

Chapter 9

Outline of a Theory of Teaching: What Teaching Is, What It Is For, How It Works, and Why It Requires Artistry



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Abstract This chapter provides an outline of a theory of teaching through a discussion of three questions: what teaching is, what it is for and how it works. I discuss two popular myths about teaching: that teaching is outdated and that teachers should rather focus on supporting students' learning, and that teaching is the most important factor in the production of measurable learning outcomes. Both views see teaching as a form of control, which is either rejected or embraced. The theory of teaching I outline, sees teaching as an act of communication which seeks to focus the attention of students, without assuming that such attention or what students do with it can be or should be entirely controlled. The purpose of teaching is to contribute to students' qualification, socialisation, and their existence as responsible subjects of their own lives. Teaching requires structure and direction, but too much structure and direction turns teaching into indoctrination. Teachers need the ability to make situation-specific judgements about how to act and what to act for, which requires artistry or craftsmanship. Attempts to turn teaching into an evidence-based profession not just undermine teachers' professionalism but also misrepresent what teaching is and ought to be about.

Keywords Teaching · Educational purposes · Artistry · Complexity reduction · Indoctrination

1 Introduction

At one level, everyone knows what teaching is. This is not least so because almost everyone has some experience of teaching, in most cases as a pupil or student, although teaching is such a large profession that many also have an experience of teaching in their role as teachers. Given this, there hardly seems to be a need for

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developing a theory of teaching, let alone to ponder the question whether there should only be *one* theory of teaching or whether it makes sense to have many. Yet on closer inspection, teaching turns out to be a much more difficult concept to pin down. Or put more positively: on closer inspection, teaching turns out to be a much more interesting, multi-layered and multi-faceted phenomenon than everyday accounts and understandings of teaching seem to suggest. From this angle, therefore, there is every need to not just ‘do’ teaching, but also to deepen our theoretical understanding of what teaching is and what it may be, also because it may have significance for what we do when we engage in teaching.

In this chapter I seek to contribute to this endeavour by developing an answer to three questions, namely the question what teaching *is*, the question what teaching is *for*, and the question how teaching *works*. My answers to these questions, taken together, outline a theory of teaching and in a final step I will make a case why teaching so conceived requires ‘artistry’ from teachers, rather than the mechanistic application of alleged ‘evidence’ about what supposedly ‘works.’ I preface my explorations with some brief observations about two different views about teaching that seem to be prominent in contemporary discussions about education. I refer to both views as ‘myths’ because I think – and will argue in more detail throughout this chapter – that they miss something important about teaching by depicting teaching as a form of control. While some take this as a reason for doing away with teaching and turn towards learning, others embrace it because they believe that teaching should be a form of control, particularly the control of student learning.

In this chapter I will argue that teaching cannot and should not be enacted as a form of control. Yet rather than drawing the conclusion that this means that we can and should do away with teaching, I seek to highlight the importance of teaching vis-à-vis the purposes that education should be concerned about. I do not claim that this chapter provides a comprehensive account of everything there is to say about teaching, but do hope that it provides helpful directions for the ongoing need to gain precision in our conversations about teaching.

Any account of teaching does, of course, highlight particular aspects and dimensions of teaching and in this regard can be said to be selective. Such selectiveness is partly pragmatic, as it is not possible to take all possible dimensions and aspects of teaching into consideration in a chapter-length discussion. Such selectiveness is also contextual, as research and academic writing more generally always intervene in and respond to ongoing trends, discussions and conversations in a field. In this chapter, for example, I position my reflections vis-à-vis the problem of ‘control’ in discussions about education and teaching. I respond both to those who criticise teaching as a form of control and those who favour teaching as a form of control, as I think that both views tend to miss something important about teaching. In doing so, I also respond to those who think that education is first and foremost about learning and to those who argue that theories of teaching can and ought to be derived from theories of learning. My discussion about how teaching ‘works’ is meant as a critique of and alternative to those traditions in research, policy and practice that focus on question of teaching and teacher effectiveness, quite often on the assumption – mistaken in my view – that there is some kind of causal connection between teaching and learning.

The main ‘selection’ at work in this chapter is that I clearly demarcate teaching, and education more generally, from indoctrination, as I do not believe that indoctrination can ever be a legitimate purpose for education. This is, of course, a value-laden assumption, but to suggest that this would make the position put forward in this chapter biased, would be as nonsensical as criticising medical doctors for being concerned about the promotion of health or criticising the legal profession for their interest in pursuing the case of justice. Education, in other words, is not just a technical ‘intervention’ that can be put to use for any conceivable purpose. Education has its own ‘integrity,’ so to speak, and teaching needs to be connected to the ‘point’ – or in more theoretical language: the *telos* – of education.

Others may look differently at these matters, and the chapters brought together in this book do exemplify an interesting range of accounts of teaching and a range of views about how and for what purposes teaching can and ought to be theorised. In this chapter I seek to challenge assumptions that seem to have driven much research and policy on teaching over the last few decades. I hope that this may help readers of this volume and scholars in the field of research on teaching more generally to come to their own judgement about how, why and for what purposes teaching matters and their own judgements about what theoretical resources are helpful in relation to this, and which theoretical accounts or perspectives may run the risk of distorting what education is for and about.

2 Two Myths About Teaching

Over the past decades two remarkable ideas about teaching have become quite influential in educational circles. One is the idea that teaching is outdated – the phrase that is often used is that of ‘traditional teaching’ – and that in education we should focus on students and their learning rather than on teachers and their teaching. Some even have heralded the shift from teaching to learning as a new ‘paradigm’ for education (see Barr & Tagg, 1995) and many have argued that it is a welcome and long overdue ‘upgrade’ of educational thought and practice. The fact that the educational conversation nowadays is full of talk about learning – learners, learning environments, learning communities, self-regulated learning, the learning sciences, teachers as ‘facilitators of learning’ – suggests that the ‘learnification’ (Biesta, 2009) of educational discourse and practice has been successful and that it has fundamentally altered our outlook on education.

Whereas on the one hand teaching appears to have been discredited, the other remarkable idea which has surfaced over the past two decades, rather emphasises the importance of teaching. The argument here is that research evidence allegedly reveals teaching as the most important ‘in-school factor’ in student achievement or, to be slightly more precise, the most important ‘in-school factor’ in the production of a specific set of measurable ‘learning outcomes’ (see, e.g., OECD, 2005; McKinsey & Co., 2007; Hattie, 2008). This line of thought has brought about a world-wide educational evidence industry that seeks to find out, through large-scale randomised

controlled experimental studies, ‘what works’ in education. Moreover, the ambition seems to be that such research can tell teachers what they should do in order to increase student achievement, operationalised, as mentioned, in terms of measurable learning outcomes (for a recent discussion see Thomas, 2021; see also Biesta, 2007; Davis, 2017; and for an illuminating conversation see also Hattie & Nepper Larsen, 2020).

The simultaneous existence of two very different ideas about teaching is remarkable, at least at first sight. The main impetus for the critique of teaching has to do with the view that teaching is *bad* because it is an act of top-down control that ultimately limits students and their ‘freedom to learn’ (for this phrase see Rogers, 1969). Some even have argued that teaching limits the freedom of students altogether and should therefore be abandoned (the point has been made by the anti-education movement that emerged in the wake of ‘1968’; see, e.g., Von Braunmühl, 1975). The main impetus for the enthusiasm about teaching, on the other hand, seems to stem from the idea that teaching is *good* because the very point of education is to control student learning, that is, steer it towards particular outcomes, and the more teachers can do so, the better it is. Whereas these two views disagree in their opinion about whether teaching-as-control is desirable or not, the thing they seem to agree on is their belief that teaching is an act of control.

What concerns me most about the current state of affairs with regard to teaching, is that both accounts rely on a rather shallow understanding of teaching and of education more generally. This is why I refer to them as two ‘myths.’ Those who are *against* teaching seem to be unable to grasp the liberating and emancipatory potential of teaching (see Biesta, 2017) and, more importantly, seem to believe that if we leave children and young people to their own devices everything will be fine – a naïve and rather dangerous idea (on this point see Mollenhauer, 1983). Those who are in favour of teaching, seem to get stuck in the idea that teaching is some kind of ‘intervention’ that in some way produces ‘effects’ somewhere down the line. In doing so they not only rely on a rather mechanistic view of the dynamics of education but also run the risk of reducing the teacher to a mere ‘factor’ in a production process rather than seeing them as thoughtful, agentic professionals (on teacher agency see also Priestley et al., 2015). What is lacking in both accounts is a sufficiently nuanced, a sufficiently elaborated, and sufficiently suitable *conception* of teaching, and, beyond this, a sufficiently nuanced, elaborate and suitable *theory* of teaching.¹ To begin with, then: What is teaching?

¹A conception of teaching has to do with the question how we might understand what teaching *is*, whereas a theory of teaching has to do with the question how teaching *takes place* (on the distinction between conception and theory see also Biesta, 2013a).

3 What Is Teaching?

A good place to start in answering this question, is with the word ‘teaching’ itself, which comes from the Old English word *tæcan*. *Tæcan* carries such meanings as ‘to show,’ ‘to point out,’ to instruct,’ ‘to warn’ and ‘to persuade,’ which all have something to do with common sense understandings of teaching. The word *tæcan* is itself related to another Old English word, *tacen*, which means ‘sign’ or ‘mark’ (think of the word *token*). This suggests that teaching has something to do with providing signs² or, as Hansen (1995, p. 1) has put it, with the “outward expression of what one knows.” This idea is echoed in Stenhouse’s observation that “teachers express, in a form accessible to learners, an understanding of the nature of what is to be learned” (Stenhouse, 1988, p. 46).

Fenstermacher (1986) refers to this kind of analysis of the idea of teaching as a ‘generic-type analysis’ – the phrase comes from Soltis (1978) – which is aimed at teasing out “the root meaning of the term ‘teaching’” (Fenstermacher, 1986, p. 38) without already engaging in questions about what would count as good or desirable teaching. Fenstermacher presents the following generic-type analysis of the concept of teaching (ibid., p. 38):

1. There is a person, P, who possesses some
2. content, C, and who
3. intends to convey or impart C to
4. a person R, who initially lacks C, such that
5. P and R engage in a relationship for the purpose of R’s acquiring C.

While this analysis captures something important about teaching – namely that teaching is an act of providing content to students – and while his definition remains open with regard to what content or what kind of content is being provided to students, it is, nonetheless, limited. This is not just because of the use of the word ‘content,’ which fits well when we think of teaching in terms of the provision of knowledge but already fits less well when teaching is about providing access to skills or attitudes or dispositions. It is also because this definition restricts teaching to the transfer of something – almost in the literal sense of some ‘thing’ – from teacher to student, thus excluding more ‘evocative’ enactments of teaching. In such enactments teaching is not a matter of the transportation of something from teacher to student, but rather is about teachers seeking to evoke a response from their students through their teaching. This is teaching that asks something from students, so to speak, rather than teaching as giving something to students.

²The connection between teaching and signs is particularly prominent in Roman languages: in French, *enseigner* (French), *ensinar* (Portuguese), *enseñar* (Spanish), and *insegnare* (Italian).

3.1 *Teaching as Attention Formation*

A more encompassing and, in a sense, also more open conception of what teaching is, has been proposed by Benner in a discussion of notions of teaching in the work of Plato, Socrates and Aristotle (see Benner, 2020, pp. 15–23). The key idea Benner is putting forward can be found in Plato's *Republic* where he actually seems to argue against the very idea of teaching as the transmission of content (albeit that Plato's understanding of knowledge entails more than just content). Plato writes: "(W)e must conclude that education is not what it is said to be by some, who profess to put knowledge into a soul which does not possess it, as if they could put sight into blind eyes" (Plato, 1941, p. 232). Plato rather assumes "that the soul of every man does possess the power of learning the truth and the organ to see it with" (ibid.). Teaching – or as Plato emphasizes: the *art* of teaching – is therefore not about putting "the power of sight into the soul's eye, which already has it, but to ensure that, instead of looking in the wrong direction, it is turned the way it ought to be" (ibid.).

Whereas we can assume, therefore, that human beings are capable of directing their own gaze – which, in a slightly more contemporary formulation can be stated as the assumption that everyone can learn (but see below for problems with the language of learning) – teaching is the art of (*re*)directing the gaze of someone else (in German: 'die Kunst der Umlenkung des Blicks'; see Benner, 2020, p. 21). Benner emphasizes that this redirecting is not caused by teaching and also cannot be enforced by teaching (ibid., p. 17), which means that, at most, it can be *evoked* by teaching. There is, therefore, always a 'gap' between the 'work' of the teacher and the 'work' of the student. Prange (2012, p. 58) refers to this gap as the 'educational difference' (in German: 'pädagogische Differenz').

Whereas Benner approaches teaching in terms of the (*re*)direction of the student's gaze and thus approaches teaching first and foremost in terms of *looking*, a slightly broader term that is useful here is that of *attention*, as one could argue that the basic gesture of teaching is that of trying to (*re*)direct the attention of the student to something. This 'something' can, of course, be content or knowledge or some specified task. But teaching can also be about (*re*)directing the attention of students to themselves, for example in order to encourage them to pay attention to their own actions or to consider their own complicity in a particular situation.

The idea that the basic 'gesture' of teaching is that of (*re*)directing the attention of the student, plays a central role in the work of Klaus Prange who, in a number of fascinating publications, has argued that in order to understand what education is, we should focus on the *form* of its enactment (see, e.g., Prange, 2012, p. 20).³ The key idea of his 'operational theory of education' ('Operative Pädagogik') is that central to all education is the act of *pointing* (in German: 'Zeigen'; see ibid., p. 65),

³In German Prange writes: "das Fundament für die Begriffsbildung liegt primär (...) in den Formen ihrer Ausübung" (Prange, 2012, p. 20).

which is indeed a matter of (re)directing the attention of students.⁴ There are of course further questions to be asked, for example what teachers should be pointing towards, and also with what intentions teachers should engage in pointing. I will return to these issues in more detail in the next section. The general point I wish to make here is that we can assume that teachers engage in acts of pointing in order to focus the attention of students on something worthwhile, with the hope and expectation that this will contribute to how students will direct their own attention in the future. This formal conception of teaching thus suggests that the overall ambition of teaching so conceived is not just to engage in *attention (re)direction* but, through this, also to engage in *attention formation* (on the latter idea see Rytzler, 2017).

3.2 *Teaching as Occupation, Enterprise and Act*

One ambiguity with regard to the word ‘teaching’ which I wish to mention briefly, has to do with the fact that the word ‘teaching’ can be used at a number of different ‘levels.’ Komisar (1968) has helpfully suggested to make a distinction between teaching as an *occupation*, as a general *enterprise*, and as an *act* (and most of what I have said so far focuses on acts of teaching). Occupation, enterprise, and act provide three different answers to the question what a person is doing when we say they are teaching. Either it can mean that the person is a teacher (occupation), or it can mean that the person is engaged in the practice of teaching. With regard to the latter Komisar suggests that we should distinguish between the general ‘enterprise’ of teaching and particular ‘acts’ of teaching. Teachers spending an hour with their students may be engaged in the enterprise, but not everything they do may count as an act of teaching.⁵

In addition to the distinction between occupation, enterprise and act, a further important distinction is that between teaching as *task* and teaching as *achievement*, the difference having to do with so-called ‘task verbs’ such as ‘to race,’ ‘to seek,’ and ‘to reach,’ and ‘achievement verbs’ such as ‘to win,’ ‘to find,’ and ‘to grasp.’ The point here is that the word *teaching* can be used to refer both to a *task* and to an *achievement*, and that using the word to refer to the task of teaching does not necessarily imply that the task will lead to achievement. To say “I taught him Latin for years, but he learnt nothing” (Peters, 1967, p. 2), is a correct way to use the word

⁴The German word ‘Zeigen’ can also be translated as ‘showing.’ While I do agree that the point of pointing is to show something, that is, to bring something to the student’s attention, I prefer to use the word ‘pointing’ because it refers more explicitly to the form of teaching, whereas ‘showing,’ in a sense, says more about a particular attention we may have with our pointing.

⁵Komisar gives the interesting example of a situation where a teacher has been expressing his own prejudices about a topic but then stops doing so “and is finally teaching again” (Komisar, 1968, p. 174). This suggests that to identify a particular act as an instance of teaching is not a factual matter but implies a *judgment* about the intentions of the act, for example, in order to distinguish teaching from indoctrination.

teaching in the task sense of the word. If, on the other hand, we would shift to the achievement sense, we would probably say something like, “I *tried* to teach him Latin for years, but he did not learn anything.”

If the foregoing provides a sufficiently developed idea of what teaching *is* – a *conception* of teaching – there are three formal characteristics of all teaching that can be deduced from this. The first is that teaching implies a *relationship* between teachers and (their) students or, more bluntly, that it takes at least two to teach. The second is that teaching implies *intentionality* in that those who teach do so deliberately, not accidentally. The third is that teaching entails a sense of *purpose*, which means that it is done for a reason and, more specifically, that teaching entails expectations from those who teach about what may happen at the side of (their) students – although it remains open whether this will or will not happen and also to what extent this should be controlled or not. This then brings me to the question of purpose in teaching, which is the question what teaching is *for*.

4 What Is Teaching *For*?

Teaching doesn't happen by accident. While there may be situations in which someone might say something like “I was just doing things and suddenly I realised that I was teaching,” even such a statement suggests that teaching is something more specific than just ‘doing things’ or, because all teaching needs at least two, teaching is something more specific than just ‘doing things *together*.’ It may be worthwhile to do things together, and even teachers and students can do worthwhile things together, but teaching is more intentional than that. This means that teaching is at the very least *a-doing-things-together-with-a-particular-purpose*. This doesn't mean that the ‘doing’ of teaching always has to be a matter of speech and action, that is, a matter of talking and pointing. Teachers may also have good reasons for remaining silent, for not saying anything, for letting students explore and finding things out for themselves, or even for them to encounter obstacles and experience frustration. But even in those situations – if they are to count as instances of teaching – teachers should have good reasons for what they do and don't do. They need, in other words, to proceed with a sense of purpose.⁶

So what is the purpose of teaching? What, in other words, is teaching *for*? The popular answer nowadays is ‘learning,’ and the frequent occurrence of the phrase ‘teaching and learning’ in the English language does indeed seem to suggest that the two are inseparable. In my view, however, this is a mistake, and it is actually quite worrying that the language of learning has become so prominent in contemporary education. Why is this a problem? There are three points I wish to make to answer

⁶I am not suggesting that students shouldn't have a say in answering the question what teaching is *for*, but whether students should or should not be included in pondering this question is itself a decision for teachers to make with reference to the question whether or not it will benefit the educational endeavour.

this question; one about the word ‘learning;’ one about the purposes of teaching; and one about the relationship between teaching and learning.

4.1 *The Problems with ‘Learning’*

Despite its ubiquity, the word ‘learning’ is actually remarkably ambiguous and vague. One problem has to do with the fact that in English – but also in other languages – learning can refer to (a) an activity (such as ‘student learning’); (b) a process (as in ‘the study of learning processes’); and (c) a result or outcome (as in ‘the point of education is that students learn from it’). This already shows that the word ‘learning’ is not very precise as an answer to the question what teaching is for. But there are further problems with the different usages of the word ‘learning.’

The problem with using ‘learning’ to refer to an *activity* becomes clear when we imagine a teacher saying to her students: “For the next 30 minutes I want you all to learn.” Most likely the students will look puzzled and will ask: “But what do you want us to do?” This shows that there actually is no generic activity called ‘learning,’ and that, in guiding our students, we should rather say what we want them to *do* – such as: read this, listen to that, try this, practice that, remember this, make that, pay attention to this, show that, and so on – and provide them with reasons why we think that it might be good for them to do so.

Just as there is no generic *activity* called ‘learning,’ there is also no generic *process* called ‘learning.’ If we think of meaningful ways of using the word ‘learning’ – such as in ‘learning to ride a bike,’ ‘learning that two and two equals four,’ ‘learning to be patient,’ ‘learning that you are not good at something,’ ‘learning to teach’ – we can immediately see that the processes that ‘learning’ seems to refer to in these statements differ widely. At the very least this suggests that there is not one learning process but that there are several and, most likely, many. But we could even question whether the word ‘learning’ refers to any process at all in these statements, because ‘learning’ actually doesn’t mean more than stating the fact that at a certain point in time someone was unable to do something and that at a later point in time the person was able to do something. What made this transition possible is, of course, an important question, but using the blanket term ‘learning’ doesn’t really add anything to our understanding (see also Prange, 2009 for a similar line of argument).

How then about learning as result or outcome? This is, in my view, the most meaningful way to use the word ‘learning,’ although even here there are some important issues that need to be considered. The idea of ‘learning’ as a result or outcome is captured in a widely used definition of learning as any more or less durable change that is not the result of maturation (see, e.g., Borger & Seaborne, 1966, p. 16; see also Jarvis et al., 2003). ‘Learning’ thus refers to *change* – for example change in knowledge, understanding, disposition, attitude, capacity, outlook, resolve or attention – and, more importantly, change brought about as a result of ‘encounter’ with something ‘external’ (which is the reason why learning is

defined as change that is not the result of maturation). Some argue that this always requires activity on the side of ‘the learner,’ and this idea has become very popular over the past decades, particularly due to the influence of constructivist thinking. A case has also been made, however, that what is learned comes from the ‘outside,’ as a gift (see Biesta, 2013b, 2020a, 2021), and thus entails passivity and receptivity rather than activity on the side of ‘the learner.’ Roth (2011) has tried to capture this with the word ‘passability,’ which has to do with the human ability ‘to be affected’ (Roth, 2011, p. 17).

One interesting implication of the definition of ‘learning’ as durable change that is not the result of maturation is that we can only say *in retrospect* whether any change has occurred or not, but that when we’re in the middle of a situation or activity we can never say whether that situation or activity will or will not result in change. We can never say, in other words, that we are *currently* learning; we can only say, looking back, that learning has taken place or that we have learned something (or not, of course). We could say, therefore, that ‘learning’ is not a noun – it is not the name of an object or event – but can best be understood as an *evaluative term*.⁷ After all, to say that someone has learned something, to claim that one has learned something, means to identify some change as desirable (if we value the change) or as undesirable (if we don’t value it, for example, when someone has picked up a bad habit).

These observations show that the word ‘learning’ is not as simple and straightforward as its frequent use suggests. This also implies that to argue that the purpose of teaching is learning, is actually not very meaningful or informative. So what then might we say in response to the question what teaching is for?

4.2 Teaching and the Purposes of Education

Although teaching can, in principle, happen in many settings, it seems meaningful to focus on teaching in the context of formal education, that is, the teaching that takes place in schools, colleges, and universities. While it is often suggested, as I have already mentioned, that the point of education in such settings is that children and young people learn, this suggestion is not sufficient in the case of education. In addition to all the provisos already mentioned about the concept of ‘learning,’ it seems reasonable to suggest that the point of education can never be that students just learn – after all, if they want to learn, they don’t need to go to school, as learning can happen anywhere. Rather, the point of education is that students learn *something*, that they learn it for a *reason*, and that they learn it from *someone*. Put differently, education is never about learning ‘in general’ – which, after all, can go in any direction – but always raises questions of *content* (in the broadest sense of the word), *purpose* and (educational) *relationships*. And it is here that teaching comes

⁷The fact that there is no generic activity called ‘learning’ also suggests that ‘learning’ is not a verb.

in, because whereas students can learn all kinds of things from being in educational contexts and settings – including, for example, how to cheat or how to pass an exam with minimal effort – it is the work of teachers to direct the attention of students, and to do so for a reason, that is, with a particular purpose in mind.

Elsewhere (see for example Biesta, 2009, 2010a, 2020b) I have suggested that when we look at the question of the purpose of education more widely, we can make a case that there are actually three purposes (or as I prefer: domains of purpose) that are always at stake when education takes place. One important reason why we engage in education and why societies invest significant amounts of time and money in education is because education is about making knowledge and skills accessible to students. We can refer to this as knowledge acquisition, but it is perhaps better to say that one important purpose of education is *qualification*, that is, providing students with knowledge, skills and other things they may need – such as attitudes and dispositions – in order to do something. This ‘doing’ can either be quite specific and precise, such as becoming qualified for a particular job or profession; but it can also be understood more broadly, such as the way in which schools seek to equip children and young people for their life in complex modern societies. Qualification should not be conflated with qualifications, that is, the diploma’s and degrees students acquire, other than that obtaining such qualifications is proof that students have become qualified in particular areas or domains.

Some would argue that qualification is the sole purpose of education, that is, that education is only about providing children and young people with knowledge and skills and supporting them in the acquisition of what is being provided. Those who argue that schools, colleges and universities should only focus on knowledge and skills, often do so because they are worried that anything else gets education into difficult normative questions, and these are better left to the family or community context. This may sound reasonable, but the problem is that education is unable to provide children and young people with all the knowledge that is available – Comenius was probably the last educational scholar who had the hope that education could and should provide an overview of *everything* (see Comenius, 1658) – so there is inevitable selection going on in education. Put differently, in everything we do in education we present out students with a particular ‘selection’ of the world and, more positively formulated, with a particular *representation* of the world, and the ways in which we do this inevitably influences our students in some way. Normative questions are therefore inescapable, even if education would be confined to the domain of knowledge and skills.

In the literature the (re)presentation of the world, or the presentation of different representations of the world, is known as *socialisation*. Some highlight the ways in which this goes on, even behind the backs of our students – an idea known as the hidden curriculum. Yet we can also think more positively about this, and see socialisation as an important second purpose of education, where we try to provide our students with an orientation in the world, which comes with the invitation to find their own place within it. Providing our students with a sense of orientation is, for example, the important work of the history curriculum, that tries to provide insight in how the world has become what it has become. But one can even say that the

whole curriculum actually contributes to this task. Socialisation also plays an important role in vocational and professional education, where we introduce our students into particular vocational and professional traditions and practices, so that they do not just become qualified as, say, a nurse, but also get a sense of what nursing as a tradition and practice is, and develop their own professional identity in relation to this.

Education as socialisation is, in other words, about providing our students with an orientation into existing cultures, traditions and practices, with the invitation – and in some cases the insistence – that they locate themselves within them. In ‘stronger’ forms of socialisation this can become a rather one-way process, where educators already know where they want their students to end up, what kind of identities they want them to develop, and what kind of values and norms they want them to adapt. This is not entirely problematic, because professional fields have their own values, norms and standards – think of the Hippocratic oath in medicine and similar codes of conduct in other professional fields – and it is important that those who want to become part of the profession adhere to them. The same can be said for the domain of citizenship education, where a strong rationale can be developed for suggesting that everyone who wants to benefit from the rights and freedoms a democratic society offers to its citizens, also has the responsibility to adhere to its underlying values and legal structures. But the issues here are never easy, which becomes visible, for example, when we think of such domains as environmental education, sex and relationships education, or anti-racist education, not just because there are ongoing discussions about how such topics can best be included in the curriculum, but also because there are ongoing discussions about whether such topics should be part of the school curriculum in the first place. Notwithstanding all this, socialisation is an important second domain of purpose for all education.

Discussions about socialisation, particularly strong(er) and (more) directive approaches, raise an important further question, which has been part of the modern educational conversation at least since the Enlightenment, and most likely already earlier than that.⁸ The question here, to put it briefly, is whether education can and should approach students as ‘objects’ that need to be(come) qualified and socialised, or whether education always also has work to do to make sure that children and young people can become subjects of their own life. This is partly a very complicated and deeply philosophical question, but it is also a very simple question which many educators will immediately recognise. After all, in all education we want to make sure that students stop relying on our help and input and become able to do things for themselves. To think for themselves, to make their own judgements, and to be able to act and to act well. A big question is whether students should be able – and be ‘allowed’ – to think for themselves in all domains of life, or only in specific domains. One might assume that a car mechanic in North Korea should be able to do his job in the same way as a car mechanic in South Korea, but that there is a big

⁸I am thinking here, for example, of discussions about religious freedom that emerged during the Reformation.

difference with regard to their freedom of thought and action in relation to other domains of life.

There are different ways in which we can refer to this third domain of educational purpose. I tend to prefer to refer to this domain with the word ‘*subjectification*,’ which is perhaps a rather odd word in English, but precisely refers to the ambition that students end up as subjects of their own life. It therefore stands in sharp contrast to education that aims for objectification, that is, education which is only interested in controlling students and their acting, thinking and judgement. Of course we cannot force our students to be subjects of their own life – and in many instances one could even argue that it is much easier to follow other people’s orders and directions than constantly having to come to your own judgement – but we can, in all kind of ways, ‘remind’ our students of this possibility to be(come) a subject of their own life, and we can provide them with many opportunities to encounter and practice with the complexities of what this means (see Biesta, 2020b, for more detail). Dietrich Benner has suggested the phrase ‘*Aufforderung zur Selbsttätigkeit*’ as a way to capture the special character of educational work in this domain (see, for example, Benner, 2015). This can be translated as ‘summoning to self-action,’ although the ‘summoning’ may sound a bit strict, and we might also use a word like ‘encouragement’ here. Self-action should not be understood as the encouragement to be yourself, and also not the encouragement just to become active. It is perhaps best to see this as the injunction to be *a* self, that is, to try to be a subject of your own life, with all the complexities and responsibilities that follow from it, rather than remain an object of influences outside of you.

Benner has also introduced another set of concepts that is helpful in looking at these three domains of educational purpose and their relationship. This is the distinction between affirmative and non-affirmative education (see Benner, 2015, pp. 146–155). Whereas qualification and socialisation are, to a large degree, affirmative, in that they start from certain ideas about what education should achieve and where children and young people should end up, the domain of subjectification is precisely the opposite of this, because here it is not for educators to tell children and young people how they should be and become, but rather to provide opportunities for them to figure out for themselves how to live their own lives in the best way possible. That is why the educational work vis-à-vis this domain has to be non-affirmative and has to proceed with caution.

I wish to suggest that qualification, socialisation and subjectification are not only three *legitimate* purposes of education; in a sense they are also three *inevitable* purposes of all education. After all, in all instances of education there is always something for teachers to offer to students and for students to acquire to their benefit – be it knowledge, be it skills, be it attitudes, be it a combination of the three, and in this regard education always has an orientation towards qualification. Because qualification always represents (aspects of) the world in a particular way, there is always also socialisation going on. And all this also has an impact on the student as subject – on the student’s subject-ness we might also say – to begin with because becoming more knowledgeable or skilled (qualification) and gaining orientation in a particular domain or field (socialisation) provides students with increased possibilities for

thinking, judgement and action, which are at least important preconditions for their existence as subject of their own life.

The fact that these three purposes – or as mentioned: domains of purpose, because in each domain further concretisation is always possible and in most cases needed – are inevitable, suggests three things. It first of all suggests that the three domains are always entangled with each other; they cannot exist separately, because every act of qualification is also an act of socialisation and also impacts on the student's subject-ness, positively or negatively. It suggests, secondly that in the design and enactment of education teachers should always consider what they seek to achieve – or what they seek their students to achieve – in relation to each of these domains. Thirdly, although the three domains are always 'in play' in education, it doesn't mean that they can exist in perfect harmony. There are always potential tensions between, say, what one seeks to achieve in the domain of qualification and what is possible in the other domains. There can be synergy – understanding subject-matter well also provides a degree of orientation and contributes to one's agency – but there can also be conflicts – for example when a too strong push on the domain of qualification undermines students' agency and their possibility to exist as subject of their own life, because they are being told that the only thing that matters is how well they perform on a test or exam.

The challenge for teaching, therefore, is not just to begin to think and act in a three-dimensional way, that is, with an eye on the three domains of educational purpose. The challenge is also to try to secure a meaningful balance, and think carefully about the costs of emphasising one domain to the detriment of the other domains. This, as I will argue below, is one important reason why teaching needs to be understood as an art and why teachers need artistry rather than techniques.

4.3 *What should Teachers Aim for?*

Before I move to the question how teaching 'works,' there is one more aspect of the question what teaching is for, which I wish to discuss briefly. This is the question what teachers should *aim* for. What, in other words, should be the object of their actions? The question what teachers should aim for should be distinguished from the question about the purposes of teaching. Purposes, to put it briefly, have to do with the general *enterprise* of teaching; they give meaning and direction to the whole educational 'set up.' The question what teachers should aim for, on the other hand, is a question at the level of *acts* of teaching.

I have already raised quite a lot of concerns about the notion of learning, so that to suggest that acts of teaching should focus on student learning is actually a problematic idea. This is not just because teachers cannot *cause* learning, but also because the word 'learning' actually doesn't refer to an activity; it doesn't refer, in other words, to something that students can *do* but it best understood as a possible result of what students do. Since we can only identify such results 'after the event,' that is, when we look back and realise that, over time, some (desirable or undesirable)

change has happened, it doesn't make much sense, then, to suggest that teaching should aim at students' learning, which is a further reason why the phrase 'teaching and learning' is unhelpful and even misleading. So what, then, should acts of teaching aim at and, more importantly, what should teachers aim at in their teaching?

A very helpful suggestions with regard to this question has been made by Fenstermacher (1986). In discussing the generic analysis of teaching mentioned above, he argues that "the teacher does not convey or impart the content to the student [but] rather instructs the student on how to acquire the content from the teacher, text, or other source" (Fenstermacher, 1986, p. 39). What teaching should aim for, what the intention of teaching should be, is therefore *not* to bring about or produce learning but to bring about or induce what Fenstermacher suggests referring to as "studenting" or what B. Othanel Smith has suggested we call "pupiling" (see Fenstermacher, 1986, p. 39), that is, to focus on the 'work' we expect students to do rather than on what this 'work' may or may not bring about (see also Prange, 2009). With this concept Fenstermacher is able to say in a much more precise manner what teaching is about, namely, "instructing the learner on the procedures and demands of the studenting role, selecting the material to be learned, adapting that material so that it is appropriate to the level of the learner, constructing the most appropriate opportunities for the learner to gain access to the content monitoring and appraising the student's progress, and serving the learner as one of the primary sources of knowledge and skill" (Fenstermacher, 1986, pp. 39–40).

By making the distinction between studenting and learning, Fenstermacher not only introduces a concept that allows us to say with much more precision what teachers should intend to bring about. He also makes it possible to identify with much more precision who in the educational relationship is responsible for what, and therefore also who can be held accountable for what. He explains this as follows:

On this new scheme, the teacher is held accountable for the activities proper to being a student (the task sense of "learning"), not the demonstrated acquisition of content by the learner (the achievement sense of "learning"). Thus a learner who fails a reasonably valid and reliable test of content covered in instruction must accept a major share of the responsibility for this failure. To the extent the student lacks the skills of studenting needing to perform well on this test, is given no opportunity to exercise these skills, or is in no helpful way encouraged to engage the material to be learned, the teacher must accept a major share of responsibility for the student's failure. (Fenstermacher, 1986, p. 40)

The notion of studenting thus helps to create some distance between teaching and learning, albeit that for Fenstermacher the outcome of the act of studenting is still described as learning – which explains why he refers to the person doing the studenting as a learner rather than as a student – and not in terms of more precise purposes of education relating to qualification, socialization, and subjectification.

Komisar (1968) went one step further when he not only stated explicitly that "learning is not what the 'teacher' intends to produce" (Komisar, 1968, p. 183) but also suggested that the intention of teaching might best be captured in terms of "awareness," that is, of an "auditor" (note that Komisar tried to stay away from notions such as learner and student) "*who is successfully becoming aware of the point of the act [of teaching]*" (Komisar, 1968, p. 191; *emph.* in original).

While the discussion about what the proper intention of teaching should be may sound very technical – which it is of course as well – the points raised do matter to both practitioners and researchers for at least three reasons. First, to repeat it one more time, it helps to stay away from the mistaken idea that teaching can cause learning — an idea that particularly seems to inform currently education policy that precisely seeks to make teachers responsible for the production of learning rather than, with the word of Fenstermacher, the promotion of studenting. Second, it can help teachers to think more clearly and precisely about what it actually is that they intend to bring about and what the role and place of learning in this constellation are, if learning is no longer the intended ‘outcome.’ And thirdly, it opens up a new perspective on research, one that goes beyond the idea that research should identify the factors that cause learning but rather focuses on relationships between teaching and studenting.

5 How Does Teaching Work?

So far I have given an indication of what I think that teaching is, arguing that the basic gesture of teaching is that of (re)directing the attention of the student and, through this, to contribute to attention formation. I have also looked in more detail at the question what teaching is *for*, arguing against the idea that teaching should bring about learning. In addition to problems with the very idea of ‘learning,’ I have suggested that teaching should be orientated towards three domains of educational purpose – qualification, socialisation and subjectification – and that the work of the teacher should be focused on studenting, that is, on providing students with guidance for the work they should do so that their education may result in something, be it qualification, be it socialisation or be it subjectification and, ideally, a meaningful combination of the three.

5.1 *The Problem of Causality in Education*

In exploring these ideas, I have mentioned several times that the idea that teaching *causes* learning simply doesn’t make sense. Along similar lines we can also conclude that teaching doesn’t cause studenting. Notwithstanding all this – and in a sense this is quite remarkable – there is ongoing research around the world that seeks to find connections between educational ‘inputs’ and educational ‘outcomes,’ on the assumption that the more knowledge we gain about these connections, the better we will understand how teaching works and the better we will be able to tell teachers ‘what works’ in bringing about particular ‘learning outcomes.’ So why do so many researchers seem to think that there is some kind of causal connection between teaching and learning, when all the arguments point in the opposite direction? Why is this myth, as I have called it above, being repeated? Is this a case of

something that doesn't work in theory but does work in practice? After all, if the work of teachers wouldn't make any difference for their students, why then do we continue doing so, century after century?

The quickest way into this discussion is to see that the meaningful question here is not *whether* or not teaching 'works' – and 'works' here refers to teaching as a main causal 'factor' in the 'production' of 'learning outcomes' (I put many terms in quotation marks in order to highlight that they are all misleading and inappropriate when we talk about education and teaching) – but *how* teaching works, that is, how any connection between the work of teachers and what happens on the side of students is brought about. A helpful way to engage with this issue, is to begin with the question under what conditions causality actually occurs, and then to ask whether it can be realistically assumed that those conditions are also present in education (for more detail see also Biesta, 2016, 2020c).

With regard to the first question, the answer is that causality – that is, when one event always and necessarily brings about another event at a later point in time – only occurs in closed systems that operate in deterministic and unidirectional ways. The best example of such a system is probably the clockwork, where all the cogwheels are interconnected and where, when one cogwheel moves, it sets into motion a series of further cogwheel movements, ultimately resulting in the hands of the clock moving in a particular direction at a particular pace. As long as there is no interference from the outside, there will be a perfect correlation between the movement of the first cogwheel and the movement of the hands. Moreover, because we can trace all the interlocking movements and connections, it is clear that the movement of the first cogwheel *causes* the movement of the hands.

5.2 Education: An Open, Semiotic and Recursive System

While under such conditions causality does happen, such conditions are simply not present in the case of education. I wish to suggest that what characterises education systems is that they are *open* systems which function in *semiotic* ways and are characterised by a phenomenon called *recursivity*, and that it is precisely because of these characteristics that education systems do not and never will work in causal ways. And the fact that this will not happen, is not a lack of the system that in some way needs to be 'fixed,' but is precisely what makes education systems into *education* systems. The reason why we can characterise education systems as open systems is for the simple fact that what happens in education – in the classroom, in the relationship between teacher and students, during school time – is subject to many other influences from the 'outside,' so to speak. The simple fact that students go home after school, already shows that what happens in education and, more specifically what happens as a result of acts of teaching, is only a small part of everything that students encounter, in their schools lives and their lives outside of school.

While the openness of education systems may be seen as a practical matter – I will return to this below – the more fundamental reason why education doesn't function in a causal way, is because the connections between its 'elements' (teachers and students) are not a case of mechanical push and pull, but are a matter of communication and interpretation. They occur because of the fact that students try to make sense of what their teachers say and do, and because of the fact that teachers try to convey in words and deeds, with as much clarity and detail as possible, what they want their students to do or refrain from doing, and why this might be important. But the relationship between the acts of teachers and the acts of students is not deterministic because it relies on acts of interpretation and sense making, to put it briefly.

To this comes the fact that, unlike the movement of cogwheels in a clockwork or the movement of planets in the solar system, the 'elements' of education systems (teachers and students) are reflective agents, which is a theoretical way for saying that they can think and can act and, most importantly, can make up their own minds and act accordingly. How the system will evolve over time – how teachers establish relationships with students; how a group of individuals begins to gel – depends crucially on the decisions teachers and students make and the ways in which they use their freedom of action. Unlike the cogwheels, which can only move in the direction they are being pushed into, human interaction can move in many ways, 'forwards' but also 'backwards' (and what counts as forward and what counts as backward is, of course, a matter of judgement).

While closed, unidirectional, deterministic systems will function in predictable ways, there are no such predictable, unidirectional connections in open, semiotic, recursive systems and for this reason the assumption that teaching causes learning (or in the words of Fenstermacher: that teaching causes studenting) simply doesn't make sense. There is, to put it differently, a fundamental gap between the 'work' of the teacher and the 'work' of the student – a fundamental 'educational difference' (Prange's 'pädagogische Differenz').

5.3 Making Education Work: The Risk of Indoctrination

This, however, is not the end of the story. Whereas a causal conception of the dynamics of education doesn't make sense – the conditions under which such 'strong' causality can emerge are simply not present in education – the interesting and in a sense really important thing about seeing that education systems are open, semiotic, recursive systems, is that it makes it possible to explain in much detail how the functioning of such systems can become more predictable. Moreover, and this is important with regard to education systems, the explanation of how such systems can become more predictable – how, in other words, regularities between the work of teachers and the work of students can begin to emerge – also brings into view how and when this is educationally *desirable* and how and when we end up in

a situation that is educationally *undesirable*. Let me briefly discuss what I have in mind.

While the behaviour of open, semiotic, recursive systems may be quite unpredictable given the large number of possible influences and options at each point in time, these insights into the specific characteristics of education systems also helps to see what needs to happen to make the behaviour of such systems more predictable. The main way of doing this, is by reducing the degrees of freedom of the system, to put it in abstract terms, and through this, to reduce the complexity of the overall functioning of the system (on the latter idea see also Biesta, 2010b). One way in which we can make education systems more predictable is by *reducing the openness* of the system, that is, by limiting the possible influences upon the system and upon the actors within the system. In theoretical language this may sound rather abstract, but this is exactly the reason why we have schools, school buildings, classrooms, timetables, and so on. Through this, that is, through the ways in which we *organise* schooling, we reduce the number of possible influences upon students, which is not just a matter of *limiting* what students are exposed to, but at the same time may help in (re)directing and *focusing* their attention. And we generally do this for good reasons, related to the purposes of education (but see below).

We do the same with regard to semiosis, that is, the processes of communication and interpretation that are central to the functioning of education. We use textbooks, practical exercises, curricula, tests and exams in order to ‘frame’ what we are talking about. And while we may want to encourage our students to make active sense of everything they encounter, and would even encourage them to make their own sense, this doesn’t mean that there is or should be total freedom of interpretation. Creativity can only go so far in education, because it is important that students ‘get it’ and that they get it ‘right,’ without suggesting that it’s always easy to figure out what ‘getting it’ and ‘getting it right’ is. Yet again, by limiting the scope for interpretation, we try to focus our students’ attention, and we have good, educational reasons for doing so.

The same also holds for recursivity, that is, the reflexive agency of the ‘elements’ in the system. While we should value agency and reflexivity, we do want to make sure that the ways in which our students think of school and schooling and their own role in it ‘makes sense’ for the purposes of the overall endeavour, just as we want teachers to think of themselves as teachers, and not just as friends of their students or facilitators of learning. By focusing the reflexivity of teachers and students we thus reduce the degrees of freedom of the system which, again, contributes to a more predictable functioning of the system as a whole. And once more, we do this for good, educational reasons.

There is much more to say about all this, but the basic point I am seeking to make is that open, semiotic, recursive systems do not necessarily behave erratically and in a totally unpredictable manner, precisely because it is possible to reduce openness, interpretation and reflexivity of the agents that make up the system. Moreover, I have tried to indicate that this is what we are doing all the time in education, first and foremost because education is not just everything – it’s not just a being

together – but it's the very least a being together framed by particular purposes and to the benefit of students.

My formal point here, is that education systems can become more predictable in their behaviour when we begin to reduce its degree of freedom – the reduction of openness, the reduction of interpretation, and the reduction of reflexive agency – and that much of the work we do to organise education and to make it happen is precisely about this. In this way, then, we can see what it takes to make education 'work.' One thing that is important with regard to this, is that this account of how education might 'work' does not rely on untenable assumptions about alleged causal relationships between 'inputs' and 'outcomes,' but gives a precise account of how more predictable and 'stable' relationships between the work of teachers and the work of students might be achieved.

The other thing that is important about the account I am presenting, is that it allows us to see that when we go too far in our attempts at reducing the degrees of freedom of the education system, we will reach a 'tipping point' where we can no longer legitimately refer to what is happening as education, but have turned education into *indoctrination*. After all, if we totally cut off the school from any environmental influences – that is, lock up students for 24 hours a day, 7 days a week, all year round – and if we only allow for one way to interpret what they are encountering there – that is, complete eradicate any opportunities for sense making – and if we also reduce the opportunities for reflexive agency to zero, we have created an indoctrination machine that may work perfectly, but has nothing to do with education.

The bottom line, then, is that we can make education work, and that, by being precise about the characteristics of the dynamics of education rather than approaching it with untenable assumptions about alleged causality, we can see much better what the 'drivers' for making education work are, but that any attempt to do so always comes at a price, including the possibility that education ceases to be education. I also wish to highlight that this way of understanding how education 'works' and can be made to 'work,' that is, become more predictable in its operation, has important implications for much more meaningful research than the search for 'strong' correlations between 'inputs' and 'outcomes.' And this brings me to the final point I wish to make in this chapter, which has to do with the need for 'artistry' in teaching.

6 Why Teaching Needs Artistry

One of the main messages that is emerging from the exploration of teaching I have offered so far, is that teaching cannot and should not be enacted as a form of control or, to be more precise, as a kind of intervention that, under 'ideal' circumstances and based upon the best 'evidence' about what 'works,' should be aimed at producing pre-specified learning outcomes. This is not to suggest that everything should be

open, which is the mistake of those who denounce teaching in favour of learning. But it is to challenge the view that education is ultimately a causal system (an ontological claim) and that, once we have perfect knowledge about the mechanics of the system (an epistemological claim), teaching can become a matter of administering those interventions that produce the desired outcomes (a praxeological claim). I have shown that social systems such as education do not operate in a causal manner, but that this doesn't mean that the behaviour of such systems is entirely unpredictable and erratic. I have also shown that teaching should not be understood as the production of outcomes, because the whole point of teaching is to educate human being so that they become more qualified, that is, become more about to think and act, gain an orientation in the world and, through this, take upon themselves the challenge of being subjects of their own lives, rather than objects of forces outside of them.

6.1 *An Epistemological Point*

The question this raises, and this is the final step I wish to take in my exploration of teaching, is what teachers need in order to navigate this complex domain called 'education.' This brings me back to a rather old discussion which centres around the question whether teaching should be understood as a science or as an art. William James, in his *Talks to Teachers* (1899), had a very clear opinion about this, which he expressed in the following way.

Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application, by using its originality.

The most such sciences can do is to help us to catch ourselves up and check ourselves, if we start to reason or to behave wrongly; and to criticize ourselves more articulately after we have made mistakes.

To know psychology, therefore, is absolutely no guarantee that we shall be good teachers. To advance to that result, we must have an additional endowment altogether, a happy tact and ingenuity to tell us what definite things to say and do when the pupil is before us. That ingenuity in meeting and pursuing the pupil, that tact for the concrete situation, though they are the alpha and omega of the teacher's art, are things to which psychology cannot help us in the least. (James, 1899, pp. 14–15)

The point James makes here could be characterised as an *epistemological* point, as he indicates the gap between the general knowledge the science of psychology can generate, and the specific knowledge teachers need in each concrete situation. Looking at it in this way, we could say that the knowledge science can generate about teaching is never sufficient. Or, looking at it from the other side, such knowledge can never tell teachers what they should do, but can at most inform their judgements. Whereas this line of thought leaves open the possibility that a science of

teaching might be possible – and in a sense only makes the point that scientific knowledge and practical knowledge are of a different category – the question about the difference between ‘science’ and ‘art’ goes deeper than that, and the thinker who, in my view, still provides the most helpful way to understand what the issues are, is Aristotle. For Aristotle the difference between ‘science’ and ‘art’ is not a matter of different kinds of knowledge, but is first and foremost a matter of different kinds of reality and of what it means to act in relation to these different kinds of reality.

6.2 *The Praxeology of Education*

With regard to this issue, Aristotle makes a very helpful and important distinction between what he refers to as the theoretical life (the ‘*bios theoretikos*’) and the practical life (the ‘*bios praktikos*’). The theoretical life is concerned with “the necessary and the eternal” (Aristotle, 1980, p. 140), that is, with those aspects of reality that do not change, such as the movement of the planets or the stars in the sky. He refers to knowledge about this reality as ‘*episteme*,’ which is often translated as ‘science’ (although the translation can be a bit misleading in light of modern connotations of the word). ‘*Episteme*’ is knowledge about what is necessary and eternal and given that the reality that this knowledge is about doesn’t change, the knowledge we have about this reality, once it is accurate, will not change either. From this we have an idea of true knowledge as 100% stable, secure and certain.

Aristotle’s main insight, however, is that most of what our lives are about doesn’t take place in relation to what is necessary and eternal, but takes place in the domain of the ‘variable’ (for this term see *ibid.*, p. 42), that is the domain of possibility and change. It is the world in and upon which we act and in which our actions have consequences, but where there is no guarantee that our actions will always have the same consequences. It is, in other words, the domain of actions and possible consequences, but not the domain of certainty. Knowledge in this domain is therefore not knowledge about an unchanging reality ‘out there,’ but is knowledge about the relationships between our actions and the possible consequences of our actions.⁹

This is so for our interaction with the material world (technology), with the living world (that is with plants and animals) and in the social domain (our interaction with other human beings). In all cases we may bring much knowledge gained in previous situations to the new situations we encounter, but there is always the question whether the knowledge we gained in the past is applicable to and relevant

⁹Aristotle did assume that part of the universe is eternal and another part subject to change, and thus made a distinction between two kinds of knowledge. John Dewey would later argue that actually all our knowledge is of the second kind, that is, all we know about the relationships between actions and the consequences of our actions (see Biesta & Burbules, 2003). Whereas Aristotle may have argued that the ‘quest for certainty,’ as Dewey called it, makes in the domain of the eternal but not in the domain of the variable, Dewey argued that the quest for certainty doesn’t make sense at all.

for the new situation we are encountering. This means that acting in the domain of the variable is never about following prescriptions and recipes, but always requires ‘happy tact and ingenuity’ (James) and judgement. And it is precisely there that we find the main difference between ‘science’ and ‘art,’ the latter being about our actions in the domain of the variable.

What is interesting about Aristotle’s explorations of our acting in the domain of the variable, is that he makes a distinction between two ‘modes’ of acting and hence between two forms of judgement. The distinction Aristotle makes is between *poiesis*, which Carr (1987) has helpfully translated as ‘making action,’ and *praxis*, which Carr translates as ‘doing action.’ *Poiesis* is about the making of things – such as, for example, a saddle or a ship – although I prefer to think of it slightly more widely, that is, as action that brings something into existence. We might also call it ‘productive action.’ As Aristotle puts it, *poiesis* is about “how something may come into being which is capable of either being or not being” (which means that it is about the variable, not about what is eternal and necessary), and about things “whose origin is in the maker and not in the thing made” (which distinguishes *poiesis* from biological phenomena such as growth and development) (see Aristotle, 1980, p. 141). *Poiesis* is, in short, about the creation of something that did not exist before.

The kind of knowledge we need for *poiesis* is what Aristotle refers to as *techne*, which he defines as “knowledge of how to make things” (ibid, p. 141). *Techne* therefore is about finding the means that will bring about what one seeks to bring about, to put it in general terms. *Techne* encompasses knowledge about the materials we work with – and we can take ‘materials’ in the broad sense of the word¹⁰ – and about the techniques we can apply to work with those materials. Yet making something, such as a saddle, is never simply about following a recipe. It involves making judgements about the application of our previous knowledge and experience to *this* piece of leather, for a saddle to fit *this* particular horse, and for *this* particular person riding the horse. So we make judgements about application, production and effectiveness in our attempts to bring something into existence. The best English word for *techne* is probably craftsmanship although in a slightly narrower translation we can also think of it as consisting of practical knowledge – about how to do things – and practical judgement.

The domain of the variable is, however, not confined to the world of things and matters of making. It is not confined, in other words, to productive action, but also includes the social domain as social domain, that is, the world of human action and human interaction. It is here that a second art is called for: the art of *praxis*. The orientation here is not towards the making of things but towards the promotion of the human good (the Greek term is *eudaimonia*, which is not so much happiness, although it is sometimes translated in that way, but comes closer to the virtuous life,

¹⁰These can be physical materials such as wood, stone, clay, and so on, or living materials such as plants, but also social and human ‘materials’ (even if the word ‘material’ is a bit odd to use here). I am making the case here that teaching entails a large degree of craftsmanship, but will also mention below that students can never be treated as objects, and that precisely at that point the difference between *poiesis* and *praxis* emerges.

the life lived well). *Praxis*, Aristotle writes, is “about what sort of things conduce to the good life in general” (ibid, p. 142). We could say that *praxis* is about good action, but good action is here not to be understood as a means for bringing about something else – that is the domain of *poiesis* which “has an end other than itself” (ibid., p. 143). “Good action,” on the other hand, “itself is its end,” as Aristotle puts it (ibid, p. 143). What we need to proceed here is not judgement about how to do things, but rather judgement “about what is to be done” (ibid.). Aristotle refers to this kind of judgement as *phronesis*, which is usually translated as practical wisdom.¹¹

6.3 Art and Artistry in Teaching

Aristotle thus provides a powerful argument for the idea that teaching is an art and not a science and also provides us with precise definitions of ‘art’ and ‘science.’ The key insight here is that teaching takes place in the domain of the variable, that is, the domain of actions and possible consequences, and the reason for this, to put it bluntly, is that in teaching we work with ‘living material,’ that is, with human beings who are capable of their own thought and action. What is also interesting about Aristotle’s approach, is the distinction he makes between two different arts, that is, between two different ways of proceeding in the domain of the variable. One is the art of making, for which we need *techne*, which is the practical knowledge and the practical judgement about how to do things, and the other is the art of doing, for which we need *phronesis*, which is practical wisdom we need to judge what is to be done, which is the question what education is *for*. In this regard we could say that teaching is a ‘double art,’ which requires both educational craftsmanship – the ‘*techne*’ of teaching – and educational wisdom.

The final point to make here is that the ‘how’ of teaching and the ‘what for’ of teaching should not be seen as disconnected from each other. It is not that in education we can first set the goals and then just find the most effective and efficient way of getting there. The reason for this lies in the simple fact that the ways in which we proceed in education, the ways we teach, the ways we engage with our students, the ways we focus their attention, the ways we encourage them to study, are not just more or less effective interventions that happen behind the backs of our students. On the contrary, they are in full view of our students, and contain important messages for our students as well. This means that in addition to judgements about the purposes of our teaching, judgements about the way we try to balance the different domains of purpose, and judgements about possible trade offs in achieving a balance, we also need to judge the ways in which we teach. And this judgement is not just technical – is it effective or not for what we seek to achieve – and also not just

¹¹ Aristotle gives the following, more precise definition of *phronesis* as a “reasoned and true state of capacity to act with regard to human goods” (ibid, p.143).

moral – are the ways in which we teach morally acceptable – but also need to be educational, that is, to be judged in terms of the ways in which they may or may not contribute to the overall ambitions we have with our teaching. Put simply: punishment may be an effective means to achieve certain ‘outcomes,’ but is morally unacceptable. Using rewards (like paying our students for their efforts) may be effective and morally acceptable, but doesn’t make sense educationally, because it treats students as objects rather than subjects in their own right.

If teaching is an art and, more specifically a ‘double art’ of craft and wisdom, then it is important that teachers keep working on their own educational ‘artistry’ (for the term see Stenhouse, 1988; Eisner, 2002), that is, their ability to make situated judgements about educationally desirable ways of acting in the always new situations they encounter. It is here that the whole question of the ongoing improvement of education finds its ‘home,’ so to speak, because, to quote Lawrence Stenhouse, “improving education is not about improving teaching as a delivery system [because] crucial is the desire of the artist to improve his or her art” (Stenhouse, 1988, p. 50).

7 Concluding Comments

In this chapter I have provided an outline of a theory of teaching. In terms of the overall ambitions of this book, I have argued that a *theory* of teaching needs to start with a *conceptualisation* of teaching, as it is only once we have an account or proposal of what teaching is, that we can begin to ask such questions as what teaching is for our how teaching takes place. With regard to the former question, I have suggested to conceptualise teaching as the art of (re)directing the attention of another human being aimed at what we might term ‘attention formation.’ Answers to the latter questions – such as what teaching is *for* and how teaching *takes place* – constitute (elements of) a theory of teaching.

In this chapter I have suggested that with regard to the question what teaching is *for* we should always consider three domains of purpose (qualification, socialisation and subjectification), whereas with regard to the question how teaching takes place I have suggested a theorisation of teaching that sees education as an open, semiotic and recursive system that operates with the principle of ‘complexity reduction,’ bearing in mind that if the complexity of the education system is reduced too much, education turns into indoctrination and thus loses its educational ‘identity,’ so to speak. It becomes, in other words, a different system.

The theorisation of teaching that I have proposed and presented in this chapter is subject-matter- and student-independent. It applies, in other words, across a wide range of subject-matters, perhaps first and foremost because it doesn’t consider teaching in terms of the transmission and acquisition of particular subject-matter, but in terms of three domains of purpose. The question of what particular subject-matter should be presented to students is secondary to the question what we seek our students to achieve vis-à-vis the three domains. It also applies across different student populations, as it describes the dynamics of teaching. The question how we might direct or

redirect the attention of our students in concrete situations with concrete students is a question that belongs to the domain of the artistry of teachers. This will require different ‘solutions’ depending on the focus and purpose of a particular session, curriculum or course, and depending on who the students are, what their background is, and so on, but it doesn’t alter the general conceptualisation and theorisation of teaching itself.

The chapter thus show that we already have theories of teaching and in the theorisation I have presented I have relied upon theories of teaching that have been developed in the past, going back, to begin with, as far as Plato’s account of teaching. A major concern underlying this chapter is that in the past decades the focus of many educators and educationalists and educational researchers has shifted from teaching to learning. In my work, including the work presented in this chapter, I have tried to redirect the attention of the field back to teaching as a key and, in my view, foundational and essential element of education (see also Prange, 2012). The work on theorising teaching doesn’t stop here, of course, and whether the field of educational theory, research and practice will converge on conceptualisations and theories of teaching or will diverge, remains to be seen. From my own perspective any contribution that helps to restore the balance between the discourse on teaching and the discourse on learning would definitely be welcome.

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