meaning (i.e., whether these are the kind of propositions that can stand as bedrock propositions), and if questioning or changing these latter (potentially) bedrock propositions would have the kind of implications Wittgenstein suggests throughout *On Certainty*, then it is easy to see how fruitful communication, negotiation, accommodation and resolution of certain issues is impossible between positions that are intractable because they are set on quite different sorts of bedrock layers. However, my intuition is that ideology and ideological differences are better captured in terms of 'pictures' and their clash.

which change from one line of thought to another can be achieved, insofar, of course, as this is the desired goal.

Let me reiterate once more what I have set out to do here. In this chapter I consider the talk of the educators in their learning discussion groups through the application of a picture of professional learning drawn from Wittgenstein's picture of language and meaning. As I have tried to make clear, this is not an application of a template allowing for straightforward thematic or categorization work. In the course of this thesis project I have been thinking with Wittgenstein about language and meaning, and now I begin to look at the talk of professional educators in their own deliberately-engaged learning situations and to think about what might be going on in their performances in language from that meaning-oriented perspective. My contention is that to approach things in this way opens up possibilities for understanding that are difficult to achieve through other kinds of approaches. There is a kind of transparency in the approach I take on the basis of this (meaning-based) picture of professional learning. I consider, among other things, the nature of the (relevant) places that the participants have to go, and in what manner the discussants see the paths between places.[166] I consider the means that discussants have to move between places, viz., what are the language-games they play to make moves, to move from place to place. Do they move from place to place through joke-telling, for example, or through certain kinds of question-asking, or through descriptions or story-telling? How skilled – or hesitant – do learning participants seem in their play of these games? How familiar are these games and move-making to the discussants, viz., how far do they in fact go playing the games they play? I consider the efforts discussants make to strengthen certain paths/connexions, and the work they exert to weaken others. In the first case, I look for things like their encouragement and affirmations of others' locutions, their statements of agreement or approval, and their going on familiarly or fruitfully from the stated utterance to the next place. In the second case I look for their statements of discouragement, their stated and implicit disagreements with others' locutions, their corrections of other participants, and their ignoring or dropping certain ways of going on that have been proffered. With the heightened sensitivity afforded by these pictures of language and meaning and professional learning, I look for the places where explanations are offered, and observe how they are offered and how they are received, and then what participants do in going on from them. My sensitivities in this regard are heightened

[166] In other words, (1) what places *do* they have to go?; (2) how do they get from one place *to* another place?; and (3) how do they, by working together and interacting with each other, change in such ways that they get from one place to another place where the second place is a *new* place for them?

further by my interest in seeing where showing and where telling happen, and what the effects of these are, for example, in terms of the continuing flow of the discussions, in how participants then do go on.

Through the perspective on professional learning I am developing, I focus on use, in terms of both act and reaction. As I pointed out in **Chapter 2**, for both Schön and Wittgenstein, sequences of reactions between participants in learning situations are a vitally important part of learning. These reactions both reveal understanding (inasmuch as they *are* understanding) and provide the basic linguistic materials for participants to develop their mastery of the relevant language-games, grammars, and pictures. Thus I consider in the talk of discussants in learning situations how a participant uses a term, then whether and how the group reacts to that use of the term, and then how the first participant reacts to the group's reaction, and consider all of these on the plane of the use of signs. I consider how sequences of utterances, unprovoked or in reaction to other utterances, hang together such that in their particular flow and contiguity they are meaningful, i.e., by considering the moves and movements performed and achieved in each utterance and in sequences of utterances. And in considering that these are the paths they are travelling, I ask whether these are the same paths that the recognized, authoritative experts or adepts travel. (Thus the need for at least a basic primer on self-regulation; though, as noted, this step or angle is part of an investigation richer and more full than I need explore properly here.) Finally, throughout my close look at discussants' talk, I have the elements of the 'professional learning paradox' in the back of my mind. How does 'same' look to the discussants in the absence of the authoritative experts or adepts, for example? If 'same' is, in the end, a matter of being *shown* in the relevant cases, how are the discussants being shown in appropriate or effective ways, given the peer-group setting of the educators' learning sessions I consider here?

In sum, I look at and consider these professionals' learning discussions from what I been at pains to describe as the core of Wittgenstein's picture of language and meaning: How do these professionals find new places to go, and to have those places to reach for in their discussion and work? In the material that follows, I first consider three different examples of educator groups working to sort out on their own the grammar of relevant signs. I then consider a long conversation by one group as they try to work out the grammar of "anger" in the context of its connexions to "self-regulation"; in this section of the chapter the language-games of inquiry (i.e., 'asking and responding to questions'), and perhaps as well the language-games of asking and giving reasons, are taken up as important aspects of professional learning. To end my examination of the educator learning discussions, I look carefully at a long segment of discussion in which group participants work to explain something, and which I examine in light of my

comments on 'explaining' and 'showing' in **Chapter 3**. I organize the sequence of these examinations in terms of a progression, i.e., from more or less straightforward examples of professionals considering the grammar of signs, to more complicated examples in which the various discussants engage in multiple language-games as they try to work out together how to talk about the various concepts in question.

5.4 The educator professional learning sessions

Working to get the grammar right: Making connexions and having places to go

I turn now to consider the actual discussions that took place in the educator learning group sessions. In this first example, I consider how one of the participants works to sort out how to use the sign, "domain of self-regulation," i.e., how they work to find and adopt the grammar of this sign.[167] I consider in this example one discussant's effort to locate the other places to which the term connects, as well as how the group interacts with this discussant such that one path is encouraged and another discouraged, both for the one discussant but in terms of strengthening one connexion/pathway for all. As I have been labouring to make clear, this is part of Wittgenstein's method in the context of his picture of language and meaning, and in turn is a key part in developing a picture of professional learning. I take as one example of this Wittgenstein's statement that, "Here I am stating something about the grammar of the word "language" by connecting it with the grammar of the word "invent"" (PG §140; PI §492). While the participants in these professional learning sessions are not concerned with this kind of fundamental topic, this characterizes how I look at what they actually do in their discussions.

The context of the discussion sample is that two participants have just related a story about the interaction of several of the students in their class. In this session participants have been taking turns relating such stories that are of interest and/or concern to them, and the group discusses and analyzes each story on the basis of what they have so far been learning about self-regulation. This selection from the transcript begins with a question from one of the participants:

> **Participant 1:** Which domains, do you think … so which ones are [relevant in] this [i.e., the scenario just described by the two teachers] and tell us why you think they are affected.
>
> [**Many teachers together**: saying the names of all the domains.]

[167] The participants likely have some mastery in using "domain," but it is the whole sign, "domain of self-regulation," that is at issue here.

> **Participant 2:** It's cognitive too, because you're teaching then and actually naming it, and labeling, and biological? … not so much …
>
> **Participant 3:** I'm really just going to sit and listen, because I feel strongly that I cannot fit myself into a little domain, or a behaviour into a little domain. I feel that there are so many … [Another teacher: Layers.] for example, I heard someone say "cognitive", I heard someone say "emotional", I heard someone say "social", and I heard someone say "prosocial", and I feel I, maybe that is where I'm at for my learning, I want to learn from you, how to make it agreeably sit in one camp …

What happens here? The group decide to spend devoted time reading Shanker (2013); some participants have attended presentations by Dr. Shanker – thus it could be said at this point that they have been given the words/names of the five domains of self-regulation as identified by Shanker, though at this point not in much more than the guise of a 'bare notation,' as I have called it. As we have seen, words have no meaning until they have begun to be used – indeed, they are signs only in their use. The group now begins to find places to go with these terms (i.e., the domain names), spurred on by their own interest in talking about the story that has been presented in terms of the domains and to gain an analytic and practical grip on the story. It is interesting that many speak together, rehearsing the names of the domains, as perhaps confirming together that these are the signs that need to be included in their utterances to come. Participant 2's attempt goes a little further in beginning to draw some connexions between one of the domains (i.e., "cognitive") and other concepts (i.e., "teaching," "naming it," and "labeling"), in connection with the moments of the story that has been related. This participant continues, querying, by tone of voice, whether connexions to the biological domain need be attempted here as well. As per Schön, this is already to say a lot. It potentially provides ample place-seeking and tentative reachings for new places from which to begin to make other moves in a discussion that in turn can begin to open up different paths between various elements in the story told, on the one hand, and the domains of self-regulation. In the course of such discussion, some paths will get strengthened and others weakened, and attending to what happens to which paths is important.

At this point Participant 3 speaks up, and in the course of their contribution makes moves in the context of several language-games, the most important of which (in one sense) is to push for clarity on the grammar of "domain of self-regulation." The participant is asking whether the (grammatical) connexion is between "domain of self-regulation" and "one-to-one mapping," i.e., that one domain only need be considered in talking about behaviour, or whether the connexion is rather to "many-to-one mapping," i.e., that multiple domains need be considered. In other words, how do we use "domain of self-

regulation"? Another way to look at this is that Participant 3 is requesting to be shown how "domain of self-regulation" can be used in the context of explaining behaviour. Their tentative reach to a place – as a kind of querying assertion – is that "domain of self-regulation" is being primed here for use as a single explanatory factor. "Is that right?", Participant 3 seems to ask, and looks to the group for reaction.

In the next contribution to the discussion, Participant 2 opens up the grammar, though does not close down on any one path, by questioning the necessity for the one-to-one explanatory mapping of "domain of self-regulation" to "behaviour" (which in this case connects to the specific story that has been shared in this group and that is the ostensible topic of discussion). In this regard, Participant 2 says, and is backed up by the affirmation of several other group participants:

> **Participant 2:** But why does it have to? *Does* it have to? [Dissent from other teachers.]

Participant 3 now responds to Participant 2 (and to the other participants) by deferring to the authoritative text (i.e., Shanker, 2013), setting out a little more firmly the place that is being reached for, i.e., that it is not a one-to-one explanatory mapping, and thus that it is correct to use "domain of self-regulation" in the one way but not the other. It is interesting that the language-game used to move the discussion to here, and to move the activity to sort out the grammar of "domain of self-regulation" further along, was question-asking, though question-asking that was a rhetorical challenge to Participant 3's proposed, but contestable, pathway (i.e., one of the family of language-games one can play with inquiry). Here several participants in the group murmur together, "no," which works to strengthen the group's taking hold of one connexion or pathway over another.

> **Participant 3:** And I don't think Stuart Shanker is saying 'sit in one camp', [Other teachers: No.] but I'm saying that when someone says to me, "Now what domain is that?", then I think to myself, I mean, is it helpful to me to know that that's an emotional domain or a prosocial domain (cuz it's so much the same)?

However, Participant 3 in their response is still concerned with how one does use any one of the self-regulation domain notations in beginning to form an explanatory account of such behavioural stories or situations. This clearly is an aspect of things that needs to be shown to them. How does one go on to say correct things in this regard, and how does the group know they are going in the right direction (as would be given by the use of these signs by relevant experts or adepts)? So what *is* the move made to establish the right place to go in this context with "domain of self-regulation"?

> **Participant 4:** Well the one thing about that situation that's critical, is that they have to care, like maybe they [the students in the scenario discussed] don't even care that [student name from the scenario] was upset, right? [**Participant 5:** And that's empathy.] … And that's really where you have to start, right?

And Participant 4, with the help of Participant 5, makes the very interesting and promising connection to a new (though still implicit) sign/concept, viz., "explanatory method," by invoking the phrase "[a place] where you have to start". So, the suggestion is being made progressively here that, in talking about behavioural stories/situations in the terms provided for by the "domains of self-regulation," all the domains are potentially to be engaged in such talk, and one way to do so is to start by talking about one domain and from there pull in the others. To a large degree Participant 4 is simply telling this to Participant 3 (and to the group), and it may be the case that, without examples to show this connection, the participants will still not be able to use "domain of self-regulation" in this manner. This is both a grammatical and an empirical point; the further learning here hinges on the group's reaction to this proposed connexion. What Participant 4's utterance does do is to open up a place for showing to happen, i.e., to get a place ready for showing to have any effect in the growth of the group's grammar and their use of the signs. Note that Participant 5's comment while Participant 4 is talking is potentially a good place for the showing to happen, i.e., as per their stated connexion to "empathy." This is a sign they have been exposed to something connected to one of the domains of self-regulation (i.e., the pro-social domain) – and it is as well a sign with grammar already familiar to the participants – and so can be taken up as a way to begin to talk about the story of the interacting students that began this part of the discussion.[168]

Further, it is tempting to say that this group of educators has not yet arrived at, or become familiar with, the grammars of "self-regulation," and thus neither of "domain of self-regulation," and so, in a manner of speaking, these signs are meaningless. They are, in effect, asking, "what do these signs mean?" (or, "how can we use these signs in accordance with the social practice of those experts in the relevant fields?"). The absence of any relevant experts or adepts participating with them in their discussions, we might also say, constrains these learners in developing desired ways of talking about this construct of self-regulation. All the same they are not entirely bereft of supports that might aid in initiating them, at least to some extent, into these practices. For example, they have authoritative printed materials, there

[168] My own impression is that "empathy" is, in fact, a word or concept whose grammar and use is uncertain to many people. For example, asking for the distinction between "empathy" and "sympathy" (and "pity," etc.) almost always generates rich controversy.

are many other such resources available, and they have each other in their committed and positive working peer-group. Regardless, it is instructive for us to see in this instance the group beginning to exercise their autonomy and affirm to itself that these are certain places to go, that these are where connexions can be made, i.e., between "domain of self-regulation," "single versus multiple domains," and "explaining behaviour." We see, in this very brief selection from the study transcripts, a professional group working with the grammar and language-games already familiar to them to try to find leads and openings in their discussion that could generate a deeper familiarity with the grammars of these new signs of interest.

In the following second example from the group discussions, we see each participant or pair of participants in the session take turns describing their own classrooms, noting the very specific physical features of their spaces. The explicit aim of this exercise as set out by the participants is to begin to apply what they have been learning about self-regulation to think out together how the nature of the physical environment of their classroom learning spaces affects their students' – and their own – self-regulation. This excerpt begins with an orienting question from one of the participants who is nominally in charge of keeping the group to their agenda:

> **Participant 1:** So did you set up your room with self-reg in mind at all, any of those, of those pieces of things, or what were you thinking about when you guys …?

The question is deliberate in its indicating the move from "self-regulation" to "setting up your [class]room." The first part of the question might only invite a "yes-no" response, but the second part makes the move in the language-game of asking for reasons for doing whatever they did in arranging the participants' classroom learning spaces. We can read this inquiry as asking for connexions between "self-regulation" and their talk about the various physical features of the environment of their classrooms. Certainly there is considerable enthusiasm from the first responding participant:

> **Participant 2:** Uh, it's funny cuz last year we kept moving it all the time, and, like where the kitchen is right there, we'd have, we didn't have the big couch last year, and we put the red couch there with the smaller thing in the middle, and then we moved it to this, like, we couldn't really figure it out. And this year we've never moved it again, it, like, just fit all of a sudden. And we wanted, I went to my day care, was it this year or last year, I think it was last Spring, it came out that Deb Curtis, we have one of the books in our classroom, "Designs for Living [and Learning" (2003)], I think, she was coming to my kid's day care and she was talking about how to arrange your room, and so I kind of got to see, because it was my kid's day care, I got to see, like, their 'before and after', and they said that, like, it should be like a house, and it should kinda be flowing, so I think I kinda kept that in mind, so that when you walk in, you're like flowing around the science area, like it's kinda like a loop, like a living room. And a lot of the

> time when we're talking, I'm like, "whoa, go to the living room, or go to the, we call it the "kitchen," actually, where the sink is, like the, "it's in the kitchen, open it on the kitchen counter." It's kinda like a house. And everything should be neutral, except for one or two colours that you see through the whole room. That's what we had in mind when we did that.

As noted, I am interested simply in looking and seeing how participants in these learning discussions do in fact use the relevant signs. So, for example, in the case of this participant's description and rationale for the way they have arranged their classroom space, one might consider the question whether they added any new places to go in their talk as would be indicated by explicit connexions to "self-regulation" or any of the related relevant signs located in their previous reading and discussions. This might be manifested both by the participant themselves or by other participants in their comments and reactions. Alternatively, saying something new for them, in these circumstances of learning new things, might be brought out by various lines of questions or comments in the group discussion. As in the first example above, the participants in this discussion group have been actually reading some of Shanker's material on self-regulation, so we can say that they have been exposed to, and have available an authoritative set of the uses of relevant signs. Indeed, some of the group time in these sessions was devoted to reading some of these materials. In Shanker (2013), there is a considerable discussion of how physical environment can affect human beings' self-regulatory processes (e.g., the auditory environment – see pp. 12-14; see also pp. 53-54 on issues of auditory processing).The issue is how the group comes to grips with this new grammar and begins to work with it as potentially adding new places for them to go in their talk.

In the case of the brief exchange between the two participants indicated in the transcript selection immediately above, Participant 2's utterances connect up to "room design" (or "room set-up"), and belong at least to the language-game of giving reasons for the actions taken (and can be viewed as well as moves made in the language-game of 'describing'). What is interesting here is that there does not yet seem to be any particular connection being made between "self-regulation" and "room design," though there are openings in what Participant 2 says that potentially could lead to making such connexions. For example, a line of inquiry concerning the kinds of effects on students from any of the features described in Participant 2's narrative (e.g., the big couch and its specific location, its size and the material it is made of, its colour, how it is used by the students, when they use it) might serve to draw the discussant or group into finding new places to go in talking about physical environment and self-regulation, i.e., in how they begin to connect together these signs. Asking for more detailed description concerning the "loops" that "flow" through the classroom space, for instance, and wondering how that might make a

difference for students' focus and attention or to how students feel in the classroom, might similarly serve to open up paths to new signs. And so on. While these strategies can be viewed as empirical (i.e., these are in a sense hypotheses that need to be tried out as experiments in classrooms, or imagined in 'virtual spaces' in the learning session discussions (e.g., see the discussion of Schön in **Chapter 2**), they are at the same time grammatical in nature, i.e., the effect in these discussions is the beginning of paths being drawn between signs and, through repetition, rehearsal, and practice in the group discussions and elsewhere, to make these increasingly *familiar* pathways.

When this participant finishes speaking there is a long (i.e., a four or five-second) pause during which no one speaks before Participant 1 tries to reframe their initial question, this time by introducing relevant content, in effect suggesting places the group might go in their talk about classroom space and self-regulation.

> **Participant 1:** I know, one of the challenges, I'm not speaking to this picture of the classroom in particular, but one of the things that Dr. Shanker talks a lot about, is, sort of, the visual impact, element, in a room, and often times, y'know, traditionally, visual clutter that's happening in classrooms. And I know sometimes, walking into early learning classrooms, like, it's finding that balance between, you need stuff for kids to use and interact with, and then really looking at, what just sits on shelves and what's not really used, and how do we balance that and manage the visual environment, right, so I don't know if anybody has thoughts or experiences with intentionally looking at their room and decreasing that …

It is interesting now to note how the different discussants carry on their dialogue in reaction to Participant 1's comments. For instance, it is an important contribution to the learning dialogue that the word, "clutter," now makes an appearance. This word tended to be used quite often in these educator learning discussions in such contexts, and in the participants' use of it showed a grammar that included connexions to "mess," "over-stimulation," "frustration," and perhaps other emotionally pejorative words. It was an easily convenient-at-hand word, if that is a way to put it, in that its grammar was familiar to most participants and had the kind of connexion to self-regulation that seemed 'natural' and familiar as well, i.e., playing on the connexion between "over-stimulated" and "dysregulated." However, it is also interesting to see that, over the course of the different discussions, what was actually said about the notion of 'clutter' was rarely in the form of talk of reasons connecting "clutter" to any of the different aspects of "self-regulation" that had been discussed.[169] For example, why is clutter a sign of

[169] So while participants might 'see' dysregulation in a 'cluttered' classroom space, for instance, there appears to be little more they can articulate in this regard, and certainly no discussion that picks up on any of the issues noted below in this paragraph. So while participants may not be blind to this aspect, they are certainly myopic about it.

something dysregulative? What is the range of relevant connexions available here to talk that lead from the one sign to the other in 'reason-giving' language-games? Is it possible to talk about 'different kinds of clutter,' and if that is possible, do connexions between these multiple ways of talking and "dysregulation" apply? And so on. Let us follow how the group participants do in fact go on to connect up the relevant utterances.

Another participant in the group picks up and continues the discussion on the basis of the comments by Participants 1 and 2, and while part of the importance of the place-making move here is masked by the language-game of joke-telling, something important happens all the same.

> **Participant 3:** Well I did like how [Participant 2] did have that cloth overtop that shelf, because that reduces the visual stimulus, of seeing everything over the shelves …
>
> **Participant 2:** The actual intention was more, 'don't touch those things!' [laughter] But it works that way too, yeah! [Other teachers: Yeah.]

Participant 3's comment, in picking up on an element of Participant 1's comments, effectively strengthens the process of adding a place to go in the grammar of self-regulation here for the group. Participant 3 brings together "visual stimulus" and "reduce" with "self-regulation" through the language-game of asserting 'cause-effect' relations.[170] There are many more places to go from here – and the experts and adepts in the various relevant disciplines do go to those places and establish connexions and thus grammars of the signs in question. This line of inquiry ends here with the joke made by Participant 2; the conversation is then taken up by another one of the group participants, who switches the discussion to the topic of constant change in classroom physical arrangement over the course of the school year, and so the effort to explore these connexions between "clutter" and "self-regulation" is over for the moment. But what is important here is how a salient connexion is brought out in the grammar of the relevant terms, and the many openings to new places it offers for future consideration. It is also worth considering how firmly the group took hold of this potentially new pathway, given Participant 2's fairly offhand and casual reaction to Participant 3's suggestion concerning visual stimulus. Further, it would be useful to consider what the audio recording of the group's discussion suggests about the other teachers' final, "Yeah!" – for example, was it ironic laughter in reaction to the joke made by Participant 2, or was it of a more serious nature? This would say something

[170] Assuming that asserting a 'cause-effect' relationship *is* a language-game; it may be the case that the language-game is simply one of 'asserting' which also plays upon the grammars of "cause" and "effect." However, that the relation of 'cause-effect' gets us from one place to another strikes me as indicative of the language-game-like quality of the utterance. Regardless of its status, the 'cause-effect' locution is what Participant 3 uses to bring together in a path "visual stimulus," "reduction," and "self-regulation."

about the development – or non-development – of a pathway between these signs, and which it was would only be a matter of how the group went on with regard to this topic and these potential connexions. (In other words, did playing the language-game of joke-telling facilitate the building of a path between those signs or not?)

Generally important here is to attend to the back-and-forth between observation (i.e., to participants' descriptions of relevant things – and to which things get talked about/described) and the various 'explanation-type' language-games played (hypothesis-making, promising speculation, descriptions-in-context-as-explanations/showings, etc.). My suggestion is that both facilitators and observers of professional learning discussions want to develop an ear for this; but, importantly, the professionals/discussants want to develop an ear for this as well themselves, in order to be more highly attuned to their own reactions to what each other have said, how they have said it, and the places it has led them. This particular excerpt from the educator understanding study is a provocative and useful example in this regard. How does one assess the process of this bit of a *learning* discussion? What work, in terms of new places to go, and new ways of getting from one place to another, has actually been done here, and what has been achieved? Making the effort to articulate these things is extremely important in the ongoing process of professionals' learning.

Further, it is interesting to observe how groups across the study attempt to confront interesting questions as ways to generate or open up possible connexions between relevant signs of interest.[171] What is also interesting about these conversations is what they show concerning the difficulty of learning or absorbing new grammars, i.e., especially in terms of the professionals finding on their own the new places to go or new ways of going on in the relevant matters in the absence of appropriate experts, adepts, coaches, or mentors. In other words, these groups are confronting the professional learning paradox, in both the *Meno* and *Theaetetus* versions of the paradox. All sorts of promising lines of (grammatical) development briefly open up, but the pressing issue is whether such lines could only really be properly capitalized upon through the skilled intervention of a coach or expert who has mastered to some degree the material of interest, i.e., someone who resides closer to the core of the community of practice in question. The evidence suggests that such is the case, though the body of

[171] Again, recall that these are signs made relevant by the participants' own stated interests. That there might be different kinds of resistance to participating in the kind of peer-group learning setting they had set up for themselves is, of course, an important question. However, it is a question for another kind of investigation. Here I am operating on the plane of (linguistic) meaning, engaging in as close an application as I can of Wittgenstein's picture of language and meaning to situations of professional learning.

evidence is still fairly slender. However, it is useful to note lines of questions in these discussions that do not seem to emerge out of any deep measure of expertise concerning the subject of self-regulation, but are rather questions that simply probe for clarity in what others have said. This reinforces a suggestion made earlier, viz., that such abilities in the language-games of inquiry belong as a needed and natural component of professional training (see **Chapter 4**).

Let us consider a third and final excerpt from the transcripts of the educators' learning sessions. In this part of the learning dialogue, one participant describes the case of a student in their classroom in terms of "self-regulation," while a second participant queries the first participant's use of the relevant words, in this case "compliance" and "self-regulated/regulating." A third participant ends this bit of the discussion with a play of very interesting word-work, making important statements concerning just these grammatical concerns.

As background to the subject matter, note that a basic feature of self-regulation is that all organisms self-regulate all of the time. In any case in which one 'environment' (or 'system') is in interaction with, and reacting to, another 'environment,' both systems of necessity need to self-regulate themselves; the termination of self-regulatory processes means the end of the self-sustaining organization of the organism (or 'systems') in question, which in other words would entail the end of life for an organism. In this regard, then, 'self-regulation' is not a binary-type concept, viz., it cannot be the case that an organism can either 'have' self-regulation or not 'have' it (or be 'self-regulating' or not). There is no organism without self-regulation (e.g., see Sameroff, 2010). This we can say is part of the authoritative grammar of "self-regulation," i.e., as it emerges from the talk and practice of all those near the core of the relevant disciplines/communities of practice. So this is an interesting sample of discussion in that the three discussants involved are ostensibly working out the connexions between "compliance" and "self-regulated/regulating," but also interesting by virtue of the discussants working out the relevant grammar as it concerns "self-regulation" and "binary feature" (though perhaps the participants would not, on this occasion, use the word, "binary," nor might they explicitly connect the sign "feature" to "self-regulation").[172] Let us now turn to the excerpt from the educators' discussion.

[172] This is a challenging aspect of how one can talk about such learning discussions. One adopts a kind of shorthand, attributing the use of certain signs to learning participants that is in effect to put those words in their mouths. In some cases a unit of narration serves as proxy for the sign in question (i.e., 'this particular sign is what they are in fact using'), and while this shorthand approach might be permissible in summary-type viewings such as I am performing here, all the same in fuller accounts close attention need be paid to the signs as the participants actually use them. If in interacting with an expert or adept in the learning session, or in *post hoc* reflection on what

Participant 1: What is the relationship between compliance and self-regulation … [are they] exclusive or whether you could have both at the same time?

Participant 2: They were alternate points. Somebody had made the first point, and we were responding to it, we were basically disagreeing with it, what the first person had said. But I feel you can be compliant and not self-regulated; I have a girl in my room who is very compliant, but she's not self-regulated. And vice versa, you could have someone who is self-regulated but not necessarily compliant.

As can be seen in this first segment of this excerpt from the discussion, Participant 2's response to Participant 1's inquiry – which rather pushes the grammatical issue of the possible/right connexions between "self-regulation" and "compliance" – shows that they see the grammar of "self-regulated" as involving a connection to the sign, "binary." This gets revealed, simply enough, by Participant 2 saying that the student in question is "not self-regulated." Participant 2 is also talking in such a way as to make the grammars of "self-regulated" and "compliance" in effect independent of each other, i.e., they say that (i) one can be compliant but *not* self-regulated *and* (ii) self-regulated and *not* compliant. In other words, "self-regulated" and "compliant" have little to do with each other, i.e., there is little connexion between these signs/concepts. In grammatical spirit, Participant 1 now asks whether Participant 2 wants to modify their talk about "self-regulation," and in doing so thus raises the issue of the (possible) connexion of "self-regulated" to "binary" (i.e., these connexions would constitute part of the grammars of these signs).

Participant 1: Do you mean *well* self-regulated?

Participant 2: Oh, she self-regulates, but she often has meltdowns, she'll get upset because she can't find a mitt, or she'll cry because her mitt isn't in the right part of her back pack, or her library book was supposed to be handed in, or whatever, it doesn't matter, but she's very compliant, she would never, she's very compliant.

Here the grammar of the two words seems to be unclear for Participant 2, and is still very much being worked out, as this participant seems now possibly to identify in some way "self-regulated" with "compliant" (i.e., the student self-regulates, though with many episodes of apparent dysregulation, while all the same also being compliant). This way of putting things also shows a different understanding than shown in the above passage just uttered by Participant 2, i.e., here they seem to say that one can

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they had said in their discussion, it was pointed out that 'what you are talking about here is called a "binary account",' for instance, then this sort of thing certainly has a place in the ongoing learning of the professionals. For the purposes of this much too brief chapter, however, my hope is that the reader will permit me the use of this shorthand.

be self-regulating while at the same time being in 'dysregulative' states, though they don't put it in quite these terms. However, it is still not clear to view what Participant 2 makes of the possible connexion between "self-regulated" and "compliant"; their take on the connexions seem muddier than before. In other words, there does not seem to be any clear, familiar path yet for Participant 2 here between these signs/concepts.

At this point a third participant enters the discussion and, while still offering something of a confused 'grammatical-style investigation' of the signs in question, manages to push further the issue of the connexion between "self-regulated" and "compliance," but also injects several new signs for consideration in the grammar of these terms.

> **Participant 3**: What I had said in the first point there, [teacher name] had wrote down for me, is we were talking about it, and I said, isn't non-compliance just a symptom of not being self-regulated, isn't it a, like, and it was sort of, I don't know, I think they're different, very different, than compliance and self-regulation aren't the same thing at all in my brain, that's why I was happy to hear when the doctor[173] was talking about it, because it was something I slipped in and out of for a while getting confused with self-control, y'know, and self-regulation. And self-regulation isn't always what we, it's not always good what the children are doing when they're self-regulating, maybe they just need to self-regulate differently, they're doing it but it's not optimal for the school environment, y'know when they're regulating they need to leave and come back, or whatever it is they, we hope they stay and learn. But anyway I was just thinking that non-compliance is more like a symptom of not doing, um …

In a way this is a wonderfully interesting and important contribution to the discussion, in that this participant makes explicit the need to get clear on how different signs/concepts connect up with each other (though this participant does still seem to be living with the connexion that a living organism can *not* self-regulate and still be living). Somehow, in the course of the continuing discussion (though in fact it doesn't go this way[174]), this participant together with the group need to find a way to begin to connect

[173] This would be Dr. Stuart Shanker, and as per Shanker (2013).

[174] In fact the conversation drifts quite quickly into a discussion of 'free choice,' and from there into the happy circumstances of having senior kindergarten students being examples for the junior kindergarten students, ending with comments on the importance of showing young students that "this is what school really looks like" as one of the responsibilities of educators. In coming to a clearer understanding of how these professionals talk about such matters in the context of their own self-devised learning situations, it is, of course, important to pay close attention to the entirety of discussions like this and how they evolve, i.e., the sequences of one utterance after another, one line of thought after another. Again, from the perspective I am taking up here, this would be done on the plane of (linguistic) meaning, that is to say, seeing how one utterance 'has meaning' inasmuch as it has just this place in the sequence of utterances. Recall again statements by Wittgenstein along the lines of signs having meaning only in 'the flow or stream of life and thought' (e.g., see Z §§135, 173). Of course, a lot of what can be said about how these discussions in fact evolve can be brought into view by applying other kinds of

"self-regulate in a different way" (as per Participant 3's comment) to the grammar of "dysregulation," partly in order to draw tighter the connexion or path between the "symptom" of "non-compliance" to "dysregulation," and partly thus in order to make the space for the connexion to "dysregulated, but still always self-regulating." These sorts of moves in the ongoing discussion would settle a lot and bring this group closer to the authoritative grammar and use of the signs by the relevant experts closer to the core of the various communities of practice – which, again, is the stated desire of these groups of learning professionals. In addition to all of this, it is important to note that Participant 3 has also added to the richness of this, essentially grammatical, discussion by bringing into play through their comments such signs/concepts as "self-control," "symptom," and "optimal [self-regulation] for an environment," which are all important parts of the picture of self-regulation. Finding ways to take these up and connect them with the talk of the other signs can form some of the focus of subsequent activity in these learning sessions.

Let me step back for a moment and ask how it is possible to get a view on how groups of professionals understand some issue. This 'need to get a view' applies across the board to many interested parties: the professionals themselves, their mentors/coaches/instructors, educational researchers, support staff, and organizational administrators – and there is likely a range of different purposes and desires in getting such views on learning and understanding. In the context of the discussion above, it is certainly plausible to ask participants directly – for example, by administering a questionnaire – whether self-regulation is a binary feature (e.g., "Is it correct to say that an organism either self-regulates or does not self-regulate?"). This might generate one or another general response, but it is still possible that participants/respondents still talk about it, when they do, as if it were the other.[175] I suggest that this is because the grammar of the relevant signs is still only loosely grasped or mastered, and the participants/respondents are still in mid-process finding the right places to go, and in this case, for both of the relevant terms. In other words, these participants are still developing their 'know-how' in the right use of these signs. Thus the questionnaire responses may bring into clearer view very little that is

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accounts/pictures or ways of talking, such as, for example, psychological-social accounts. What I am maintaining, on the other hand, is that much of salience to those of us interested in professional learning can be brought out here from the perspective of Wittgenstein's notion of having *familiar* paths between signs (e.g., see PI §§525, 534, p. 181), and that this picture can usefully inform our talk about such learning discussions.

[175] So, for example, most respondents to the questionnaire might indicate that self-regulation is not a binary-type feature of organisms, while their talk about self-regulation might all the same still follow the pattern we saw above in the excerpt from the study transcripts. Answering close-ended questions on a formal questionnaire is one kind of activity, practice, or 'know-how'; answering context-sensitive, emergent questions in an ongoing discussion which presses the grammar of "self-regulation" from all sorts of different angles can be quite another kind of activity, and one which shows something different from instrument response.

useful for professionals' ongoing efforts to develop their own expertise. One of the contentions of this thesis is that the learning participants need to show or manifest their understanding in the activity of going *on* in the right ways (i.e., in the same ways as the relevant masters), which is much more than can be shown through responding to more formal instruments or data-gathering techniques. It is instructive in this regard to consider Williams' (1994, 2010) discussion concerning what she terms, "the manifestation argument."

These last points lead us into the next section, which has a focus on the playing of a particular general kind of language-game, i.e., inquiry, in a professional learning discussion. (Which of the various language-games of inquiry, or "asking" (e.g., see PI §23), are being played can be best observed in the narrative itself.)

The grammar of "anger," and the language-games of 'asking questions' as a way to find places and build mastery of the use of signs

The emotion and phenomenon of anger is important in discussions of self-regulation, especially in contexts of behavioural studies and concerns (e.g., see Rueda *et al*, 2005; Rothbart *et al*, 2011). With regard to such 'negative' emotions such as anger, Shanker (2013) relates the story of a school teacher dealing with his students' outbursts, that "he now constantly asks himself *why* certain children are behaving in emotionally unsettled ways, or what emotional upset might be getting in the way of his connecting with a particular child" (p. 43). So understanding anger is important for educators, and the connection between anger and self-regulation is a reasonably studied one, and for which there is now considerable literature (e.g., see Baumeister & Heatherington, 1996; DeWall *et al*, 2007). I return here once again to Cavell's (1979) remark: "to know how to use the word "anger" is to know what *anger* is. ("The world is my representation.")" (p. 185).

Anger in the self-regulation literature is usually taken as a sign that a person is (i) being subjected to various stressors and (ii) has entered or begun to enter a state of dysregulation (e.g., hyperarousal). In many cases, anger is recognized to be a 'natural' and appropriate response to certain kinds of circumstances. In other cases, however, those characterized by prolonged, 'unreasonable,' or inappropriate anger, the anger manifested is understood to be more pathological than natural, and thus needs to be taken as a subject for concern. The topic of the anger of students is what educators often turn to in their discussions about self-regulation, particularly those educators who are still in the early stages of learning about this construct. It is important, then, to consider what educators do and can say about anger and its connection to self-regulation.

My focus in this section is to consider the grammar of "anger" as it emerges in the discussion of one group's learning session.[176] I am interested in seeing what aspects of anger we can say the participants experience or see, and observing this through how the participants talk about anger (i.e., having the words – or places to go – is to be able to see those things, as I have been indicating). The language-games of inquiry/asking-questions are also of secondary interest here; it is not clear how much the session's participants would have talked about anger, and thus explored the relevant signs' grammars, had there not been a line of questioning encouraging that talk. My tentative conclusion will be that language-games such as inquiry are important both in terms of enabling anyone so concerned to see what professionals can actually say about some concept, and thus to see how they understand the concept. It is the continued back-and-forth of question-and-answer that shows understanding in this case. As I pointed out in **Chapter 4**, there is much of process value in both asking and responding to questions, i.e., in the process of reacting to one another's talk in this way. Engaging in the language-games of inquiry allows one to look and see better how both interlocutors see the world, i.e., to see the nature of their mastery of the relevant grammars and use of signs.

Let me turn now to the excerpt from the transcripts. This segment of conversation picks up just after one of the participants (i.e., Participant 2 below) has just finished telling a long story about an angry student.

> **Participant 1**: So how do you understand anger? Uh, what precedes anger, what's anger's object?
>
> **Participant 2**: Uh, what is he angry about? Or, why is he being angry …?
>
> **Participant 1**: What is he angry about, does one need to be angry *about* something?
>
> **Participant 2**: He usually identifies afterwards, it's often something that he wanted but couldn't have, whether it's a physical object, the teacher's attention, the time to do what he wants, it's usually when he is unable to do what he wants when he wants. But there is usually, he often has a good understanding of what it is he wanted to do, and it's, sometimes when he's calm and

[176] It is important to note that this thread of inquiry about to be investigated concerning the grammar of "anger" (and its continuation into a further group discussion about the nature of emotion) was entirely in keeping with the overall context of the group's work in this session. Shanker's (2013) *Calm, alert, and learning*, identifies as one of the domains of self-regulation the emotional domain, and his book devotes considerable space to discussing the basics of emotional development and the nature and role of emotions in self-regulation (e.g., see all of Chapter 2 (pp. 22-44), and also pp. 112-117 for discussions about the development of empathy, one of the 'moral sentiments'). As well, all the groups often referred to and discussed the emotional responses of students and others, though limiting these discussions precisely to these more 'negative' emotions, e.g., anger, frustration, anxiety.

is articulating it, it's reasonable enough, like, or, or sometimes it's unreasonable, and he knows it's unreasonable, he wanted this particular book, the other student had the book, "so I got *mad*!!", and that's what he'll say, "so I'm *mad*!!", and then he reacts inappropriately, and then he becomes angry at himself, he reacts in a way that sounds like he's angry at himself.

Participant 1: Oh, so it's a double kind of [**Participant 2**: Yes!] anger that you're seeing with this child? So, anger, from frustration [**Participant 2**: Yes!], and then anger that's sort of reflexive, he's angry at himself for being angry.

Participant 2: Yes! 'I'm stupid, I'm dumb, I don't want to live, I'm awful'.

Participant 1: *Because* he's angry, he's reflexive about …?

Several participants (all at once): That's part of his reaction, he's reactive …

In this first segment of the excerpt, two participants discuss how to talk about "anger," and in doing so show the places they have available to go concerning this sign/concept (and, by default, the places they struggle to find a way to). Participant 1 asks questions about the concept of 'anger' (i.e., how do we go on with the general word, "anger"); Participant 2's responses are all connected with spelling out further details of the specific situation and circumstances of their angry student, about whom they had just related a narrative (i.e., the connexions being set out here lie only between "anger" and "this particular student").[177] For example, Participant 1 asks questions exploring possible links between "anger" and "objects [of anger]" – e.g., an important though unspoken question here is whether one can be angry but not be angry about anything specific. Neither Participant 2 – nor the group, if the group's silence on this matter is to be taken as an indication of their understanding – have anywhere to go in response to such a question, i.e., there are no pathways between "anger" and "object [of anger]" for them yet, at least none that are familiar. But the question does introduce the possibility of such a pathway, and while it is not taken up in this excerpt, it has all the same been put on the table for future grammatical/learning work.

Participant 2 continues on in their description of the particular student and the developmental arc of their anger, saying that (possibly) the student becomes further angry because they have been getting

[177] In other words, that "describing a particular situation" is an acceptable way of responding to a question about general connexions. *This* is how these discussants play the language-game concerning this specific kind of inquiry, i.e., inquiry about general connexions. A momentary shift in the conversation to show, perhaps by analogical examples, how one might otherwise respond to this specific kind of question-asking might have proven effective in training this group of professionals how to play this kind of language-game. Certainly it is a kind of language-game they can play well in other contexts, and it would be an important matter to show that it can also be played in this context as well. This approach would shift concern away from grammar to learning how to make moves, such that certain elements of the relevant grammar could, in turn, be mastered.

angry. Participant 1 notes that this seems to be a new way of talking about anger (i.e., a kind of "reflexive anger"), and Participant 2 becomes excited by this new way of talking, and carries on by paraphrasing the angry student, attaching the kind of exclamations typical of this kind of anger. This seems a promising grammatical line to pick up and pursue, and its relevance and importance by several participants in the group affirms this. On the basis of the kind of 'authoritative' talk about self-regulation offered by Shanker's materials (mainly Shanker, 2013 – though several members of this group have seen Shanker present in different forums), there are also possibilities to begin to make out paths between various aspects of self-regulation (e.g., self-awareness, self-image) and this new way of "anger" talk. How do the group's participants pick up on this?

> **Participant 2**: [At same time] I don't know, that, right? As we tell the parent we're not psychologists, we're not, like, that's not my training, so always being clear about that, and then, but we are trying to figure out what it is he's angry at, or why is he angry. But when he gets like that, if you keep telling him, "don't talk to yourself that way, don't say that", or "those things are hurting us, we don't want you to hurt yourself", or, you say things like that he's not listening when he's in that state, he is not receiving those messages, he's not processing what you're saying, he's just escalating.
>
> **Participant 3**: Dr. Shanker did talk about that in his first session, which was an 'aha!' for me …

Participant 2 does three interesting things here in their lengthy response to the proposed new way of talking about anger (i.e., that there is also a reflexive kind of anger). First, they follow a path of connexion between "understanding" and "professional limits/constraints," which in turn will later lead to a thread of connexions that exist for educator groups between "understanding," "action," and "administrative responsibility/liability." Second, this leads Participant 2 to make the move to 'deferring understanding' on the basis of their own perceived restrictions (or, perhaps more properly, to make the move of 'deferring understanding'). That there is uncertainty about this move to defer inquiry and understanding is shown when the participant says in the same breath that "we are trying to figure out what it is he's angry at, or why is he angry." Generally, in the educators' material practice, stating "professional constraints" is considered as a reasonable – and thus familiar – place to go; it is less so in the context of an exercise in deepening understanding, and this participant appears to recognize this. However, as we will see, the group takes up this general theme (i.e., the connexions between "understanding," "action," "professional constraints") and the discussion will eventually abandon the relevant set of language-games that had been productive of professional learning. Finally, Participant 2 introduces into the discussion additional elements of the grammar of "anger," beginning to try out some

explicit links between “anger” and “self-regulation” in the guise of talking about “processing [information]” and “hyperarousal.” Again, these are not the signs actually used by participants; rather, Participant 2 connects “anger” and “self-regulation” to these signs’ narrative equivalents (see my **footnote 172** above about the ‘shorthand’ I am using here). However, the hope might be that in the course of the ongoing discussion these signs may be proffered and used.[178] Another participant enters the conversation at this point; such affirmations are important reactive moves, in both positive and negative senses, in the self-training of a professional peer group.

Note that it is a staple of “self-regulation” talk that there is a functional hierarchy of the domains (see Shanker (2013), e.g., pp. 29-31, 74-76, 83-85). In this case, what is important is that the emotional domain is in mutual relationship with the biological domain – organically, hyperarousal functions in such a way as to either hamper or shut down various of the cognitive functions, such as attention and (serial) information processing. The connexions between all these signs/concepts start to give the kinds of places a group can find and have to go to in their progressive learning in how to use “self-regulation.”

The remainder of the discussion in this excerpt leaves behind these promising efforts to forge new connexions and to make inroads to grammars new to the participants, while returning also to follow out other familiar patterns and pathways. The (possible) extremity of the anger of the student in question, and the stated “professional constraints” now lead the discussion along the path to “professional responsibility,” (appropriate) “interventions,” and “institutional liability” (again, these are largely not the words that are used, though their narrative equivalents are in active play).

> **Participant 2**: Yes, you have to wait … But when the student is calm, he will tell you, “no, I don’t really want to hurt myself, and no, um, I don’t really”, but he still doesn’t really like himself, though, he doesn’t often, even when he’s calm …
>
> **Participant 3**: Does he say that he doesn’t want to hurt himself, or he wouldn’t hurt himself? [**Participant 2**: He says …] When he’s calm, would he tell you if he would actually in that state hurt himself?
>
> **Participant 2**: When he’s calm, I say, ‘would you really do those things, did you mean those things you said?’, he’ll say, “no”. But, to other individuals he has said that he would hurt him, he does, he does want to hurt himself. When he’s calm he has said that, but he has not said that to me, so …

[178] Though, in fact, they were not, at least not in the immediate discussion. It is a promising possibility, however, and the sort of thing that groups in their professional learning sessions can work to keep their eye on.

Participant 4: Does the parent, do the parents, have a sense of where that comes from? [**Participant 2**: Oh yeah!] Because those are pretty extreme words, so is somebody else in the home … regulating that way … [two participants talk at same time, obscuring Participant 4's comments.]

Participant 2: Yeah, there's huge … there are, well, yeah, there's a whole, he has a whole lot going on. He's …

Participant 4: Cuz we have lots of kids who get angry who don't talk about hurting themselves or doing something drastic …

Participant 2: He's been exposed to things and that's probably where he's picked it up, and there are things that have happened that we have no awareness of, um, but he's definitely on the radar for a bunch of different interventions, although I do think, like he, I don't know, there's something about him that I think, he *can* regulate himself, I do, I think he can … I think if we can stop him from going from here to here [hand motions low and then high] and he realizes he can be successful, um, then I really, I don't know, I just don't think he's, I don't know.

Participant 5: I'm wondering, if I can intervene for just one second, I'm wondering, just to be on the safe side of everything here, is he involved with other resources, external resources in our board?

Participant 2: We just started all of that.

Participant 5: Cuz I think one of the critical pieces …

Participant 2: … We are definitely not qualified to diagnose or to treat, we definitely have him on other radars.

Participant 5: [Continues over Participant 2's response] … Absolutely – Right, cuz I think that's the one piece that, it's kinda like when we rolled out mental health in the board [… and then continues on to deliver a cautionary note about teachers feeling they had become the 'experts' in *that* context …]

Participants 2 and 5 talk over each other in the last phase of this excerpted discussion, interested in making moves to state the important issue of professional limitations. Having seen this as a possible road travelled by these kinds of utterances, one conclusion is that it could be important to set the specific context and purpose for the learning discussion more clearly, so as to switch off or minimize the effect on the generative conversations caused by following out these kinds of pathways, which in this case leads to the end of the desired learning discussion. And while other places are tentatively proffered here (e.g., a connexion to "parents" and "family"), the familiarity of these other paths (i.e., to "professional responsibility/liability") diminishes the energy and interest in pursuing these new

angles.[179] However, the discussion about "anger" does not end here, despite the group's attempt to make the move to switch to another topic. It is Participant 1 who returns to talking about "anger," asking at this point whether anger is learned, that is, asking after those connexions, and the discussion continues further in this vein for a short time.

A case of explaining

It is an interesting and curious feature of these professional learning discussions of the educator groups that the language-games of *explaining* are rarely in evidence, at least explicitly so. What the participants in all the groups mostly do is *describe*, mainly in narrations, and sometimes clarify or expand on the details of the descriptions and narratives. But, in total, there are hardly any moves made that might be characterized as belonging to the game of 'explaining.'

However, one group of educators, in the last half of their third full-day session together, provoked by a series of questions put by one of the participants (i.e., Participant 1), begin to provide explanations for how they understand various relevant aspects of self-regulation. This group had spent considerable time talking about two different features of self-regulation (i.e., as belonging to the grammar of "self-regulation") – consistency, schedule, pattern, and predictability as representing one feature, and free-choice as the other. Their talk about both of these features ostensibly emerged from their reading of Shanker (2013); both were taken as, in some manner, *constitutive* of self-regulation.[180] One of the participants points out that these two features can be construed as contradictories of each other, and if that was agreed to be a tension, asks how the group could resolve that. In other words, how can the group explain how self-regulation can be comprised of two seemingly contradictory features, i.e., how

[179] Again, an analysis of such dialogues on the basis of the familiarity of certain grammars and connexions over others is promising. I touch on this analytical angle here and there in this thesis, but don't make it the focus of my efforts. *Familiarity*, and other associated features of Wittgenstein's picture of language (e.g., the 'experience of meaning'), it seems to me, straddle the grammatical and the psychological, and for that reason I have given these ideas only short shrift in this document. I acknowledge that they deserve much more thoroughgoing attention in the kind of investigations I perform here. I would refer the reader to such passages as PG §34; BB, pp. 127-129; PI §§203, 525, 534, p. 181; Z §§149, 277, 349; and so on, and would also proffer the suggestion that Wittgenstein's turn to 'familiarity' and the discussion of the 'experience of meaning' in Part II of the *Investigations* form some of Wittgenstein's attempt to work out a response to the frame problem (e.g., see Dennett, 2006; Apperly, 2011, p. 119 for primers on the frame problem). I also identify this topic in Wittgenstein's thought as one of the next steps in my overall project (see my **Chapter 6**).

[180] Note, however, that this group still talks about self-regulation in such a way as to lead to the notion that an organism can either have it or not, i.e., either be self-regulated/regulating or not self-regulated/regulating. The grammar of "self-regulation" is still not strongly linked to the signs, "all organisms self-regulate all the time" and "there are different states or conditions of self-regulation." However, this is all very much within the ongoing process of their learning.

signs that are used as contradictories of each other can be connected together to some other sign? This complicated discussion is a good example of, as I put it at the beginning of this chapter, how these professionals learn how-to-talk-meaningfully, and this couched entirely in their developing mastery of the use of signs.

Recall the discussion in **Chapter 3** where I indicated that explanation can be considered solely on the plane of meaning, that is, in terms of grammar and as showing the places we have to go and in terms of the ways of getting between the relevant places. In this case, the group needs to explain how some one kind of thing can be comprised of the conjunction of opposing or contradictory features. There are at least five different general moves in which an explanation can be delivered, so there are solid possibilities available for the talk of participants to work fruitfully with these seemingly troublesome signs.

1. Reject one of the items as a feature of self-regulation;
2. Reject the other item as a feature of self-regulation;
3. Reject both items as features of self-regulation;
4. Show that the two items are such that they are not contradictories;
5. Accept both items as contradictories, but show that there is a way for both features to characterize self-regulation (e.g., at different times, in different circumstances, in a hierarchical manner).

In the terms I proposed in **Chapter 3**, (1) is done by showing that the grammar of "self-regulation" does not link to the grammar of "schedule/pattern"; (2) by showing that the grammar of "self-regulation" does not link up with the grammar of "free-choice"; (3) by showing that the grammar of "self-regulation" links up to neither signs' grammar; (4) that the construal of contradictoriness between "schedule/pattern" and "free-choice" is grammatically incorrect, and that the grammars of these two signs are, as we in fact use them, compatible with one another (or are at any rate nothing more than *subcontraries*, as the 'Square of Opposition' has it), and so the group's current use of the signs "schedule/pattern" and "free-choice" needs to be adjusted; and (5) by showing that the grammars of "schedule/pattern" and "free-choice" link up with the grammars of other signs/concepts, such that these two signs can be put in the right, correct, or appropriate (grammatical) order or relationship with one another.

How does this peer group of professional educators then go on to talk in explanatory ways whether and how schedule/pattern and free-choice can both be important, constituting features of self-regulation? I start with the first response to this by participant 2 (recall that Participant 1 posed the initial questions about the possible conceptual/grammatical tension):

> **Participant 2:** I think it's more philosophical than developmental. [Participant name] started off by telling us the story of when she was stay-at-home mom when her children were younger, and it gave her the flexibility to allow her kids to sleep in, to stay home if she felt they needed a down-day, etc. Part of our schedule, a lot of our schedule at school is dictated by timetables, and that's not always in our control and that's sometimes frustrating. Um, y'know, I see kids at play and I wish they could keep building and not have to stop for gym or for recess or for whatever, that's sometimes a bit frustrating.

Participant 2's reaction to Participant 1's inquiry elaborates the grammar of "schedule," i.e., follows out certain pathways from "schedule," but does not make explicit anything about the grammar of "free choice" such that this sign might connect in acceptable ways with that of "schedule," nor how the grammars of "schedule" or "free choice" might connect with that of "self-regulation." However, Participant 2 does introduce a new term into the discussion, i.e., "flexibility," and begins to connect it up with such signs as "stopping students' self-directed play." This latter bit of talk gets picked up by the next participant.

> **Participant 3**: I have something for play, that's someplace where the kids CAN self-regulate because they DO play. We structure the day where we need to get that information to them and to teach them particular skills and things. But I think that play, I think that's something where they're capable of, I think that's one of the starting places where they can develop self-regulation, is because that's what kids can do, they can play. So they need to tweak that, they need to know how much time they can spend and focus and all that stuff, and who they can work with and how long they can work. I think that's a good starting point to do self-regulation. It's kind of a natural, it's, it's, because they're choosing, they have more choice, they can choose what they're working on, and who they working with.

Participant 3 focuses on "play" and "self-regulation" in their response, and in doing so begins to work out an explanation taking up the form of response 5 noted above. What Participant 3 tries to show is that students' overall time at school is structured time, but that part of what is structured by educators as time for students is 'time for play,' and in the latter one can talk of "free choice." Participant 3 connects "play" with "choice," and "play" with "self-regulation"; however, this latter connection is not in accord with the 'authoritative' grammar of "self-regulation." This participant appears to be making the connection between "self-regulation" and words having to do with 'what a person does on their own,'

or 'doing things on your own,' which while interesting in terms of the progression from Participant 2's explanation, is not quite an appropriate articulation concerning "self-regulation." (Again, all organisms self-regulate all the time; play for young children would be one kind of activity in which they demonstrate aspects of the nature of their ongoing self-regulation, and this is interesting in that it is an environment different from scheduled class time activity.) Participant 3 in their response does not refer back to the problematic construal of "free choice" and "schedule/pattern" as contradictories, but does seem to be saying that both can be taken as constitutive of the grammar of "self-regulation" in that they take place at different times, or perhaps in a hierarchized, nested manner, i.e., play/free choice within structured time.

Note that there is a feature of this discussion to which the group or a facilitator need attend. As indicated above, this excerpt is from the last hours of the third full-day learning session for this particular group of educators. The evidence from this segment of the transcript is not so much that participants remain unsure of the grammar of "self-regulation," but rather that they have begun to settle on a grammar of the sign that is incorrect (as per the authoritative use of signs by experts and in relevant texts). Thus it is important to attend to how the practice of talk in these sessions takes place, and what is being practiced, as this kind of practice/training can also ingrain or make more solidly familiar certain ways of going on which are not in accord with the right ways to go in the relevant subject matter. Participant 1's contribution looks to be an attempt to dislodge discussants from continuing on down certain paths regarding "self-regulation," though so far only indirectly through questions that potentially lead other participants to (re)consider their talk. However, given Participant 8's comments which conclude this segment (see below), it is not clear that the language-game played by Participant 1 is having a suitably re-orienting effect (though recall, as noted above, Wittgenstein on the 'difficulty of changing from an old line of thought *only a little*' – Z §349), nor even the effect of provoking the group to talk more deliberately and clearly about the paths they are on and how these fit with the paths followed by the available authoritative materials.

It is also interesting that so far none of the responses to the initial general question have picked up on saying things about the sign, "self-regulation," but have focused mainly on talk about young persons and the connection to their own use of time.

> **Participant 4**: Guys, I think there's definitely a tension, and a balance, and philosophically, um, I see it as within, within, a very organized and scheduled, uh, thing there is freedom. So I really think that there needs to be some sort of, something, set up, an organization that is part of a

> routine that is kind of like the skeleton of the body, so to speak. And within that, there is, there are lots of different people and different choices that come in to skeleton and weigh in and then there's freedom within that. Because we are in life bound by time and schedules and rules, we just are, we're human beings. And there are deadlines, and our bodies need food and water at certain points of the day or it doesn't go very well. So, that's how I look at it in setting kids up, showing them what a day looks like. I was a stay-at-home mom as well with my kids, and, ha, 'letting my kids sleep in'!, I think I would have encouraged them to sleep in, but they never did! [Laughter from others.] Yeah, they were always up, but there was freedom in that. So now as they grow up if they say they need a day off of school, I say 'knock yourself out'. Now they will usually say I have way too much to do, and [inaudible]. But in the classroom, um, that's really how I think there is a tension, and it's a good tension, to, uh, to the day, with that flexibility. I think they get more resilient as they have to pop in and out of things – there is an end to play, there is an end to lunch, for me. But every home is different! These are all little homes to me, and every personality of teachers is going to come forth, and children in the room. Every year my room is going to look different, with different kids in there.[181]

Participant 4 continues Participant 3's attempt to explain how contradictory items can both be features of the same thing (which falls within the form of response type 5 noted above), while at the same time explicitly recognizing the "tension" that exists between the two concepts. Participant 4 also begins to talk a little more generally about the issue, i.e., they don't begin to connect issues of self-regulation to any age group until midway through their response. Note that Participant 4's talk is more about the grammars of "schedule/etc." and "free choice" and their connection to talk about the whole pattern of life; Participant 4 does not draw any connexions, however, between these grammars and "self-regulation" (despite their recognition in their opening statement of the applicability of the sign, "tension"). This participant introduces and begins to tie in new signs/concepts: e.g., "organization" to "schedule/routine"; the metaphor of the "skeleton" to "schedule"; the reiteration of "flexibility" as connected to "free choice," but also to "freedom" here; and the link to "resilient" from "flexibility" (and thus, possibly, from "free choice"). Participant 4's response pushes the explanation a little further by describing the connection between "organization" and "free choice/freedom" in that the former underlies in some manner, and makes possible, the latter.

> **Participant 1**: Does free choice compensate for what people don't get from schedule? In other words, does schedule militate against self-regulation? That's sort of a theme that seems to be emerging from your original responses. We HAVE to do schedules, we HAVE to do it [regularly?]

[181] It is interesting to observe the somewhat free flow of associations between signs in this long contribution by Participant 4 – "[my kids] were always up, but there was freedom in that." There is work being done in Participant 4's articulations here, though it can be difficult in the course of a conversation to see just which useful grammatical moves have been made and achievements gained. Given the relatively loose format of most of these groups' sessions, the kind of contribution made by Participant 4 here was more typical than the exception.

> if we want to get things done, as you say we're human beings, we need schedules. But that's to pose it in a kind of negative light, that in some way, it's a necessary evil.

In this contribution to the discussion, Participant 1 returns with questions that seem to work to sharpen – or further shape – the talk. Participant 1 seems to pushing against the proposed explanation being formulated by the first three responding participants, viz., an explanation taking the form of response 5 noted above. Are "free choice" and "schedule/routine" contradictories? Participant 1 indicates that the responding participants are talking as if they were contradictories, but is asking for the group to say more about the tension, by bringing out more of the grammars of "schedule/routine" and "free choice." Further, Participant 1's questions attempt to re-orient the group's talk back towards "self-regulation," and, further, provokes consideration of the pathway between "schedule/routine" and "self-regulation," i.e., that schedule/routine does not promote optimal self-regulation. Note as well that Participant 1's questions are maintained on a general level, asking for talk about concepts, and not about descriptions more specific to age-groups or population groups, e.g., young students/children.[182]

> **Participant 4**: I don't think it is a necessary evil, and I don't mean for it to be negative AT ALL. I think it's a really, it's a great thing for us to become part of a, y'know, there's seasons of the year, there's morning, there's evening, the sun comes up, the sun goes to bed. I think that's all really, I think of it as positive, I don't think … for me, I don't see a schedule as being negative, I think of it as an opportunity for kids to work within. [Other participants clamouring to get a word in, e.g., another participant says loudly, "A framework".]

The first response to Participant 1's questions, from Participant 4 here, connect "schedule" with the "positive," affirming that "schedule" connects up with a universal pattern (e.g., "the seasons of the year," etc.), and affirming as well that the basics of response type 5 are still on the table. However, these affirmations are repetitions of what has already been said, and nothing offered here is a move to work out the relations between the grammars of "schedule/routine" and "free choice," nor to work out any connexions between these signs and "self-regulation." Participant 4's comment that they think of a schedule "as an opportunity for kids to work within" would perhaps be stronger in this context of providing an explanation if it showed more of the grammars of the relevant terms and the connections between them. As it stand, however, it is unclear how what they have shown or attempted to show fits with any of those.

[182] That is, Participant 1 is in effect asking, "Don't (simply) describe the different things that children do, for instance, but rather show me how we can use the signs "schedule/routine" and "free choice" in their connexions to "self-regulation"."

> **Participant 2**: Let's be honest here, there are people who believe that it IS a negative thing, and those kids, those people may end up choosing Montessori or [unclear] or other choices because school, as we know it, public school system, is a bit of an anomaly in the world, I mean, it's regimented, there are rules, there's … and those kids who show up late every day because … and in their hearts they don't believe that the schedule and that is conducive to their children being self-regulating adults. So for sure there are people who … now whether we could totally live that way, I don't really know. I don't see how it would work, if I have to have gym at 10:45 every day.

Participant 2 re-enters the discussion by ostensibly disagreeing with the previous comments by Participant 4, and more explicitly draws a connexion between the terms of the discussion and "self-regulation." Participant 2 also introduces pieces of evidence into the discussion, i.e., that some parents do choose to have their children taught in less-regimented schooling environments (e.g., Montessori), and some parents do not appear to abide by the public school schedules (e.g., their children "show up late every day"), indications that there are indeed issues concerning "schedule/routine" – and issues that Participant 2 links up with the development of optimal self-regulation.[183] Further, Participant 2's comments seem to be advocating a form of response types 1 or 2 (i.e., that these items are contradictory and that one of them – i.e., "schedule/routine" – should be rejected as connecting to "self-regulation," in the sense that it cannot be said to promote optimal self-regulation.

> **Participant 1**: If predictability is good in the one case why isn't it good in all cases? The second last discussion that we had on those posters [i.e., this was a group exercise held earlier in the session] was that compliance was in some way, though I'm not sure in which way, but it was in some way opposed to self-regulation. So I'm wondering how all these things fit together. So if predictability, routine, is good … for what?, for some parts of us, why can't we say it's good for ALL parts of us? Why isn't routine, a solid regime of compliance, just good?

Participant 1 re-enters the discussion fairly quickly, asking a new set of questions that continue to sharpen, but now also to widen, the conversation. Further, "predictability" here gets linked to "schedule/routine" and "compliance." However, Participant 1's questions again force the other participants to show how they use "self-regulation" in connection to these various signs. In other words, Participant 1 asks the group to order grammatically all these signs, showing how the connexions and links between them all in fact stand – or how they take them to stand. Reacting to this, various participants deliver a sequence of short responses, with these participants articulating and briefly following out different aspects of the grammar of several of the relevant signs, e.g., "organization," "organizing thoughts," "liking schedules/predictability," and so on.

[183] I am attributing to these participants, though not quite justifiably, that in such cases they are essentially using the sign, "optimal self-regulation."

Participant 2: [Several participants clamouring.] Because it takes the fun out of it! [Other participant: We have different skills, different talents…]

Participant 5: Well [participant name] made a good point saying it supports their learning of organization, and then the choice within that, learning of organization, is that what [looking at named participant] …

Participant 6: Yeah, it helps them organize their thoughts, y'know, like there's an order for things to happen …

Participant 4: … in the real world.

Participant 6: As an adult, I like to know, like you, there is a schedule. I mean, part of it is that I'm trained as a teacher, 'it starts at 8, ends at 3', haha, it's ingrained in me right now, but … I like my weekends because there's no time [I'm supposed to be doing anything?]. But I still like to know that it starts Friday it ends Sunday and Monday the routine starts again, and I survive [?] by the routine. By the end of August I can't WAIT for the routines to come back, I love it …

Participant 1: So where's the place of free choice, which was also identified as importantly if not essentially vital for self-regulation?

Participant 1 concludes this short sequence of responses by again reiterating the issue of the place of "free choice" with regard to "self-regulation," given the expressions of enthusiasm by the group participants for "schedule/routine." All of the discussion so far can be read as an effort to find the terms that are relevant to the issue, i.e., to find ways to the respective places in the grammars of these terms. Moving between those places in one way or another would constitute ways to show how the grammar works so that two seemingly contradictory features (i.e., free choice and constraining schedule) comprising one thing (i.e., self-regulation) can be given a clear accounting ("Grammar is the account books of language" – PG §44). We observe the group working its way through this process; the questions the group asks itself – principally through the contributions of Participant 1 – is the motile force that moves the conversation from place to place. The discussion continues, participants taking up Participant 1's last questions.

Participant 6: [Laughing] There is still free choice in the set routines, I cannot go on holiday tomorrow, but I can decide certain things, where I'm gonna, what I'm gonna do, what I'm gonna teach, where I'm gonna, …

Participant 4: Do you [to Participant 1] mean in the classroom or in our own personal lives? ….

> **Participant 1**: Well, we were talking about the classrooms but we can broaden it. [Couple of other participants talking. "We can get too broad, haha!"] I'm wondering where one stops, and what it affects, and where the other begins, and what it affects. Like, do they connect to different aspects of what it is to be a human being in a society?

What is Participant 6 doing in their response? On the one hand, they are simply describing (again) how someone lives, with a nesting of moments of free choice within structure. Is this an exploration of whether the two purportedly contradictory signs are indeed contradictory? On the other hand, by returning to such description, are they averting from the main issue, which concerns the connexions between these two seemingly contradictory signs and "self-regulation"? Participant 1 responds to Participant 4's question about scope, and then returns to Participant 6's comments and asks for clarification, i.e., 'show me how the grammars work such that the one term can be viewed in such a way as not to be opposed to the other,' though this approach draws Participant 1 and their line of questioning away from the concern with connexions to "self-regulation." At any rate, Participant 1's questions could conceivably be the start of work on an explanation of how two seemingly opposing or contradictory features can be attributed to some other one thing. An exchange then follows between Participants 1 and 7 on this matter.

> **Participant 7**: I don't think that one starts and one stops, I think they go on [together?], they converge and diverge depending upon the situation and my response, or, the situation in itself.
>
> **Participant 1**: Do they always run parallel? Do they ever connect, overlap?
>
> **Participant 7**: I would say sometimes they overlap, sometimes they come together, and live happily, and other times they run away from each other, and [Other participant laughs loudly – drowns out part of what Participant 7 says] what happens about our choices [?].

Participant 1 and Participant 7's talk about "schedule/routine" and "free choice" veers away from any firm commitment to, or rejection of, the use of "contradiction" in this context. Participant 7 does say that the two features can come together – but again neither participant is making the connection explicit between these signs and "self-regulation," which is the point of the discussion. However, a pattern of talk which is concerned with these features has been proffered – i.e., that these features can co-exist or diverge depending on the specifics of the situation. This, of course, very much needs to be explored, as well as brought back into contact with "self-regulation," as it may be the case that, in connection with other concepts, "schedule/routine" and "free choice" are acceptable in conjunction with one another. In order to achieve what is desired, the discussion must be drawn back more explicitly into the vicinity of the grammar of "self-regulation". (It is unfortunate that Participant 7's closing

comment is inaudible, as it does seem to be about "choice," and so may be making the attempt to say something more explicit about the purported contradiction between the two relevant terms.) We end with two comments by a participant new to the discussion so far.

> **Participant 8**: And I think, for me, well-being drives what's most important and at what time. So, that's sort of bottom-line for me, if it's the well-being of, if I have planned to go out for dinner, and desperately not wanting to do that, I have become more honest as I age, and I feel comfortable to say, 'I can't, I just can't,' but that's, social stuff is not my favorite first pick either, so [school bell rings – a few words inaudible] … for my well-being, maybe that's a bad example, but changing plans and being flexible around those plans, but, y'know, when my son has karate tonight, he has to be there at 6:15, and he's looking to me to get him there, cuz he likes to be on time.
>
> ….
>
> **Participant 8**: In the classroom, we're [inaudible] tomorrow, [participant name] will be away, we have a supply, it's the day before the four-day-long weekend, we just went on a class trip yesterday, today I'm hearing that it's a little loud in the class, a little loud, a little unregulated maybe, um, and so tomorrow, we just had a very quick discussion about, 'okaay, this is the day that's going to look different', because, we are preparing that, maybe, the mood will be a little off, the regulation won't be as good, um, we wanted to say that, and, y'know, and we're making choices around that, that we're going to be more flexible than we normally are. HOWEVER, in that we still need to fill out [?] the day to be about the same, so that the kids also have some flexibility …

In these two comments we see made explicit a drift often implicit in the conversation, that is to say, a drift headed towards narratives that were simply about the difficulty with schedules and constraint. (Again, "self-regulation" as used by this participant assumes a grammar here still somewhat displaced from, but beginning to get closer, to the authoritative grammar.) Such language-games of telling stories which contain various of the signs deemed important in the general discussion can be viewed as doing several important tasks. All the same, these stories contribute little to the process of working out an explanation of the main issue, that is, in showing the correct use of the relevant signs such that the alleged problem of contradictory features making up self-regulation might get resolved or dissolved. On the other hand, such contributions do allow participants the opportunity to join a conversation and to try out and practice some of the signs in question, to be corrected or encouraged – or to correct or encourage others – and that is certainly useful in such professional training contexts. It is finding the connexions, if they exist, between common usage of signs such as "schedule/routine," "predictability," "free choice," and the use by experts or adepts of the sign "self-regulation" (which has been shown to this group mainly through Shanker's (2013) text), that is the challenge in this moment of professional learning.

As I have been arguing, one of the main issues in professional learning, in the terms of the picture I have been applying, is that one lacks exposure to and familiarity with the grammar of a sign/concept as it is used in the relevant communities. By virtue of that lack a learner is unable to make any moves with that sign; that sign does not yet mark out any places to go on the terrain. Until it is used, it is just bare notation, if that is an acceptable way to put it. One is effectively blind as concerns this sign and cannot see to get anywhere; as an inert notation only, no aspect of things is revealed or given ("Every sign *by itself* seems dead. *What* gives it life? – In use it is *alive*. Is life breathed into it there? – Or is the *use* its life?" PI §432). Only by having connexions to other signs/concepts and by using the word in various language-games does one start to be able to travel with the word and thus to see a world (i.e., which one didn't see before) and to be able to get around in it. And it will be an empirical question as to how and through what pedagogical techniques any specific group of professionals in their particular context is initiated – or initiates itself, if possible – into a way of talking and seeing. But all the same we are enabled to see the *grammatical* moments where grammatical change is possible, e.g., in the conflux of particular move-makings with particular signs, with a new aspect of grammar just within reach to be taken hold of. This gives us an interesting and valuable perspective as we give careful consideration to professional learning discussions, such as we have looked at in this chapter; and further, this perspective provides a means to think more clearly about how to go forward in developing professional learning initiatives. In the next and final chapter, amongst other things I consider there, I briefly look at some of the practical issues that will be our concern as we begin to work to apply these pictures of language, meaning, and professional learning in thinking about and assembling actual professional learning initiatives. As I noted in **Chapter 1**, this has been one of the main purposes of this work in the context of my own professional work.

Chapter Six

Concluding Comments – From Picture to Picture

The general theme of this thesis is that we can draw a picture of professional learning on the basis of a picture of language and meaning. Through the questions and context I set out in **Chapters 1** and **2**, I worked to make clear that my project was one of exploring how Wittgenstein's picture of language and meaning in particular could be applied to an understanding of professional learning (i.e., in Wittgenstein's sense of 'understanding'), and to set it out as importantly different from other ways of considering (or 'theorizing') language, meaning, and learning. Despite Wittgenstein's many 'educationally' oriented remarks, my focus in this thesis project is on treating Wittgenstein in the first instance as a philosopher *of language*. Further, I emphasize again that what I work with here are pictures, as Wittgenstein has called them, and not theories or theoretical-causal models. As with Wittgenstein, I do not explain, but look for ways to describe.

In **Chapter 1** I asked what difference is made in the application of Wittgenstein's picture of language and meaning to both the topic and practice of professional learning. The hypothesis I proposed in **Chapter 1** was that applying this picture of language and meaning does make a considerable difference, and thus that the principal purpose of this thesis was to begin to work out something of the nature of those differences. From these starting points I worked to contextualize both Wittgenstein's project and my own work as reactions to dominant trends in philosophy of language and in the professional learning literature, viz., reactions against representationalism (following Frege), cognitivism, and intellectualism, and to differentiate Wittgenstein's and my perspective from these. Throughout **Chapters 1-3** I walked with Wittgenstein to disentangle talk about language and meaning from theoretical, causal explanation which postulated 'hidden,' hypothetical entities, such as propositions, thoughts, etc., turning away from such accounts and turning to description (e.g., see PI §§109, 124) and pictures of language and meaning (e.g., see PI §§144, 423). In this way Wittgenstein offers us an interesting, deep, and fruitful, albeit at times puzzling, alternative to the representationalism and cognitivism that has dominated a wide swath of our views and approaches to language, understanding, and learning and teaching.

Representationalism and cognitivism lead us to portray professional learning as a matter of having the right entities in the mind (or brain, if we follow out the neurological paths that become available through the cognitivist approach), and having the right cognitive mechanisms in place to manipulate representations (or thoughts, propositions, etc.). Wittgenstein, I argued, troubled this picture of

meaning and learning, and ultimately rejected it. Wittgenstein then drew another kind of picture of language and meaning, made up of such parts as language-games, rules, and grammar, as well as 'form of life,' context, etc. Working on the basis of this picture, I sketched out a picture of professional learning in harmony with Wittgenstein's picture, with prominence given to the picture of language-games. The picture I sketched was not oriented around having something, but rather around the images of doing and moving. My picture of professional learning developed these underlying gesture drawings (which, as I argued, can be seen most clearly in the opening sections of the *Investigations*), and led me to focus on the real talk of professional learners, i.e., what professional learners say in and about their learning sessions, how they react to what other participant learners and coaches (in Schön's sense, for example) say, and the nature of learners' ongoing discursive relationality to one another. Insofar as meaning in Wittgenstein's picture can be viewed through the spatial metaphor of the connexions and moves from place to place, I sought to look at and consider professional learning situations precisely from that perspective, i.e., of having places to go and in learning/finding new or different places to go, within the context of the appropriate community of practice. This perspective stands at a distance from the representationalist and cognitivist approaches, which focus on having – internally – the right propositions, representations, thoughts, etc., and then, on the causal basis of possessing those 'things,' being able to go on to do certain things. In other words, representationalists focus on (propositional) *content* as key in learning, whereas I focus on changes in learners' grasp or mastery of *meaning*, understood *as* use, doing, movement.

As noted, the focus in Wittgenstein's work and in this thesis is on a picture of language and meaning, and this I have emphasized throughout this project. I argue that Wittgenstein's primary importance for me is as a philosopher of language, and while the various pedagogical features of his work are important and vital even, they gain their importance only in relation to the picture of language and meaning that Wittgenstein is sketching. For my own part, I take it that Wittgenstein's various 'educationally' oriented remarks (and techniques – for example, his dialogues with himself or with unknown interlocutors, the anthropological and fantastical thought-experiments, the multiple examples concerning instruction, etc.), which might tempt one to draw out pedagogical theory from his texts, are better understood as the mechanisms and moments of his argument working to shift or switch us from one picture of language and meaning (e.g., representationalism) to another picture. The direction of the argument is from, in the first instance, the picture of language and meaning, and then to pictures of training, instruction, learning, and of initiation and enculturation. The picture is that language is playing games; how we come to play those games, how we are brought or drawn into those practices, is in an important

sense contingent and incidental.[184] What is most salient in this regard is that observation and description of how we ourselves come to be language-speakers or sign-users (in whatever sense) reveal no connections to hidden entities, such as to thoughts, senses, propositions (as per Frege), as constitutive of meaning. It is how signs are used, *tout court*, that lies at the heart of Wittgenstein's picture of language and meaning, and not their connection to 'objective' things, i.e., things outside or independent of language (e.g., see PI §§97, 120).

Further, while the techniques of *grammatical investigation* are powerful in the hands of Wittgenstein, they have not in the strict sense been employed as technique in my thesis, nor do I foresee its employment in the educational work I do with individual professionals and groups as I attend with them closely to their talk (as exemplified in my work in **Chapter 5**). Grammatical investigation is primarily about ordering and clarifying talk so as to clear away philosophical problems (e.g., see PI §§122, 132-133); carefully examining important signs and concepts in education and professional learning in this way has not, for example, been my interest, as it has been for other scholars (e.g., see Hirst & Peters, 1970; Winch, 2017). Nor am I interested in submitting to grammatical investigation the signs and concepts used by professionals in their learning session discussions. What I am interested in is finding out how learning participants use the signs they do use, to observe and describe more clearly the connexions between the signs in use, and to describe, where useful, any pictures around which participants organize the things they do say. The learning of the professionals will be viewed in these terms, viz., signs, connexions, moves, language-games, and pictures that are new to them. If it can be put this way, then it is at least something of the general ethos of grammatical investigation, emerging as it does from within the context of Wittgenstein's picture of language and meaning, which is an important influence on my own developing picture of professional learning and my own developing practice in the field.

Wittgenstein's picture of the 'language-game,' i.e., how we use signs, as I have been at pains to articulate, emphasizes move-making and performance, in getting from one 'place' to another (as per Sudnow, 1979*,* whom I have taken up as useful in this regard), and these *as constitutive of meaning*. Speaking in a developmental sense, one can say that once one has learned how to play games (however that happens), learning thus becomes a matter of learning how to play more games and learning how to

[184] We learn to play games by being shown them, and by starting to play them while being guided by those who know how to play. Some games we ostensibly learn by having them explained to us, but, as I have argued, not only does this depend on a lot of know-how in playing games that we have already gained, but that 'explaining' can only be another kind of showing.

make more moves in the games one can play. Wittgenstein's notion of 'grammar' comes into the picture inasmuch as the grammar of a sign is the fuzzy set of connexions between that sign and other signs that have grown through their use, and this is one part of the 'technique' that one masters in learning – e.g., see PI §§150, 199. (As I have pointed out, neither grammar nor rules exist separate from use of signs, but in this picture exist in the actual play of language-games in the flow and circumstances of life.) This applies, not accidentally, to both learning a language and learning about something (e.g., learning geography); and the developmental transformative moment lies not so much in learning how to play the language-game(s) of the 'asking and giving of reasons,' as per Brandom, McDowell, Luntley, etc., but rather in learning how to play a game *simpliciter*.[185] Looked at from this angle, Wittgenstein's picture of language and meaning yields the further picture of normativity emerging in the first instance from game-playing and, in a sense, secondarily from rule-following, as one is still said to be following rules in playing a particular game correctly or acceptably.[186] Further, it is relationality that this picture of language and meaning raises into focus, the give-and-take of response and reaction of mutually participating game-players that is a key feature both of Wittgenstein's picture and my picture of professional learning. While we can most certainly talk usefully of the autonomy of mature speakers or adepts in language as a kind of ideal (and see my discussion on autonomy in **Chapter 4**), it is the autonomy of language that Wittgenstein emphasizes in this picture, and our collective, shared participation in language that fully characterizes us as speakers, and that sustains language itself. Games exist insofar as we play them, and we play them insofar as they are there for us to play. Recall again Bakhurst's (2016) excellent discussion extolling the virtues of conversation and dialogue and highlighting "the human drama of the conversation" (p. 13), i.e., reaction and relationality.

Finally, through the work of **Chapters 4-5** we saw various aspects of the application of these joined pictures of language and meaning and of professional learning to actual instances of talk concerning professional learning. We saw this first in the guise of a troubling 'learning paradox' type problem emergent from the ideas of Wittgenstein and from professional learning theorists such as Schön and

[185] Of course, one learns how to play a game *simpliciter* by learning how to play specific games. While the issues concerned with learning how to play games are an important and interesting offshoot of this picture of language and learning, we need to be careful how we look at this when we begin to talk about human development, including how we first learn language. Couching the discussion in these terms risks veering into empirical matters, which is neither to the point of Wittgenstein's picture of language and meaning, nor to the point of the picture of professional learning I am drawing on the basis of an application of Wittgenstein's picture. The interplay between the scientific (and causal) and the grammatical specifically in this area does, all the same, remain an issue of considerable interest and deserving of further, appropriate consideration.

[186] For intriguing, albeit empirical, work in this area of game-playing and the emergence of normativity, see Fantasia *et al* (2014).

Lave and Wenger, and second in a close reading of the discourse of professionals in their own learning endeavours and performances. In these chapters I showed how we can view and talk about professional learning without recourse to representationalist, cognitivist, intellectualist perspectives, and thus without recourse to postulated, hypothetical, causal, 'hidden,' entities such as propositions, thoughts, truth values, beliefs, etc. Further, by means of these two chapters I provided examples of the application of these pictures of language, meaning, and learning, showing how they could be applied. Now, to move forward with these ideas, further examples and practice are required to develop and hone these techniques.

The picture of professional learning that emerges from the application of Wittgenstein's picture of language and learning has significant import for both our research and pedagogical programmes, though Wittgenstein himself would not of course have talked of "programmes." I have argued that, by contrast, the research programme that emerges from representationalism is concerned with uncovering 'things' that we possess, i.e., concepts, beliefs, thoughts, 'propositions in the head,' contents, cognitive mechanisms, etc., and to explain in causal terms how we come to possess such things. In turn, the relevant pedagogical programme is concerned with getting the 'right' concepts, mechanisms, etc., into the heads of learners, and with developing ways of assessing that these are in fact possessed by learners. Wittgenstein's picture of language and meaning, with an emphasis on 'language-games,' however, leads us otherwise, to a different picture of professional learning (and knowing and understanding), as a matter of how we actually do know how to go on, in how we actually do and say things. This picture has its focus on doing, on the performance itself – there is nothing hidden here for Wittgenstein (e.g., see PI §126) – and thus this focus on doing itself is not viewed as evidence of something else which is possessed and which stands in a causal relationship to this doing. (See the different fundamental, orienting metaphors I discussed in **Section 1.3**.) From the perspective of these latter pictures of language, meaning, and learning, research and pedagogical approaches look instead to actual discourse in 'natural' (i.e., non-test) situations, that is, to how learners do actually talk about whatever is in question, in terms of the connexions they do make and the different ways (i.e., the specific language-games) in which they make them. Further, this picture promotes (from a different angle than usual, being based on linguistic meaning) a discursively-oriented approach to viewing and doing work in professional learning and development, viz., from a context of talk about language and meaning. Thus what is demanded in this kind of pedagogical work is close reading of professionals' discourse, by facilitators and the participating professionals themselves alike, and discourse from both

professionals' day-to-day practice activities as well as from their more deliberately engaged learning activities, though there is by no means any clear line distinguishing the two.

Let me begin to turn to discuss something of the *practical*, as part of moving forward with the application of these pictures. Recall from **Chapter 1** that the intent of this work has always been that it would lead not only to a different approach in the scholarship concerning both professional learning and development and philosophy of education, but would lead as well to differences in the actual practice of professional learning *in situ*. Certainly I anticipate and see how this work makes for difference in how I do my pedagogical work in my own continuing professional work in communities and organizations. Indeed, In the course of working on this thesis, I have begun to put these ideas into practice in my interactions with colleagues and other professionals. In one case, as a result of our conversations, a colleague has significantly restructured her professional learning sessions with early childhood educators on the basis of notions of the professionals talking with each other, their reactions to each other's talk, and their own reflection on how they have talked and reacted to talk, i.e., as revelatory of the places they have to go and the work they need to do to find their way to the places they want to be able to get to. In another case, a discussion with a kindergarten teacher around this picture of having places to go as a way to view understanding led her to re-vision how she conducts and thinks about various learning exercises and activities she does with her young students. I have as well as a teaching assistant been applying this picture of professional learning to my own pedagogical interactions with teacher-candidate students in the Faculty of Education at York University, and acting from this perspective have seen rich, fruitful discussions emerge in the context of different forums, i.e., face-to-face and online discussions. As well, I have begun to test out in different ways how the students as professional learning participants can enter into reflexive relationships with their own performances in learning sessions, and have found the results intriguing and promising. Of course, at best these moments can only be considered as weak anecdotal evidence for the useful application of the picture of professional learning I have been sketching, though they represent at least a beginning in testing out these approaches with real learners, and the results encourage me to continue the conversation with others.

The first important practical aspect emerging from my work, then, is the heightened recognition and appreciation of the importance of professionals' talk, appreciating in their talk their reactions to one another and their generating sequences of moves together, and appreciating as well the reflexive possibilities and moments as learners work to attend to their own reactions and sequences of moves

and to their overall talk. This basic procedure is, of course, nothing out of the ordinary. It is what we do when we listen to or read what others have to say. And here we often operate with a picture of language, meaning, and the mind such that we hear or read another's words as evidence of what they understand, with what they *really* understand having to be inferred from these visible signs. What Wittgenstein's picture of language and meaning offers us is an entirely different way to view these exchanges. What we understand, and what the words we use mean, *are* what we say or write in the context of exchange with others and the 'world.' There is nothing deeper or hidden that we need to seek and find in order to determine what our words *really* mean or what we or our interlocutors *really* understand. Meaning and understanding *is* the doing, *is* the moving from sign to sign, from sign to action, from place to place (e.g., see: "Conversation flows on … and only in its course do words have meaning" Z §§135; "Only in the stream of thought and life do words have meaning" Z §173). To do these *is* to speak meaningfully. These pictures of language, meaning, and learning put learning on the plane of meaning, on the plane of knowing how to use signs, and not in terms of content, of having propositions, thoughts, sentences, etc., in the mind, which in turn in some manner causally produce our utterances. Learning, then, is changing the way we talk, and the way we talk takes place in the context of each speaker's relation with others. One might see this as finding the extraordinary in the ordinary; another way of putting this might be to find the ordinary, qua ordinary, extraordinary. Wittgenstein says in this vein: "Don't take it as a matter of course, but as a remarkable fact, that pictures and fictitious narratives give us pleasure, occupy our minds" (PI §524; see also PI §129).

Practically speaking, then, one of the principal challenges in moving ahead in the terms of this perspective lies in creating the occasions in which there is as much (relevant) talk as it is feasible to generate, and for that talk to be as 'natural' as possible. By 'natural' I mean talk in contexts or occasions that are a part of the regular flow of the professionals' working life. In the case of the educator study concerning self-regulation looked at in **Chapter 5**, for example, the learning sessions were part of the educators' own ongoing efforts to organize their own 'collaborative inquiry' professional development work. In these sessions they were not speaking to an interviewer or researcher, or being 'taught' by an expert or facilitator (though this latter can certainly oftentimes be an element in the regular working life of a professional). They were rather engaging in serious, focused discussion with each other in the context of their own genuine effort to learn about a developmental construct that had come to their attention and that they saw as potentially important to their own professional practice. To describe a concrete instance of this, one of the educator groups had already begun to implement initiatives and practices in accordance with how they understood the construct, and wanted to think more deeply

about what they were in fact doing and how they might consider it and the possible effects of the interventions. These kinds of learning occasions that are built into the regular rhythms of the learners' professional working lives are very likely the ideal in terms of generating talk. Again, setting up and exploring different kinds of venues for such occasions is limited only by the imagination of participants and the structural and administrative limits of professionals' organizations. Time and resources can be set aside for learning sessions, time in staff meetings can be given over to discuss matters of educational interest, formal or informal study or book groups can be set up and run, etc. Hallway conversations, comments made in non-learning meetings, *ad hoc* efforts to contact colleagues or knowledgeable others, study *ex situ*, etc., are all extremely important in professional learning as well, but obviously much harder to track. Self-report can tell about them, but the nature of the talk that was had, i.e., what the discussants actually said in those (past) moments, the nature of action-reaction in those conversations, can be hard to access or capture – though the reflexive talk itself on such *post hoc* occasions can be valuable and telling. Hearing the professionals talk about the matters in question, and observing how they react to one another – and the professionals themselves hearing how they talk with each other about such matters – is what is most important. (It hardly seems necessary at this point to indicate again that the application of the picture of professional learning I have been sketching, and using the language afforded us by Wittgenstein's picture of language and meaning, encompasses the learning work across *all* professions, and is certainly not restricted to the education sector. The educator learning sessions I discuss in **Chapter 5** serve to illustrate the application of this picture of professional learning in a specific case, but that applicability is by no means restricted to education.)

Further, these do not need to be learning occasions as such, in order for the group or interested outsiders to be able to look at what and how the professionals in question do talk about whatever the relevant things may be. Observing how professionals talk in the course of planning meetings, for example, or in the course of their strategy discussions, can provide much of what is useful and needed in order to investigate what places the discussants have to go and how they get from place to place. This in turn will be instructive in continuing to think with the professionals in question (if this is not a matter wholly of self-observation) about how to consider their own evolving ability to talk about these matters, which, I offer, is equivalent to their own evolving expertise.

However, as I have been emphasizing, great care has to be taken in such observation and any subsequent inference from it. First, circumstances can influence what gets talked about. Knowing how to go on in the circumstances of being in the presence of superiors in such discussions can influence

what gets said (for example, see my discussion concerning Clandinin & Connelly in **Chapter 2**). However, this might simply entail that multiple occasions of relevant talk in the context of varying circumstances ought to be pursued in order to observe in some larger measure or more global way learning participants' talk. Second, some attention needs to be given here to the problem of the professional learning paradox. A relevant version of that problem here would be that, once learning participants have thought about and discussed what has been said in whatever 'learning activity' they took up, and if we hold (on the basis of Wittgenstein's picture, i.e., on the basis of the meaning of signs) that there are places or aspects that the participants do not have or cannot see, this entails that these participants will not be able to take on/come to see the places/aspects that are the desired ones.[187] This is perhaps an old lesson put in a new way. Speaking of his own music training as a jazz pianist, Sudnow (1978/2001) says:

> It's not enough to get into a chord. It was essential to get from one to the next, playing progressions smoothly. And a host of expanding skills, ways of looking, moving, and thinking were needed to execute such successions. (p. 13)

There is a powerful sense that we take from Wittgenstein's picture of language and meaning that one cannot see what one cannot talk about, and thus Wittgenstein's discussion concerning 'seeing aspects' and being 'aspect blind' (e.g., see again PI, pp. 213-214) are pertinent in this way to professional learning and the encroachments of learning paradox type issues. This important angle deserves more investigation, with more thought given to how to deal with this feature of professional learning than appears in the literature. (For example, I have seemingly left here too large a gap between 'talking' and 'seeing,' whereas 'seeing' and 'talking/doing' are far more tightly bound together.)

To sum up these comments on the practical angle of the application of these pictures of language, meaning, and professional learning, there are indeed many ways in which professionals generate talk of different kinds in both learning-related and non-learning-related working life activities. These hardly need to be catalogued or described here. It is on the basis of examination of these various narratives generated through whatever means or contexts that we can then talk about the places the professionals in question do have to go to, and what, if anything, those professionals might desire to do about that. Comparison between what they say about a subject topic and what the relevant adepts say about it

[187] Wittgenstein gives a nice statement of the principle of this problem at RFM VI 11. There he is talking about needing to learn one kind of language-game in order to learn another. ("Now, how can he prove it to him? He has got to *teach him to calculate*.")

would be useful – and I think it would ultimately be necessary, if the aim of the group is to move closer to the core of the relevant community of practice. Again, I invoke the possibility that fostering improved skill in the language-games of inquiry can mitigate some of the difficulty inherent in at least some professional learning activity given the absence of such adepts (see my **Chapter 4**). In the playing of such language-games of inquiry we can see as well the strengths and limits of the learners' developing autonomy. Further, though this is simply to re-emphasize the main point here, professional learning talk can advisedly include a reflexive component or 'feedback loop' process (e.g., recall Eraut, Bereiter & Scardamalia, and especially Argyris and Schön). What I would emphasize – perhaps differently than is the norm – is the iterative, or even recursive, nature of the ongoing learning process, which serves neither for confirmatory or evaluative purposes, but is rather generative, both of more relevant talk from the participants and of further learning process design, for and by the professionals themselves. The actual forms of such learning/discursive processes, i.e., how the talk gets to be generated, as I have said, is as varied as human imagination and the tolerances of the professionals and their organizations allow.

To return to the context of my thesis project, it was never my intent to develop novel forms of professional learning – as if these new ways of learning would somehow do what all other forms could not – but rather to find a way or perspective from which to be able to think in a deeper, and perhaps more fruitful way about professional learning. Nor was it my purpose to suggest programmes of improvement to existing forms of professional learning initiatives. Thus, for example, my silence on examining the matter of facilitation and facilitators in learning sessions.[188] Certainly I acknowledge that facilitation is important – indeed, it is in a broad sense important in different ways in my discussions of the work of Schön and Lave and Wenger (see **Chapter 2**), I discuss it as a key issue concerning the paradox of professional learning (see **Chapter 4**), and allude to this paradox repeatedly in **Chapter 5**. As well, Wittgenstein can essentially be said to be discussing facilitation (again, in a very broad sense) in his many 'scenes of instruction' as showing some of the very important ways in which learners are drawn or initiated into practices, i.e., learn the right moves to make, as well as showing something of the 'borders' of his picture of meaning and learning and instruction (e.g., see PI §§185-188). But the clear part of the picture depicts that we are trained and brought into 'correct' practice, i.e., 'correct' move-making, by those who have mastered those moves, and given this picture we can talk in practical terms of how a

[188] I have demurred from exploring facilitation and facilitators in practice in this thesis, though I see it as a next further step to take in expanding this project concerning the application of these pictures of language, meaning, and professional learning. (See below in this chapter.)

learning paradox can come to exist for professionals. However, the role and importance of facilitation in actual, concrete professional learning ventures strikes me both as (1) requiring a separate (and at least partly empirical) investigation, and (2) as beside the point of my own thesis project, which has the focus of drawing and beginning to apply a picture of professional learning on the basis of Wittgenstein's picture of language and meaning. Much of what I wanted to say about facilitation I said in setting up the learning paradox, and as noted I do entertain favourably the general situative (or relational) notion of practitioners/learners being drawn by adept others into practice and thus into a community of practice. But the point of my picture of professional learning is that it applies to *all* professional learning situations, whether un-facilitated, lightly-facilitated, extensively-facilitated, well-facilitated, or poorly-facilitated. Further, what the paradox means is that most of professional learning won't be facilitated, or will be 'facilitated' in only loose, fleeting, or relatively slight ways, and thus it is important to investigate the struggle of professionals learning on their own – though, again, either way the picture of professional learning I have sketched is equally applicable and informative. (Thus my **Chapter 5** was in fact largely about professionals learning on their own and what that looks like from the perspective of Wittgenstein's picture of language and meaning.) Finally, I think some care has to be taken in emphasizing 'facilitation' and 'facilitators' in such discussions; for me an approach emphasizing these needs to be kept clear of the area of 'leadership,' which runs counter to my own concerns with equity and a democratic ethos in professional learning.

One of the things I *am* suggesting in this final chapter that might serve as re-orientation to professional learning *in re* has to do with the extent and significance of the emphasis placed on approaches that focus on the performances of talk of the learners themselves, as well as on the necessity for learners to perform discursively. Practically speaking, this is what emerges by working with Wittgenstein's picture of language, and by focusing on the plane of meaning above all. The performances allow learners (as well as any participating coaches, facilitators, experts, etc.) to see what it is they themselves can do. It is as well through repeated performances – in the ideal guided in some manner by an expert in the content area – that learners practice performing, i.e., gaining familiarity with the grammar and the play of the relevant language-games, by being shown how to make moves that accord with the grammar of new words/concepts., and then in turn by showing that they can in fact go on in ways new to them in accord with the relevant grammar. This is ordinary, no doubt, but cast on the foundations of the extraordinary, i.e., on Wittgenstein's picture of language and meaning. In turn, we can begin to re-read the work of thinkers like Schön and Lave and Wenger from this meaning-based perspective as a way to deepen our understanding (i.e., our ways of going on with) their important insights.

I would like to emphasize further here one aspect of this picture of professional learning, and that concerns the language-games of inquiry. Recalling the discussion in **Chapter 5** of the educator peer-group learning study (i.e., focusing on learning about self-regulation), it would be profitable to continue thinking about the possible role and place of questions in professional learning, and to begin to re-orient one's approach to professional learning from the perspective of these language-games in particular. In learning discussions, we look for the question that opens things up, that allows for a clearer view of the grammar and paths in play amongst the learning participants, that brings into view new places to go by virtue of the unique active form of question-asking. Questions are asked so that all can see how we know how to go on, what connexions between signs we have taken hold of, the places we have to go and how we traverse the paths between them – noting as well all the ambiguity that attends these sequences of moves. I contend that on this picture of professional learning, drawn as it is from Wittgenstein's picture of language and meaning, that focus on these language-games of inquiry represents an important perspective to take up. In learning one gives and/or receives encouragement, direction, suggestions – and asks or is asked the 'challenging question,' the one that is promising, fruitful, productive, and generative. Thus my proposal for a grammatical-style investigation into inquiry/questions (see **Chapter 4**), which would be productive not only of a clearer view of the roles questions-and-answers play in dialogue, but of a clearer view of the possibilities questioning-and-answering could play in professional learning, particularly in contexts of peer-group learning. There has been significant study on inquiry and question-asking (see the short list of relevant references in **Chapter 4**), and an important next step in my work would begin by more thoroughgoing and serious consideration of that literature and practice.

It is interesting to look again at the educator group discussions in **Chapter 5** and to consider there the place and role – and consequences – of any of the sequences of questioning-and-answering. This might be one way in which to begin to track how issues of grammar and 'know-how' rise to the surface or get pushed back. How are questions asked, how are responses made; what issues of knowing how to go on are pressed, and how are they pressed, if not through question-asking? These are not to be talked about as issues of grammatical investigation *per se*, but rather as attempts to seek clarity in the actual practices of learning participants in terms of signs and their grammar and use. We can as well, of course, otherwise produce accounts of these discussions and the discussants in psychological or other kinds of causal-explanatory terms. For example, it can be hypothesized that one or more learner participants hold back from saying something out of fear (e.g., fear of offending a superior, fear of looking ignorant, fear of appearing to challenge the credentials of a colleague), and such hypotheses certainly take

account of important features of discussions. But doing that kind of work is not my concern here, which is to focus just on what the learners in question actually do say. That, as far as I can be concerned with it, *is* understanding, and all the understanding with which the discussant can go on.

What I'm suggesting in all this is that a range of important observations and insights about professionals' *in situ* learning are made possible by taking up these ideas of Wittgenstein. They are important because they open up on a view of these learning situations as they unfold that is not provided by other perspectives, though other perspectives do stand in different, important relations to this (i.e., pragmatism, socio-culturalism, ethnomethodology and conversation analysis, science studies). Grounded in a different way of talking about language and meaning, this thesis, then, sets out the ground from which to generate observations and insights about particular instances of professional learning that can in some manner make for new discussion with the participating professional groups and organizations. The actual fecundity of such observations and insights as might be generated and discussed can only be observed inasmuch as these observations, etc., are articulated in the context of real-life practical situations of professional learning – such real-life situations as, for example, government ministry managers trying to learn about and make decisions about the place of the construct 'resilience' in human development policy, local community family literacy groups preparing to engage with a visiting academic who is notable and relevant in their field, municipal politicians and local funders discussing issues of poverty in their community, or school educators attempting to learn in peer group sessions about a developmental construct new to them. These observations and insights become part of the talk of these groups – or they do not. The learning discussions that happen *about* learning are all still part of the same flow of professional learning, and the picture of language and meaning applies as much to *those* conversations as to the learning discussions of participants in professional learning encounters. (To some degree, these points return us to Argyris – see **Chapter 2**.)

Any excitement potentially generated by the approach to professional learning I have been sketching here will vary by profession and by the particular contexts of each specific group of professionals. Certainly most of the variation here will be due to the nature of the topics and their connection to problems or issues of practice as identified by the professionals themselves, as well as to the kinds of understanding had by the professionals, and their facility with various, relevant language-games (such as, once more, with the language-games of inquiry, etc.). However interest – and excitement – in this picture of professional learning can extend beyond the learning of just the professionals themselves to those who surround them, with whom they interest and who have influence on their work. This can lead

us into talk of a political dimension of both Wittgenstein's picture of language and meaning and the picture of professional learning that I have been drawing. Here we would begin to connect our talk of grammar and language-games with talk of social arrangements, power, equity, and social-political change (not to mention with moral signs). To give an overly-simplified situation by way of example, consider cases in which professionals interact with influential others in their surround in order that new ways of talking can be developed as a means to progressive change. Educators facing conservative or regressive push-back with regard to new positive developments in curriculum can work to effect change in how those pushing back talk about the curriculum features, would be a more specific example. The same discursive/relational view of things we have been applying in the case of professional learning can be applied to those outside the immediate sphere of the professionals themselves, as opening up possibilities for further change. However, in an important sense, these sorts of things follow trivially from the pictures of language, meaning, and learning I have been setting out.[189] Seeing the world in different terms, and acting in different ways (as per our developing descriptions of those actions), simply *are* changes in the ways in which we talk about things. (Recall again from **Section 3.2** the underlying gesture drawing of PI §1ff.) How our talk actually does change over time, for the better or for the worse (as we might so describe it), are empirical matters. I have briefly discussed in **Chapter 4** some relevant political matters that we can say attach to Wittgenstein's picture of language and meaning and the picture of professional learning I have been sketching, and I encourage the reader to return to those passages, if indeed the political is of interest. However, as should seem obvious, the political is quite secondary to my purposes in this thesis.

Where to next in this investigation? As a way to finish this chapter and thesis, I would like to conclude with a few suggestions about how I can proceed with this project of looking at professional learning from the perspective of Wittgenstein's picture of language and meaning. As a preliminary, recall the context I set out for this particular project in **Chapter 1**. There I indicated that this was one part of a larger inquiry into the connection between our understanding of language and meaning and our

[189] 'Trivial' in the sense that Wittgenstein himself (as per his background in mathematical logic) uses the term, meaning that the conclusion follows, in a sense, tautologically from the premises. As Wittgenstein says, "What we find out in philosophy is trivial; it does not teach us new facts, only science does that. But the proper synopsis of these trivialities is enormously difficult, and has immense importance. Philosophy is in fact the synopsis of trivialities" (Lectures, 1930-1932, p. 26; also quoted in Monk, 1990, p. 298); and "It is, for example, nonsense to ask where the number 1 is. This comment may be trivial, like all the comments we shall make; but what is not trivial is seeing them all together" (Lectures, 1932-1935, p. 44). Something of this notion of 'triviality' is what is at work as well, I think, in the various statements Wittgenstein makes of the kind: "If one tried to advance *theses* in philosophy, it would never be possible to debate them, because everyone would agree to them" (PI §128).

understanding of professional learning (and, more broadly still, the connection to our understanding of learning in all of its variation and complexity). In this project I have largely focused on one picture of language and meaning, viz., the picture sketched out by Wittgenstein, and that focus due, in part, to the conviviality of Wittgenstein's approach to many of my own intuitions about professional learning forged in my own professional working experience. Thus I need to move beyond the cursory sketch I provided of the other ways to talk about language and meaning, e.g., as per the representationalist tradition, and to consider in clearer and fuller terms what pictures of professional learning can be drawn from them in order to give fuller expression to this larger project.[190] I need as well to enrichen Wittgenstein's picture of language and meaning from which I draw. What first needs to be done is to build up more the part of the picture that has to do with what Wittgenstein calls "familiarity" (and its connection to "recognition"). Wittgenstein in fact makes much of this concept in describing use of signs; one important example of this is his repeated gesture in the *Investigations*: "A multitude of familiar paths lead off from these words in every direction" (PI §525, 534).[191] I need also to further my understanding of Wittgenstein's methodology, in particular his employment of the notion of the 'picture' as the only appropriately suitable way to talk about language. While I have given some rationale for this move (see in particular **Chapters 1** and **3**), I am not entirely convinced of the rightness of "picture" talk and that such talk can be used in a way that escapes the problems of causal-theoretical explanation. It would be interesting and useful, I think, and as I discuss immediately below, to explore the *prima facie* overlap between the 'picture' of the language-game and the 'theory' connecting games and language.

More specifically, one of the key next steps will be to begin to put these ideas into practice, in the field, as it were.[192] As one example, it will be useful, and a contribution to the field of professional development scholarship, to look carefully at how the reflexive relationality that I suggest be employed actually does work in practice with different groups of professionals. How might groups of professionals take up the data of their own learning discussions, and to what effect will they do so? How close a (reflective) reading of their own learning narratives can be expected from busy professionals? A second

[190] I need as well to consider in this vein those non-representationalist approaches to language and meaning taken up in post-modern thought, such as by Derrida.

[191] Consider as well, in terms of movement and 'finding places,' Wittgenstein's statement connected to this gesture: "Phrased *like this*, emphasized like this, heard in this way, this sentence is the first in a series in which a transition is made to *these* sentences, pictures, actions" (PI §534).

[192] In a sense, these kinds of empirical questions and issues reach out of the purview of this project, and caution need be taken in considering them in association with the work and approach of Wittgenstein. However, for the practically-minded educational professional, it is these kinds of questions that open up most readily; I suggest that as long as care is taken in the framing of them within the context of the kind of talk afforded to us by Wittgenstein, we can continue to walk with Wittgenstein in working on issues of professional learning and development.

example concerns how strategies to develop facility with the language-games of inquiry can be developed, implemented, and then assessed, either as preparation for substantive professional learning or simultaneously with it. What about the language-games of inquiry makes the difference in professional learning, exactly? Can we make useful, practical progress on such a question by orienting our investigation along the lines of the ethos of a grammatical investigation, i.e., as performed in the terms of a (grammatical) description and not as causal explanation? Third, I have discussed at some length the issues connected with the interactions between learners and experts, masters, and adepts; Wittgenstein, along with Schön and other similarly-minded thinkers, give us ways to consider these relations and to open up a range of questions about these in practice (which perhaps connects better with Schön's project than with Wittgenstein's). The issue of these relations need not concern exclusively the issue of active facilitation of group processes and learning. For example, an expert can assess how well a group understands (in Wittgenstein's sense) a relevant subject area by listening to just a few minutes of the group's focused conversation, or by engaging with the group even for a very short time, or by reading brief selections from learning session transcripts. An expert might also be able to proffer a reasonable diagnosis of where the group is in its understanding. But then what? How does the group progress in light of such expert readings, assessments, or diagnoses, should they be given? How might the expert advise the group, especially since the duration of interaction between expert and group will most often be limited to the short-term? (This is, again, an aspect of the 'professional learning paradox' discussed in **Chapter 4**.) If indeed there is opportunity for ongoing interaction between expert and learners of a non-facilitating kind, how might that interaction best unfold? Will this be a matter completely dependent on context? And more generally across both facilitating and non-facilitating interactions, what need might there be to tutor the participating expert in their interactions with the group? How much of a limiting factor might this prove in the educative course of such learning sessions? Certainly Schön makes much of the nature of the relation between coach and student, and while this is not a feature of professional learning activity that is entirely appropriate for further scholarship, it is all the same vitally important in the learning activities themselves. The picture of professional learning I have sketched out here gives us an extremely interesting and fruitful angle from which to investigate and pursue just such issues.

There is another quasi-empirical issue that is important here and worth exploring for multiple purposes. It is an issue that emerges from Wittgenstein's picture of language and meaning, viz., the association between game-playing and language-learning. Though this kind of question is largely outside my interest in professional learning, having to do mainly with infant learning, it still does strike in an empirical way

at the heart of my focus on language-games as centrally important in these pictures of language, meaning, and learning with which I have been working. Wittgenstein's is a picture of meaning, not of specifically human development, which is an empirical matter. But if it is a picture of any language, then we should be able to characterize the language of any group of language speakers (at least by those who have taken on board Wittgenstein's way of looking at language and meaning) in terms of language-games and game-playing.[193] If this is correct, then there should also be some way to see and talk about each group in the terms of the development of language-speakers from non-language-speaking, non-game-playing, beings, and to do so while staying on the plane of description, i.e., 'to look and see' (e.g., see PI §66; but also cf. PI §401).[194] There is already a longstanding research literature examining just such associations between learning to play games and learning language in infants and young children – see, for example, the work of Tamis LeMonda and Marc Bornstein (1990). Thus another next step in my project is to consider both this literature – as well as the scientific literature exploring the development of language in individuals and the species – and how to position these vis-à-vis Wittgenstein's picture of language. This is a delicate maneuver, however, one calling for a deft touch.[195] Aside from the cautionary note already quoted (in **Chapter 1**) from *Philosophical Grammar* (i.e., PG §30), Wittgenstein concludes the *Investigations* with this important, and here relevant, note:

> For in psychology there are experimental methods and conceptual confusion. … The existence of the experimental method makes us think we have the means of solving the problems which trouble us; though problem and method pass one another by. (PI, p. 232)

[193] Could something be a language but not be characterizable in terms of the picture of language-games? Wittgenstein's is a picture to be applied, and we are to see and learn from what comes of its application (e.g., see PI §130). We may in the end be dissatisfied in our application of it – for example, we are still finding ourselves captive in various fly-bottles (see PI §309) – and thus work to modify this picture or to find another picture. Further, it is as yet unclear to me what the implications are for Wittgenstein's picture of language and meaning that the sign, "language-game," can have a family of meanings derivative, perhaps, on the unboundedness of the sign "game" (e.g., see PI §§53, 65-76).

[194] Assuming of course that this is, in fact, the way in which a language-speaking being does develop; some such beings may simply come into existence (i.e., 'be born') being able to speak (though it may be problematic to understand how grammar organically works in such cases). This would be pushing nativism – and perhaps modularity – to their extremes. Note that this way of phrasing the issue of interest here represents the rocks upon which the work of Luntley can be seen to founder. Thus it is important to recognize that what we are interested in here is not a way to view Wittgenstein's picture of language and meaning, but is rather an interesting offshoot stimulated by the application of that picture.

[195] Which I am certainly not claiming to possess. Observe, for example, how the work of Chaliès *et al* is troubled by their uncertain mixing of the empirical with an aspect of Wittgenstein's picture of language and meaning (see **Chapter 2**).

However, importantly, the problem we are trying to 'solve' here is not the problem of accounting for meaning, but returning to consider the scientific literature from the perspective of Wittgenstein's picture of language, meaning, and, in particular, the picture of language-games. In this way I do not think we run afoul of Wittgenstein's imprecations against theory and causal explanations of language.[196]

Two final notes here. As I have suggested, a keener focus can be given to investigation of the presence and role of the different language-games played in professional learning discourse. *How* does one place follow after another in these narratives? *How* do learning participants move from or connect one sign to another? And how might we understand the ambiguity that often attaches to these discursive sequences, of question-and-answer, for example, where discussants' utterances seem to pass each other by, or where moments of inquiry are characterized by significant inconclusiveness? I have begun to emphasize the language-games of inquiry as an important feature of professional learning, and thus I contend that the employment of these deserve more energetic, grammatical-type investigation than I have been able to give them in this project. Again, there is an empirical strain that runs through these issues, and so some caution needs be taken in methodology here for the ongoing project I am proposing. I would add to these issues the (also empirical) question of how paths and grammar become familiar to professional learners. All of these issues are of important interest to the practitioner involved with real people in their endeavours to learn and develop.

Last, and again as I have implied or suggested at different places in this thesis, re-reading the educational theorists in the light of Wittgenstein's picture of language and meaning would be a rewarding exercise, both theoretically and practically. I have begun this somewhat in the case of Schön, in **Chapter 4** and elsewhere; but there is much more to do, in particular with the situative type thinkers such as Lave and Wenger, but also with those thinkers emerging out of the socio-historical tradition of Vygotsky (such as connected to the work of Barbara Rogoff, for instance). In this regard, Sfard's (2008) important work would be an excellent place to start in following this road.

Much of the contribution of this thesis, it must be said, remains at a high level of generality, that is, it abstracts over any particular, actual professional learning occasion. In this thesis I am concerned above all with the application of pictures, as Wittgenstein calls them, and in that application to come to talk about and see things differently. I do not suggest specific guidelines or programmatic steps that must be

[196] What difference does it make that much of this literature concerning learning to play games and learning language is *associational* in character, i.e., is describing how the relevant things hang together? Given Wittgenstein's encouragement to 'look and see,' how acceptable, then, is consideration of this scientific research?

followed in each case of professional learning; that would be quite counter to Wittgenstein's insights concerning language and meaning, and that is the plane I follow out here. These new aspects given us by Wittgenstein's picture of language and meaning, applied to the context and situations of professional learning, open up a new way of looking at these situations of learning, allowing us to see in different ways what goes on in such situations. Whether the application of such a picture to particular situations and contexts of professional learning bears fruit is an open question, and that is the question as Wittgenstein has framed it (see PI §§422-426). Remembering Wittgenstein's encouragement at PI §66 (i.e., "don't think, but look!"), we simply have to look and see if it does.

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Appendix

Educator Understanding Project – Participant Informed Consent Form

Study Name: How educators are dealing with the construct of 'self-regulation': Educator understanding

This research is a joint project between York University and Pearson Canada Inc. (educational publishers). It is funded by MITACS-Accelerate and Pearson Canada Inc. Its purpose is to study how educators understand self-regulation and how their understanding of self-regulation changes over time. The goal of this project is to gather information that will help support teachers' efforts to learn about self-regulation (and about other similar concepts).

Should you consent to participate by signing this form, normal professional meetings concerning self-regulation in which you participate will be tape-recorded and transcribed and reviewed by the research team at York University and Pearson Canada. (Note that sessions will only be audio-recorded and **not** video-recorded.) We ask that you review the relevant parts of the draft study report to ensure that this document accurately reflects what went on in the meetings in which you participated. The final document will be shared with you and your colleagues to help support your own continuing efforts concerning professional learning and development. Reviewing the draft final document should take 1-2 hours of your time, and will happen in May-June 2015.

We do not foresee any risks or discomfort from your participation in the research. Our purpose is not evaluative.

Your participation in the study is completely voluntary and you may choose to stop participating at any time for any reason. Should you exercise this right, the comments you make in the professional meetings concerning self-regulation in which you are participating will be removed from the meeting transcripts, or these meetings will no longer be recorded, whichever is your choice. If you choose to withdraw from *this* study (i.e., about educator understanding), you can continue to participate in the ongoing group discussions, which are independent of the educator understanding study. Should you wish to withdraw from the study any meetings in which you participated and which were recorded up to that date, all relevant data that had been collected to that point will be destroyed immediately. Your decision not to volunteer for the study, or to withdraw from the study, will not influence the nature of any ongoing relationship you may have with the researchers, nor will it affect the nature of your relationship with York University or any other group associated with this project, either now or in the future.

All information provided will be held in confidence. Unless you specifically indicate your consent, your name will not appear in any report or publication of the research. Any student names that are mentioned in the recorded discussions will be removed and replaced with a code number (for purposes of continuity in cases in which self-regulation issues concerning that student are subsequently discussed). Interview recordings and notes will be kept as sound files and as transcripts (i.e., Word files) on the project coordinator's password-protected computer hard drive in his locked office. Hand-written notes will be destroyed once they have been transcribed and entered onto the project coordinator's password-protected computer. Transcript material will not be shared until after data have been key-anonymized (with the key kept only on the project coordinator's password-protected computer), and then will be shared only with authorized project team members. All raw interview materials will be destroyed following the completion of the project coordinator's doctoral studies at York University, or within seven years after the completion of the project (whichever comes first). Confidentiality will be provided to the fullest extent possible by law.

If you have questions about the research project or about your role in the study, please feel free to contact the [Project Coordinator]. If you have concerns about the project, please feel free to contact the [Principal Investigator] either by telephone or by e-mail. This research has been reviewed and approved by the Human Participants Review

Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University.

Legal Rights and Signatures:

I_____ (*fill in your name here*) consent to participate in *How educators are dealing with the construct of self-regulation* conducted by [Principal Investigator]. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

I agree to waive my right to anonymity (i.e., information identifying me may appear in study reports and documents): □

Signature_____ **Date**_____

Participant

Signature_____ **Date**_____

Lead Researcher