A Comparative Study Between European Didactics and the Anglo-Saxon tradition of Curriculum

Mahendra Dixit

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Edited by
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VIDYA BOOKS

Published by Vidya Books,
305, Ajit Bhawan,
21 Ansari Road,
Daryaganj, Delhi 110002

Edited by Mahendra Dixit
ISBN: 978-93-5431-819-1

Table of Contents

Part 1 **Contemporary educational discussions within a Didaktik/curriculum frame**

Chapter 1 Bringing content back in: Rethinking teaching and teachers **2**

Chapter 2 From Didaktik to learning (sciences) **18**

Chapter 3 Content in American educational discourse: The missing link(s) **42**

Chapter 4 Outline of a taxonomy for general Bildung: Deep learning in the anglophone tradition of curriculum studies and the Didaktik of north-west Europe **60**

Chapter 5 Curriculum development as a complex policy process in Denmark and Germany: Two cases of competence-oriented curricula in social science education **80**

Part 2 **Directions of educational scholarship within the field of didactics**

Chapter 6 Towards laboratories for meta-reflective didactics: On dialogues between general and disciplinary didactics **94**

Chapter 7 Bildung as the central category of education?: Didactics, subject didactics, and general subject didactics in Germany **112**

Chapter 8 'Didactiques' is not (entirely) 'Didaktik': The origin and atmosphere of a recent academic field **139**

Chapter 9 Non-affirmative school didactics and life-world phenomenology: Conceptualising missing links **160**

Part 3 **How to construe the thematics of Didaktik and curriculum**

Chapter 10 The dialogue between Didaktik and curriculum studies within mainland China **180**

Chapter 11 Teacher responsibility over intended, taught, and tested curriculum, and its association with students' science performance in PISA 2015 across Didaktik and curriculum countries **195**

Chapter 12 Education as language and communication (L&C): A blindness in didactics and curriculum theory? **207**

Part I

Contemporary educational discussions within a Didaktik/curriculum frame

Bringing content back in
Rethinking teaching and teachers

Zongyi Deng

Content – knowledge selected into the curriculum – is an indispensable element in talking and thinking about classroom teaching. In common language, the term 'teaching' means the imparting of content or knowledge. In the German Didaktik tradition, teaching is conceptualised by way of the Didaktik triangle – comprised of three general, essential elements: content, teacher, and student. In US curriculum theory, teaching is construed as consisting of four indispensable, and equally important, curriculum commonplaces: subject matter (content), teacher, learner, and milieu (Schwab, 1973).

However, content as a topic of discussion has disappeared from current global policy discourse concerning teaching and teachers. Across the globe, curriculum policy has shifted from a concern with content selection and organisation to a preoccupation with academic standards, learning outcomes, and high-stakes testing (Yates and Collins, 2010; Young, 2009a). Accompanying that shift is a move to depict teaching as focused on promoting students' academic outcomes measured by high-stakes tests, and teachers as accountable for students' learning outcomes, through the employment of evidence-based practices (Hopmann, 2008).

The omission of content is also evident in the current popular discourse on teaching and teachers within the academic education community – promoted by a new 'language of learning' – a discourse also widely adopted by education policymakers in different parts of the world (Biesta, 2005). In that discourse, teaching is construed as facilitation of learning that is constructivist and learner-centred, and the teacher as one who no longer passes on content (knowledge) to learners but one who supports and facilitates the learning process (Biesta, 2005, 2010).

In the academic literature on teaching and teachers, content is also the least-discussed commonplace. Much of the discussion on teachers has centred on teachers' characteristics, self-identity, agency, learning, and professional development. Most discourse on teaching has focused on instructional strategies and models, the student–teacher relationship, the context in which teaching takes place (classroom, school, national, international, or global), the social and political nature of teaching, and instructional policy and reform (see Saha and

Dworkin, 2009; Biddle, Good and Goodson, 1997). When content is discussed, it is often treated as something to be transferred to or constructed by students, apart from a concern for the broader purpose of education (see Deng, 2018b).

This chapter attempts to reintroduce content into the conversation on teaching and teachers through revisiting the recent work of Michael Young and his colleagues concerning 'bringing knowledge back in' (e.g. Young, 2008; Young et al., 2014; Young and Muller, 2015) as well as Bildung-centred Didaktik and Joseph J. Schwab's curriculum thinking.[1] The recent work of Young and his colleagues is examined because their work has important things to say about teaching and teachers in light of the distinctive function of schooling – the transmission of disciplinary knowledge that students cannot acquire at home. Bildung-centred Didaktik is selected because it provides a sophisticated, elaborate theoretical account of content in relation to education, curriculum planning, and classroom teaching.[2] This branch of Didaktik is inextricably connected with the rich tradition of European education and Didaktik thinking associated with Kant, Schleiermacher, Humboldt, Comenius, Herbart, Dilthey, Nohl, Weniger, and Klafki, among many others. It has a profound impact on the Scandinavian tradition of Didaktik thinking and has been "at the centre of most school teaching and teacher education in Continental Europe" (Hopmann, 2007, p. 109).

Schwab's curriculum thinking is selected because Schwab is one of the very few US theorists who has provided a well-informed, complex theorical account of the role of knowledge and content in relation to education and curriculum. And his thinking concerning knowledge and content is rooted in and developed out of the rich tradition of curriculum thinking – notably represented by John Dewey (1859–1952), Joseph Schwab (1909–1988), and Ralph Tyler (1902–1984), among others – within the University of Chicago, arguably the birthplace of American curriculum studies. The examination of these three schools of thought, as will be seen, yields an educational, curricular understanding of teaching and teachers that goes far beyond what current policy and academic discourses can capture.

Bringing knowledge back in

Over the last ten years, Michael Young and his colleagues have embarked on a project of 'bringing knowledge back in' to the recent global discourse on curriculum policy and practice (e.g. Young, 2008; Young et al., 2014; Young and Muller, 2015). Informed by social realism and based on the works of Émile Durkheim and Basil Bernstein, they develop a social-realist theory of knowledge that differentiates between academic, disciplinary, and everyday knowledge, and, further, between different types of disciplinary knowledge. While reflecting human interests or standpoints, disciplinary knowledge has its own properties, trustfulness, and explanatory power (see Young, 2008). Created by specialist communities of scholars, it is *powerful knowledge* because it provides the best understanding of the natural and social worlds. The acquisition of this knowledge facilitates the

imagining of alternatives, and enables people to move beyond their particular experience (Young and Muller, 2013). As such, disciplinary knowledge is worthy of being taught in its own right and to its own end.

With this theory of knowledge as an essential point of departure, Young and his colleagues argue that the central purpose of schooling is to help students gain access to disciplinary knowledge that they cannot acquire at home (Young, 2009b). Furthermore, access to this knowledge is an entitlement of *all* students – and (thus) a social justice issue. After all, this purpose is essential if we are to enable the next generations to create new knowledge based on existing knowledge. As will be argued in the last section of this chapter, it imbues the task of teaching and the responsibility of a teacher with intergenerational significance. In this connection, curriculum planning is a process of recontextualising an academic discipline into a school subject – which entails selecting, sequencing, and pacing academic knowledge in view of the coherence of the discipline and the constraints created by the developmental stages of students. The differentiation of different forms of disciplinary knowledge and clarification of their inherent structures provide a necessary basis for curriculum planning that is geared to the effective transmission of disciplinary knowledge (Young, 2013).

Accordingly, teaching is viewed as a process of passing on a body of disciplinary knowledge that students cannot acquire at home. The central task of a teacher is to promote epistemic access to disciplinary knowledge and to take students beyond their existing experience or what they already know (Young et al., 2014). To do this, the teacher needs to interpret the national curriculum to identify *what* knowledge is powerful for students at different ages, in light of the central purpose of schooling – the *why* of teaching – with a view to creating educational encounters in the classroom through addressing the *how* of teaching (means and methods). As such, teachers need to have a theory of the curriculum – a theory of the knowledge students must acquire at various grade levels – in addition to disciplinary knowledge and general pedagogical knowledge (Young et al., 2014).

In short, by way of a social-realist theory of knowledge, Young and his colleagues have contributed to bringing knowledge back into the conversation on teaching and teachers. However, there are two issues. With an exclusive focus on the internal properties and explanatory power of knowledge, they take knowledge as being an end in itself, rather than as a means to some larger purpose of education. They seem to be concerned with, borrowing from David Hamilton, the immediate, present question of "what should they [students] know?", rather than the future-oriented question of "what should they [students] become?" (Hamilton, 1999, p. 136). Another issue, related to the first, concerns the focus of their discourse – *knowledge* rather than *content*. As alluded to earlier, content results from institutional curriculum making – a special selection and organisation of knowledge for the school curriculum – that takes place prior to and independent of classroom teaching (Karmon, 2007;

also see Deng, 2009). Such content constitutes the locus of classroom teaching: it frames a teacher's practice and perspective on teaching (Deng, 2009).

These two issues, overall, have to do with the theoretical underpinnings – *sociological* rather than *curricular* and *educational* – of the work of Young and his colleagues. As I have indicated elsewhere, Young and his associates have ignored two bodies of literature – one on curriculum theory and the other on Didaktik – that examine the role of knowledge and content in education, curriculum making, and classroom teaching from educational and curricular perspectives (Deng, 2015; also see Gericke et al., 2018). As such, they have lost touch with deeper questions about educational purpose, content, and teaching that "have animated pedagogics and didactics" (Hamilton, 1999, p. 136) – and curriculum theory as well.

Bildung-centred Didaktik

Bildung-centred Didaktik provides a theory of teaching and learning pertaining to implementing the state curriculum in the classroom. Central to the theory are the concept of Bildung and a theory of educational content. Standing for the German ideal of (liberal) education, Bildung refers to the formation of the full individual, the cultivation of human powers, sensibility, self-awareness, liberty and freedom, responsibility, and dignity (von Humboldt, 2000; also see Hopmann, 2007). It speaks for "an aesthetic self-understanding with a claim to truth and goodness" (Horlacher, 2012, p. 138). The concept is extended by Klafki (1998) to include the development of self-determination (autonomy), co-determination (participation), and solidarity. Furthermore, Bildung is not limited to any specific group or class in society. Bildung is *Allgemeinbildung*, or Bildung for all, and applies both to general and vocational education (Klafki, 1998).

Bildung is achieved through linking the self to the world (social and natural) in "the most general, most animated and most unrestrained interplay" (von Humboldt, 2000, p. 58). The world, independent from us, is processed by human thought represented by academic disciplines (Lüth, 2000). With the concept of Bildung as a point of departure, German Didaktikers conceive of the role of disciplinary knowledge in relation to education and curriculum. Knowledge is to be "used in the service of intellectual and moral Bildung" (Lüth, 2000, p. 77), rather than something that is to be gained for its own sake. Academic disciplines are an indispensable resource or vehicle for Bildung (Klafki, 2000). There are several forms of disciplinary knowledge – historical, social, linguistic, geographic, physical, chemical, and biological – each of which gives us access to a particular aspect of reality and each of which has potential to cultivate a particular type of human power and disposition (Weniger, 2000).

Furthermore, German Didaktikers establish a theory of educational content (*Theorie der Bildungsinhalte*) that serves to inform curriculum planning and classroom teaching for Bildung. It consists of four related concepts: contents of education (*Bildungsinhalt*), educational substance (*Bildungsgehalt*), the elemental

(*das Elementare*), and the fundamental (*das Fundamentale*). The contents embodied in the state curriculum are characteristically called by curriculum designers 'contents of education' that result from a deliberative process of selection and organisation of the wealth of the academic knowledge, experience, and wisdom for Bildung:

> Curriculum designers assume that these contents, once the children or adolescents have internalized and thus acquired them, will enable the young people to 'produce a certain order' (Litt) in themselves and at the same time in their relation to the world, to 'assume responsibility' (Weniger), and to cope with the requirements of life. The contents of teaching and learning will represent such order, or possibilities for such order, such responsibilities, inevitable requirements and opportunities.
>
> (Klafki, 2000, p. 150)

In other words, such contents are seen as embodying educational potential – in terms of potential impact on or contribution to self-formation and the development of human powers and dispositions. Furthermore, such potential consists in the educational substance of content comprised by the elemental – the concentrated, *reduced* content in the form of penetrating cases, concepts, principles, values, etc. The fundamental refers to the 'primordial' experience that the elemental can bring out or the potential impact on the perspectives, modes of thinking, dispositions, and ways of being-in-the-world of individuals (Krüger, 2008).

Informed by the theory of educational content, the state curriculum framework only lays out school subjects and their contents to be covered in schools, but does not specify the educational substance, meaning, and significance of content – these are to be identified and interpreted by a teacher in a specific classroom situation (Hopmann, 2007). Teachers are entrusted with a high level of professional autonomy to interpret the state curriculum framework. They are viewed as curriculum makers 'working within, but not directed by' the state curriculum framework, informed by the idea of Bildung and the Didaktik way of thinking (Westbury, 2000, p. 26).

With reference to the notion of Bildung and the theory of educational content, German Didaktikers articulate what teaching is and what responsibility a teacher needs to have. Classroom teaching is seen as a 'fruitful encounter' between content and the learner for Bildung (Klafki, 2000) – rather than a mere transmission of academic content. Such an encounter leads to a deeper understanding of the world, modifications in perspectives, and cultivation of human capacities or powers. Students are seen as unique individuals, with their own experiences, motivations, and interests. Therefore, in instructional planning, the teacher is to identify the elemental aspects of content (penetrating cases, basic ideas, concepts, methods) and ascertain the value and significance of content with reference to individual students, 'with a particular human context

in mind, with its attendant past and its anticipated future' (Klafki, 2000, p. 148). Furthermore, he or she is to transform content into forms conceived as meaningful by students themselves.

To support this vision of instructional planning, Klafki formulated a five-step set of questions that assists teachers in exploring educational potential of content and its actualisation:

1 What wider or general sense or reality does this content exemplify and open up to the learner? What basic phenomenon or fundamental principle, what law, criterion, problem, method, technique, or attitude can be grasped by dealing with this content as an 'example'?
2 What significance does the content in question, or the experience, knowledge, ability or skill, to be acquired through this topic, already possess in the minds of the children in my class? What significance should it have from a pedagogical point of view?
3 What constitutes the topic's significance for the children's future?
4 How is the content structured (which has been placed in a specifically pedagogical perspective by questions 1, 2 and 3)?
5 What are the special cases, phenomena, situations, experiments, persons, elements of aesthetic experience, and so forth, in terms of which the structure of the content in question can become interesting, stimulating, approachable, conceivable or vivid for children of the stage of development of this class?

(2000, pp. 151–157)

Questions 1, 2, and 3 concern the substance (i.e. the elemental) and potential of content in terms of what should be taught, what the content signifies, and why it is significant for students. Questions 4 and 5 deal with the means of teaching the content and actualising its educational potential in terms of content structure and pedagogical representations.

Schwab's curriculum thinking

Central to Schwab's curriculum thinking are a vision of a liberal education, a theory of knowledge for the kind of liberal education envisaged, and a theory of content that serves to inform curriculum planning and classroom teaching towards that vision. For Schwab, the central purpose of liberal education, which is akin to Bildung, is the development of an empowered, autonomous, and active individual. Such an individual possesses an understanding of culture and the world and a set of powers and dispositions that allows him or her to face the challenges and problems in the society of his times. The powers and dispositions of an educated person, further articulated by Schwab, include a 'capacity for "syntactical communication", a disposition to 'quest, beyond mere survival,

for a state called "happiness"', an ability to 'deliberate wisely about technologies based on science' and 'to choose thoughtfully among several technological methods' (Levine, 2006, p. 119). The powers also include 'abilities and insights to face the new problems of our times and to use the new instrumentalities with wisdom and freedom' (McKeon, 1953, p. 113) and 'critical and organising power and deliberative command over choice and action' (Schwab, 1978, p. 125), among others. The cultivation of such intellectual, social, and civic powers and dispositions is achieved through the interaction of individual students with various forms of knowledge embodied in contemporary academic disciplines.

The primary concern of Schwab, like the one of German Didaktikers, is with the contribution of academic disciplines to human formation and the cultivation of human powers and dispositions – rather than the epistemological properties, structures, and explanatory powers of disciplinary knowledge per se (see Fenstermacher, 1980). Accordingly, Schwab articulated a theory of knowledge that conceives of the essence of academic disciplines in ways that are productive in cultivating those human powers and dispositions. Following McKeon, he differentiated three types of academic disciplines – natural sciences, social sciences, and humanities – each of which has potential for the cultivation of a particular type of human power and disposition. The significance of each discipline type is determined by a distinct set of *arts* or *methods of inquiry* rather than contents or subject matters per se. As Levine explained:

> [T]he place of the natural sciences in general education was determined by the arts required to analyse problems, validate knowledge, and communicate statements about natures and things. The place of social sciences in general education was determined by the arts required to deal with problems concerning associations set up by humans to achieve common values. The place of the humanities in general education was determined by the arts required to analyse the great achievements and products of human creativity when considered with respect to their formal structure.
>
> (2006, p. 99)

In this connection, Schwab argues that the contribution of an academic discipline to the cultivation of human powers lies in the methods or arts of inquiry embedded in the discipline. An academic discipline consists of not only statements/conclusions but also arts or methods employed in disciplinary inquiry, an understanding of which enables the development of liberating human powers that are applicable to wide-ranging situations and practices:

> The 'intellectual' arts and skills with which the liberal education curriculum is concerned are not then intellectual as to subject matter, and thus exclusive of other subject matters, but intellectual as to quality. They are the

> arts and skills which confer cogency upon situations and actions whether these be scientific, social, or humanistic, general and abstract or particular and concrete. The liberal arts, however formulated, are to be understood as the best statement of our present knowledge of the human make, of various means – some special in their application to specific subject matters, some general – by which the understanding frees us from submission to impressions, beliefs, and impulses, to give us critical and organizing power and deliberative command over choice and action. A liberal curriculum is one concerned that its students develop such powers.
>
> (Schwab, 1978, p. 125)

Consistent with this theory of knowledge, Schwab formulated a theory of content that serves to inform curriculum planning and classroom teaching. This theory consists of a particular notion of content and a set of categories that could serve to reveal the educational potential of content for the cultivation of human powers. Identified from the fund of academic knowledge, contents take the form of scholarly materials (histories, scientific reports, literary works, etc.) that reflect the 'revisionary' character of knowledge (concerning how knowledge was developed) rather than just 'rhetoric of conclusion' (knowledge as a final product) (Schwab, 1962). The set of categories, called three *faces*, are explained as follows:

1. The first face is the *purport* (educational meaning and significance) conveyed by the material, referring to, for instance, an account of a political event by a historical segment (an extract from a historical source), a way of classifying physical phenomena by a scientific report, a moral dilemma or an image of person by a literary work. Having students encounter the purport as such can open up opportunities for widening their horizons, transforming their perspectives, and cultivating their moral sensitivity.
2. The second face is the *originating discipline* from which scholarly material derives, referring to a coherent way of inquiry – a problem identified, an investigation executed, the data or argument sought, and a conclusion reached. Having students understand and experience the problem, method, principle and conclusion of a disciplinary inquiry can give rise to the development of independent critical thinking, an ability to judge the validity and reliability of knowledge claims, and an understanding of the merits and limitations of a particular mode of inquiry
3. The third face refers to *access disciplines* that can be brought to bear on scholarly material to disclose its full complication and sophistication. When a piece of material is scrutinised by asking different types of questions, using different perspectives and different methods of inquiry, it can render diverse opportunities for cultivating critical thinking, freedom of thought, self-understanding and prudent thought and action.

(Deng, 2018a, pp. 342–343; also see Schwab, 1973)

Informed by this theory of content, curriculum planning entails a deliberative and interpretive process of selecting the contents from academic disciplines with a view to their educational potentials, within a particular instructional context, with a particular group of learners in mind. The process entails a discovery of the educational potential of scholarly material under consideration, by means of the three faces – purport, originating discipline, and access disciplines. The final decision on inclusion of a particular piece of scholarly content into the curriculum is made with reference to its educational potential and in view of the four curriculum commonplaces – subject matter, milieus, learner, and teacher (Schwab, 1973).

What teaching is and what responsibility teachers need to have, take on special meaning in regard to the vision of a liberal education, the theory of knowledge, and the theory of content. As with Didaktik, classroom teaching is seen as an encounter between students and content to achieve the kind of education envisioned. A student is seen as a unique individual, with eros – 'the energy of wanting' – an instrument that the teacher needs to make use of (Schwab, 1978). In instructional planning, the teacher is to recover the meaning in scholarly material through 'arts of recovery' – in terms of the meaning conveyed (the purport), a particular way of inquiry involved (the originating discipline), and multiple ways of inquiry brought forth (access disciplines) that could be brought to bear on the material (Schwab, 1969). By means of these three categories, a scholarly material or text is made to open up manifold opportunities for challenging the understandings of students and cultivating their intellectual and moral powers and dispositions.

Theorising content, teaching and teachers: comparison and contrast

Despite being developed in different social, historical, and cultural milieus, Bildung-centred Didaktik and Schwab's curriculum thinking have significant resemblances with respect to theorising teaching and teachers. As a point of departure, both employ a vision of education – centring on the cultivation of human powers and dispositions – for thinking about the role of knowledge in education and curriculum. Both treat disciplinary knowledge not in and of itself but as a resource/vehicle for that cultivation. Both view content, which results from a deliberate selection of academic knowledge, as embodying educational potential. Both see classroom teaching as an educational encounter or meeting between students and content and stress the necessity of unlocking the educational potential of content for cultivating human powers and dispositions.

There are, of course, differences between Bildung-centred Didaktik and Schwab's curriculum thinking. The former views the cultivation of human powers and dispositions as resulting from interactions with not only academic knowledge but also society and culture, whereas the latter conceives of it as primarily resulting from interactions with disciplinary knowledge. The former

views academic disciplines as established bodies of knowledge, whereas the latter sees them in terms of not only achievements but, more importantly, arts or methods of inquiry.

Differences aside, both Bildung-centred Didaktik and Schwab's curriculum thinking are markedly different from the thinking of Young and his colleagues. In the latter, a sociological theory of knowledge – rather than a vision of education – is employed as a point of departure for thinking about the purpose of education, curriculum planning, and classroom teaching. Disciplinary knowledge is viewed as having its own powers, worthy of being taught for its own sake or to its own end. Classroom teaching is seen as a process of transmitting disciplinary knowledge to students.

Behind these similarities and differences are two rather different types of educational theorising that are associated with two distinctive traditions of educational thinking. Both Bildung-centred Didaktik and Schwab's curriculum thinking exemplify a way of theorising in the European *Pädagogik* tradition which is distinctively *educational*, *normative*, and *hermeneutic*. (For an explanation on the convergence in educational theorising between Schwab and Didaktikers, see Künzli, 2013; Reid, 1980.) This way of theorising is educational because it is centrally concerned with questions pertaining to human formation and development. It is normative because the theorising is informed by a conception of what education ought to be. Furthermore, both Bildung-centred Didaktik and Schwab's curriculum thinking have a strong hermeneutic and interpretive inclination, a proclivity towards interpreting and unpacking the meaning and significance of content by means of a set of categories. After all, the European tradition seeks to establish *Pädagogik* as a distinctive human science with "its own terminology, its own points of departure, its own methods of investigation and verification" (Krüger, 2008, p. 216).

By contrast, the way of theorising used by Young and his colleagues reflects the anglophone *disciplines of education* tradition – in which perspectives or theories used to think about education are derived from or developed based upon theories of foundational disciplines (psychology, sociology, philosophy, and history) (Furlong and Whitty, 2017). Such perspectives or theories are then used to establish theoretical principles concerning curriculum planning and classroom teaching. The tradition has a strong dependency on foundational disciplines for its language, theoretical perspectives, and methods.

Conclusion: towards an educational and curricular understanding of teaching and teachers

This chapter concerns the disappearance of content in current global policy and academic discourses concerning teaching and teachers. These two discourses, as noted at the beginning, have been respectively shaped by the accountability movement – that reduces teaching to the promotion of students' academic

outcomes through evidence-based practices – and a language of learning that reduces teaching to the facilitation of learning. Invoking the recent work of Michael Young and his colleagues, Bildung-centred Didaktik, and Schwab's curriculum thinking, I attempt to bring content back into the conversation on teaching and teachers. In view of the preceding discussion, I now present three arguments that seek to move beyond current policy and academic discourses and towards an educational and curricular understanding of teaching and teachers.

The first argument is that *teaching (content) is an 'intergenerational' task vital for social reproduction and innovation*. Teaching is a deliberative and purposeful educational undertaking.

Teaching, in the words of Biesta, 'is always framed by a *telos* – that is, by a sense of purpose – which means that teachers always need to make judgements about what is desirable in relation to the different purposes that frame their practice' (2013, p. 36). As noted earlier, according to Young and his colleagues, the central purpose of schools is the transmission of a body of disciplinary knowledge that allows students to move beyond their particular experience, envisage alternatives, and participate in social and political debates. This purpose is also vital for enabling the next generations to create new knowledge based on existing knowledge. Therefore, through passing on disciplinary knowledge to students, a teacher contributes to processes of social reproduction and change – i.e. 'reproducing human societies' and 'providing the conditions which enable them to innovate and change' (Young, 2009b, p. 10).

This distinct purpose of schooling calls for, on the part of teachers, making deliberate, well-informed decisions on what 'powerful' knowledge or content is that we want all students to have access to. This requirement is inextricably connected with the ethical responsibility of a teacher aptly captured by the intergenerational question – 'what does the older generation want with the younger?' – raised by German philosopher Friedrich Schleiermacher (1768–1834). Concerning this question, Uljens and Ylimaki observed that

> Teaching . . . is about dealing with how to live out our responsibility to support the student's stepwise development toward an independent cultural being and citizen able to participate in common tasks of the society, culture, politics and economy [labour market].
>
> (2017, p. 28)

Furthermore, Friesen argued that the ethical responsibility of teachers with regard to Schleiermacher's question takes on greater significance in the current world:

> [W]e must prepare them to inherit the world we have helped to create. This is a world characterized by rapid change, radical uncertainty and sometimes

> rapid competition, but it is also one that can be secured by ties of family, love, identity and belonging. It is also a world where adults and previous generations have made irreversible decisions regarding the lives of children and future generations. In this sense too, we adults want – or have in effect demanded – something from them.
>
> (2017, p. 7)

In view of this, thinking of teachers and teaching in terms of learning or via the learning discourse 'simply darkens or conceals the question of adult responsibility' and distracts and detracts from Schleiermacher's urgent question of 'why the older generation is doing what it is doing' (p. 8).

The second argument, closely related to the first one, is that *teaching, by way of a meaningful encounter between content and students, contributes to their self-formation and the development of human powers*. Teaching is an educational intervention that aims to bring about something new, something impactful for students. The intervention, for Young and his colleagues, is achieved through passing on a body of disciplinary content that can take students beyond their immediate, surrounding experience – a distinctive purpose of schooling. From the perspective of German Didaktik and Schwab's curriculum thinking, this purpose is inextricably connected with another more fundamental purpose (i.e. Bildung or liberal education). The intervention is in terms of a student-content encounter that gives rise to opportunities for students to cultivate intellectual, moral, and social powers and dispositions. Through making such an encounter possible, the teacher "opens up a world for the student, thus opening the student for the world" (Hopmann, 2007, p. 115).

To argue for teaching as an educational intervention is to counter the pervasive, popular learning discourse that reduces teaching to the facilitation of learning and a teacher to a facilitator of learning. A teacher must be positioned as someone at the heart of the educational process rather than as someone "who literally stands at the sideline in order to facilitate the learning of his or her 'learners'" (Biesta, 2013, p. 38).

The third (last) argument is that *teaching is a practical, interpretive act that calls for curriculum thinking centring on the 'what' (content) and 'why' (purpose) of teaching*. Teaching is a *practical* endeavour because a teacher works with specific content, specific students, and specific materials in a specific classroom context (Schwab, 2013). It is also an *interpretive* act because it involves content (in the form of curriculum texts) which is to be interpreted and acted upon by a teacher towards educational ends. For Young and his colleagues, a teacher necessarily identifies what powerful knowledge is through interpreting the national curriculum, so as to help students to gain epistemic access to disciplinary knowledge. From the perspective of Didaktik and Schwab's thinking, a teacher necessarily interprets the content in the institutional curriculum, identifying its elemental elements and ascertaining the educational potential of content for developing human

powers and dispositions. In both cases, the interpretation calls for a special kind of curriculum thinking centring on the 'what' and 'why' of teaching – that is, on the content and purpose questions. In this regard, a teacher can be seen as a 'curriculum theorist'. Doyle explains:

> Teaching is, at its core, an interpretive process grounded in conceptions of what one is teaching and what value that content has for students and society. And the choices that teachers make with respect to their content have enormous consequences for the lives of students and the health of the society. To teach effectively, teachers much be responsible curriculum theorists.
>
> (Doyle, 1992, p. 77)

In other words, a teacher has an ethical responsibility to reflect on the what and why of education – for which the learning discourse is empty (Biesta, 2013).

These three arguments, overall, outline a curricular and educational contour of meaning of teaching and being a teacher which is far beyond what current policy and academic discourses can capture due to the omission or neglect of content. My attempt to bring content back into the conversation on teaching and teachers, I hope, makes it clear that teaching is an ethical and intellectual undertaking vital for social reproduction and innovation, human development, and flourishing – for which content is an indefensible resource. And a teacher, being (as they are) at the heart of such an undertaking, is a curriculum maker (or theorist) who must grapple with the intellectual and moral questions of what content should be taught, why it should be taught, and how it should be taught within a particular classroom context.

Notes

1 A slightly different version of this chapter, titled "Rethinking Teaching and Teachers: Bringing Content Back into Conversation", was published in *London Review of Education*, 16(3), 2018. The author is grateful to UCL IOE Press for granting permission to reuse the material in this book.
2 There are many models or branches of Didaktik in Germany and German speaking countries, such as Bildung-centred Didaktik (*Bildungstheoretische Didaktik*), Berliner Didaktik, and Psychological Didaktik, experimental Didaktik, Dialectical Didaktik, etc.

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2

From Didaktik to learning (sciences)

Tobias Werler

Learning: a new core narrative for teacher education?

Until recently, Didaktik was the major narrative in and for the curricula of teacher education in Scandinavia. This was the narrative that shaped the curricular content of the subject *Pedagogikk* or pedagogy in teacher education programmes (Kansanen, 1995; Westbury, 2000). As a knowledge domain,[1] the Didaktik narrative highlighted the central pillars of teacher education curricula in Scandinavia (Skagen, 2006; Werler et al., 2009; Werler, 2014). Didaktik was considered to be the language of *Pedagogikk*, a linkage that links teaching with learning (Werler and Sæverot, 2017). According to this narrative, knowledge of Didaktik enables teachers to act in a way that creates meaningful pedagogic situations for their pupils. The argument went further and held that narratives of Didaktik "restrain teachers", in Hopmann's phrase, towards the idea of Bildung (Hopmann, 2007). The assumption was that as student teachers acquire knowledge of Didaktik, this will support and guide their decision-making processes towards pupils' meaning-making in schools.

One of the consequences of the strong focus of Didaktik on teacher autonomy has been that teacher education programmes following this narrative across Scandinavia are based largely on principle, rather than pragmatism as is the case in the curriculum tradition (Reid, 1997). It has been critically pointed out that Didaktik's traditionally philosophical rather than empirical focus (Künzli, 2000) has contributed to the distancing of teaching practices from the school curriculum. Questions have been raised about the persistence of this concept, whether it should survive as the core of central (and northern) European teacher education (Pantić and Wubbels, 2012). The study on which this chapter is based shows, among other things, that a shift has taken place in Scandinavian teacher education towards the curriculum tradition. It is not to be expected, however, that change in these core narratives will be rapid and comprehensive. Examples from eastern Europe show that new narratives may have some features in common with old ones (Anchan, Fullan and Polyzoi, 2003). Furthermore, it is not unlikely that the fuzzier and more blurred a new narrative is, the more long-lasting the old narrative may be.

The subject of this chapter is the changes and subsequent modifications made to the reformed Norwegian curriculum for primary and secondary teacher education since 2010. Its particular interest is the new subject Pedagogy and Pupil Knowledge (PPK) and the changes to teacher education represented by its core narrative. The chapter provides insights into the framework of so-called learning experiences, the framework that forms the basis *Pedagogikk og elevkunnskap* (pedagogical studies), the only non-school subject taken by current student teachers. The chapter therefore examines the hypothesis that the traditional core narrative of Didaktik in Norwegian teaching education has been replaced by a narrative of 'learning sciences'. The main aim of the chapter is to examine the advocacy of the Organisation for Economic Co-operation and Development (OECD), a powerful stakeholder, for the implementation of learning-science content in teacher education. The research behind this chapter is thus a contribution to curriculum research in teacher education, contributing in particular to the opening of the black box of the teacher education curriculum. In particular, the chapter considers the differences between the historical and the desired core narratives of teacher education. Such a procedure identifies consensual and/or competing forces in the process of education reform (Fullan, 1993).

The chapter consists of four sections. Section one investigates the relationship between Didaktik and teacher education; section two discusses epistemological aspects of 'learning sciences'; section three asks whether learning is the answer in teacher education; and section four examines the consequences of enactment of the reform for teachers' professionalism.

Section one: the Scandinavian way of teacher education – Norway as a case

This chapter takes Norway as an example of the Scandinavian tradition of Didaktik-driven teacher education. Norway provides a paradigm case of the substantial and conceptual development of teacher education across all Scandinavian countries. Key to this type of Didaktik-driven teacher education is that it derives its inspiration not from academic disciplines close to the natural sciences, such as psychology, sociology, biology, or economics, but from people's lived lives and what it means to develop as a human being. Such a pedagogy, based on what it is to be human, is linked to the arts and humanities as well as to philosophy.

Scandinavian teacher education programmes have in common that they are rooted in the seminar tradition, applying Herbart's consideration of the paradox of schooling and the pupil's subjectivity (von Oettingen, 2016). Generally, these curricula have in common that they aim to promote the freedom of the individual. The pupil is given the opportunity to free him or herself from his or her roots in society through teaching. Hence, teacher training aims to qualify the individual for a universally free and responsible life. Student

teachers should therefore learn to teach what cannot be learned in any other place in society.

Because of their shared basis, Scandinavian teacher education programmes share a similar value structure: one that is Bildung led, teacher oriented, and content focused. This conceptual triad is intended to safeguard the autonomy and responsibility of professional teachers. Today, by contrast, Scandinavian teacher education is primarily characterised by integration of school-subject knowledge with the teaching perspective. This means that the emphasis is on the curriculum of the school and on instruction in school subjects rather than academic knowledge. But key to these same programmes is enabling future teachers to make autonomously meaningful decisions in insecure and ill-defined situations – decisions that are intended to create just and fair educational situations for all pupils.

These shared general principles underlie the centrality of Didaktik in Scandinavian teacher education. The central aim is that teachers should contribute to social equality. As part of this, teachers must be put in a position to practise *interaction* between teachers and pupils. For this reason, Scandinavian teacher education is conspicuous in being based on teaching from first to fourth grade, and from fifth to tenth (or ninth) grade, rather than on school subjects as such. It is therefore characteristic of the Scandinavian teacher education tradition that teachers are generalists.

Although it has been argued that teacher education varies structurally between the Scandinavian countries (Werler et al., 2009), this may be an insider's view. Seen from outside, the core structure consists of studies in the school subjects, pedagogical studies, and school practice. Pedagogical studies comprise 60 *European Credit Transfer System* and last between four (in Denmark) and five years (in Sweden and Norway), thus making up the largest share of the curriculum. Further, the Scandinavian countries also have in common that teacher education is centrally governed by framework curricula.

Another indicator of a shared core of teacher education in the region is the recent reform policy. Standardisation, modularisation, demands for stronger specialisation, and an increased focus on ready-to-teach competence characterise all the national Scandinavian policy responses (Elstad, 2020; Trippestad, Swennen and Werler, 2017a).

Having discussed the common and central characteristic of Scandinavian teacher education programmes, the following section presents challenges linked to recent teacher education reform movements, as well as discussing the research problem and illustrating the research approach taken.

Reforms in Scandinavian teacher education

Curriculum reforms are the rule rather than the exception in Scandinavian teacher education (see Table 2.1). Such reforms reflect the shifting tides of stakeholder expectations for the functionality and modes of operation of teacher

Table 2.1 Reform phases and reform objectives of teacher education in Scandinavia

Reform wave	*1*	*2*				*3*
	I	II	III	IV	V	VI
Denmark	1966	1991	1997	2001	2006	2012
Norway	1973	1994	1999	2003	2010	2017
Sweden	1965	1978	1988	2001	2011	
Reform objective	Stabilising teacher education structure	Pedagogy and Didaktik as core of the programmes		Structural modification and adoption according to the Bologna Process		Learning (sciences)

education. The current wave of teacher education reform (Trippestad, Swennen and Werler, 2017b) in Scandinavia has however been driven by the critique that the teaching force is inadequately trained and prepared. The perceived proof was disappointing national PISA (*Programme for International Student Assessment*) results. The inference, as presented by government policymakers, was that these measurement results were due to the poor professional qualification of teachers and institutional underperformance by national teacher education programmes.

This rhetorical construct resulted in several national programmes to evaluate teacher education, which documented severe shortcomings (in Denmark, in 2003 (EVA, 2003); in Sweden, in 2004 (HSV, 2005); and in Norway, in 2005/06 (NOKUT, 2006a, b)). In summary, the reports argued that candidates lacked a clear knowledge base. Furthermore, they did not have pedagogical competencies capable of satisfying the needs of schools. It was also demonstrated that teacher education programmes lack coherence, apply inadequate concepts of knowledge, and are not anchored in current research. The rhetoric of political reform used in these documents stressed, across all three countries, that all efforts to improve student performance will fail unless the quality of the future teaching force is improved. Here the reports took up ideas on the correlation (note, not causation!) between teacher quality and student performance (Darling-Hammond and Youngs, 2002).

The evaluation projects had been preceded by the OECD study, *Teachers Matter: Attracting, Developing and Retaining Effective Teachers* (2002–04; OECD, 2005) on the effectiveness of teacher education. Scandinavian country reports had been published as early as 2003 (in Denmark, Jacobsen and Thorslund (2003); in Norway, the Work Research Institute (AFI, 2003); and in Sweden, the National Advisory Committee (2003)). A common feature of the studies was that they all reported concerns about qualitative shortfalls. Teachers were described as not having the 'right' knowledge to meet schools' needs.

A follow-up OECD recommendation report (OECD, 2005) suggested that the quality of teacher education in terms of pedagogic as well as professional

knowledge must be improved. In order to improve pedagogical knowledge, it was pointed out that evidence-based knowledge should be applied.

The teacher education reforms came in waves. The first two waves of reform were on the national level and were concerned with creating teacher professionalism. The first of these responded to the need for mass education related to the reproduction of the nation state; internal coherence and effectiveness were then the major target areas for the second wave. Then, in a third wave of reform, against the background of the PISA policy discourse and the evaluation results just mentioned, the governments of Norway, Sweden, and Denmark initiated substantial measures to change both the structure and the curricular content of teacher education programmes. This third wave was completed in two steps (see Table 2.1). As a first step, teacher education structure was adapted to international trends. Several key elements – including admission requirements, the structure of training, the length and level of education, and quality standards – were modified in all the Scandinavian countries. Structurally, the reforms pushed teacher education from the seminar tradition towards "universitification" (Werler, 2014, p. 116). They also forced through the commodification of teacher education (Werler, 2016) and of a curriculum based on taxonomic learning-outcome descriptions (Werler, 2017b). The new teacher education structure presents teacher education as something technical, accountable, and measurable.

In the second step (VI) of this third wave, the reform focus moved on to curriculum aspects. The central concern of these reforms was to replace identity patterns that were now regarded as obsolete with new patterns of action through gradual universitification and scientification. Two reforms were implemented to bring the curriculum closer to the ideal of scientific research and training. A primary take was the implementation of various research-based teacher education approaches (Munthe and Rogne, 2015; Werler et al., 2012; Alvunger and Wahlström, 2018; Werler et al., 2009). With reference to the importance of teachers' knowledge about upbringing and about teaching and learning, the core domain of teacher education – *Pedagogikk* (educational/pedagogical studies, pedagogy) – was now transformed in a government white paper into something new: *Pedagogikk og elevkunnskap* (Pedagogy and Pupil Knowledge) (Ministry of Education, 2009, p. 20).

The research problem: a new core narrative for teacher education?

In order to achieve the scientification and modification of education studies, the OECD established the narrative that the "pre-scientific discipline" of pedagogy (OECD, 2002, p. 10) should be removed from teacher education. It was suggested that such knowledge and practice should be replaced by curricular content from the so-called learning sciences (pp. 22, 26, 88, 90). The OECD pronounced that it values the learning sciences as a powerful tool "to shed new

light on questions about human learning" (p. 27). It argued that "brain science" (p. 25) suggests ways in which "the practice of teaching can better help young and adult learners" (p. 27). Further, the learning sciences are judged to be necessary requirements for "effective learning" (p. 27). A recent study (Trippestad, Swennen and Werler, 2017b) has documented the strong influence of the OECD on recent teacher education reform efforts. Until recently, the "pre-scientific discipline" of Didaktik had formed the backbone of teacher education programmes.

Against this background, this chapter explores the current space and place of Didaktik compared to 'learning sciences' in Norwegian teacher education. Although the study is limited to teacher education for primary and lower secondary school, it also investigates changes in the professional knowledge domain of teachers in order to understand how teachers might be enabled to develop "public good professionalism" (Walker and McLean, 2013).

After narrowing its research focus down to the narratives on which education programmes are based, the chapter operationalises this focus through three research questions:

1 In order to develop an understanding on the basis of which to conduct a comparison between narratives, it is essential to outline the Didaktik narrative of the first two phases of teacher education. The first research question – What characterises the Didaktik narrative and what was its purpose in earlier teacher education programmes? – can therefore be answered by a brief narrative analysis of Didaktik related to teacher education. This answer is provided in section two.
2 The second research question is: How does the OECD (2002/07) explain and frame its conceptualisation of the learning sciences? This part of the research investigates the OECD's conceptualisation of the 'learning sciences'. Once again, narrative analysis will help to reveal this. In order to gauge how far the OECD concept may deviate from the scientific discourse on the issue at hand, international handbooks on the learning sciences (Sawyer, 2006; Fischer et al., 2018) are consulted. Readers will find the answer in section three.
3 A comparison of the distilled narratives of Didaktik and 'learning science' with the core narrative of the current teacher education curriculum will answer the third research question: What narrative elements of the OECD approach can be found in the third wave of teacher education curriculums in Norway? Answering this question will help to explain how far the OECD conceptualisation of the learning sciences has actually impacted on the current curriculum for teacher education. A response to this question is provided in section four.

The research questions are addressed by the application of curriculum analysis, a method not yet widely used in teacher education research. To answer

the research questions, the concept of a narrative curriculum analysis is developed, based on considerations of commonplaces as common denominators of practice (Schwab, 1977; Werler, 2006). Here the central idea is to follow the development of one of the commonplaces of teacher education: the subject matter as text (Schwab, 1977). The corresponding approach is outlined in the following section.

Narratives and the teacher education curriculum

In his book *After Virtue*, MacIntyre (2007) argues that human beings are essentially storytelling animals. Humankind is *homo narrans* (Fischer, 1984). Narrating or telling stories helps humans to organise themselves. If these arguments are taken seriously, it means that stories – narratives – organise people's knowledge and memory. But it goes further than this: applying narratives helps people to understand the actions of others (MacIntyre, 2007, p. 212). Since human life – and thus by definition teacher education – builds upon narration as a communication paradigm, research has to answer the prior question: of what narratives are teacher education a part? This ontological reflection on the human being constitutes the starting point for the approach I have chosen for the investigation.

Because it refers to *past* curriculum making, the research behind this chapter is informed by a narrative historiographic approach (White, 1980; Bruner, 1991). Following Hayden White (1980), reporting on the very nature of reality is narrative, because of the nature of culture – and so education is narrative. Any narrative translates human beings' knowing into telling (Bruner, 1986): this is how information is transmitted between persons (Bruner, 1991).

A text narrative is a hermeneutic compositum in which the text may mean different things to different persons. Hence, there is no definite measure to extract its truth (White, 1980), so there is no empirical method for extracting reality or truth (Bruner, 1991). While narratives are generic and normative (Bruner, 1991), they organise a person's experiences and represent the memory of human actions. That means that narratives are human constructs, mixing facts and human interest (Shiller, 2017). In other words, narratives provide models of identity and agency to their members (Bruner, 1986). Shiller (2017) reports on controlled experiments documenting people's strong and positive response to narratives. The approach used here, however, works without any reference to narrators (White, 1980, p. 7). Thus, the research is dealing with the qualities of a text rather than its agents. In proceeding this way, the narrative account helps to reveal the political and social order of curriculum making (Hegel, 1986).

A teacher education curriculum is a core narrative offering society a legitimate plan for the preparation, training, and knowledge domains (to be learned) of student teachers. Such a plan is a logical and coherent system of interrelated and sequential arguments that build upon a core of knowledge domains accepted by stakeholders as powerful or important. Such knowledge is characterised by

those stakeholders as justified true belief. That does not mean, however, that that core of knowledge is true: rather, that it is accepted as true and potent.

Such curriculum narratives are indeed potent, because it is through them that teacher-educators interpret their surrounding world. By creating and organising these stories, teacher-educators go on to build a sense of coherence among student teachers and establish trajectories for future action that will allow them to aspire to become capable of teaching other people's children (MacIntyre, 2007). As argued by Fisher (1984), a narrative in the teacher education curriculum offers symbolic actions (words) that create a certain sequence and meaning for teacher-educators. Taking a narrative perspective in research is therefore linked to decisions already taken regarding the content of teacher education curricula. The importance of studying curriculum narratives lies in the fact that their practical implementation determines the professional development of future teachers against the background of local curriculum development activities (Conle, 2000).

In identifying the core of the 'knowledge' narrative, we learn what stakeholders define as the major task of teacher education. The analysis of narratives reveals the focus of teacher education stakeholders on social problems and how they are to be addressed and solved, as well as the knowledge they regard as important for solving the problems linked to teaching other people's children. The elaboration of narratives is enormously meaningful because they are such important social and political forces, capable of changing reality.

The empirical material consists of classic texts as outlined in the Didaktik and/or curriculum dialogue, the curriculum guidelines for teacher education in Norway (KUD, 2009), the OECD documents on the use of learning sciences, and the handbooks on learning sciences.

As Saarinen (2008) has pointed out, it cannot be taken as given that the policy documents analysed (the teacher education curricula) describe something that really exists in teacher education practice. But these documents are not mere rhetoric, detached from real-life activities in teacher education.

The following section explores the Didaktik narrative and its purpose in previous teacher education programmes.

Section two: Didaktik and teacher education

Against the background of these arguments, the chapter reads Didaktik as a narrative. The Germanic term 'Didaktik' is derived from the Greek verb *didaskein*, meaning to teach and by extension to learn (Heursen, 1997; Knecht-von Martial, 1985). In general, the term was first used in the Didascalia treatise, the first Church Order and a rhetorically composed didactic poem presenting the teaching of the 12 apostles (Lagarde, 1854/1967; Blankertz, 1975, p. 14). In education, the most suitable interpretation of the meaning of this word is the art of teaching. The educational history of Didaktik stresses that it is related to philosophical thinking, theorising, and the construction of theoretical models

for education. In all these cases, Didaktik theorising is used to answer the question of how to think, in such a way as to create both content and teaching activities that will form the educated personality. Thus, Didaktik is a normative statement system of how to construe teaching/learning processes according to various world views, concepts of humanity, or other guiding principles.

Based on Herbart's teaching work, *General Methods of Instruction Derived from the purpose of Education* (Herbart, 1806), the Didaktik narrative was developed primarily as the core discipline of teacher education (Seel, 1999). In this context, numerous theories and methods about ways of teaching and learning were developed. As instruments of teacher education, Didaktik narratives were conceptualised as concepts of Bildung. Hopmann illustrates this point and argues that "Bildung cannot be achieved by Didaktik. The only thing Didaktik can do is restrain teaching in a way opening up for individual growth of the student" (Hopmann, 2007, p. 115). In short, Bildung will be the outcome of the pupil's teacher-led confrontation, treatment, and transformation of the difference between subject matter (*Inhalt*) and the pupil's experience of its individual meaning (*Gehalt*).

Typical Didaktik narratives address the context of at least three subject areas of teacher education. At the content level, they make statements about what culturally and socially important content should be taught by teacher-educators and learned by student teachers. Further to this, they come up with statements about what pedagogic methods should be used in classroom teaching. This applies both to teachers as they unfold the content and to the pupils' ways of learning. Unlike theories that are justified by the argument of 'effectiveness', narratives of Didaktik demonstrate a normative and ethical reflection on reasoning. Such models are visualised in the well-known 'didactical triangle' model (Paschen, 1979; Prange, 1983), which links the subject to be taught and learned, the learner, and the teachers.

Place and space of Didaktik narratives

For the last 180 years, teacher education – both in institutions and in programmes – has served as the place and space of autonomous Didaktik development. The advancement of Didaktik narratives was concentrated in central and northern Europe (Seel, 1999; Gundem and Hopmann, 1998). However, teacher education also served as a teaching and learning arena for Didaktik theories. This outcome was achieved on the one hand through teacher education curricula, on the other through textbooks.

Several major narratives framed that development throughout the formation and development of the nation and welfare state. In telling the 'story of great men' such as Montaigne, Comenius, Fénélon, Rousseau, Pestalozzi, Fröbel, Dewey, or Makarenko – to mention only a few – early teacher education intended to support the transformative identity work of future teachers. A proper preparation for teaching was seen as dependent on the future teacher's

introduction to the heritage of the past in order to form their mindset and educational perspective. After the Second World War, the teaching of critical pedagogical approaches was intended to strengthen the future teacher's professional autonomy. Towards the end of the twentieth century, subject-matter didactics became the backbone of those programmes through their provision of narratives of Didaktik.

It can be argued that such stories about Didaktik (or about the 'great men' of Didaktik) were in fact the semantic content of teacher education; as such, Didaktik becomes the *subject matter* of teacher education. However, it is not the 'great men' stories that matter. What matters is the presentation of the 'great men's' educational philosophy in its context in such a way as to help future teachers understand the traditions they should become part of. The teacher's Didaktik thinking should be formed by the student teacher's encounter with subject matters such as general pedagogy, educational philosophy, and ethics. Further, learning about Didaktik in teacher education was regarded as having the potential to help future teachers to cope with uncertainty. Having the opportunity to learn about pedagogic knowledge in teacher education was thought to enable student teachers to make responsible and smart decisions in a situation that is often unforeseeable and characterised by dilemmas (Englund, 2000; Werler, 2017b).

The Didaktik narrative in teacher education

The fundamental aspiration of Didaktik narrative is to transform the ill-defined problem of the relationship between teaching and learning into better-defined models capable of describing how teaching can generate learning of defined subject matter or skills. The narrative offers a specific language for education, one that does not originate in other academic disciplines such as sociology or psychology (Werler and Sæverot, 2017). Such Didaktik narratives establish ideas about how and why the teaching of collective cultural content (matter) should be connected with the creation of individual significance (meaning) (Hopmann, 2007). It is crucial for the experience of individual significance that the learner experiences some of this content as existential (Sæverot, 2013). In other words, the narrative supplies future teachers with a well-founded metaplan that answers the question as to how to impart a society's culture to learners. Such plans bring together fundamental ideas about cultural knowledge and about the teaching and learning of that knowledge. In short, Didaktik narratives are characterised by their aspiration to reduce both cultural and social complexity and contingency. However, even the most advanced narratives of Didaktik are not capable of developing teaching technology that guarantees learners will learn something specific, such as particular knowledge or a skill (Werler, 2015, 2017a). In contrast to evidence-based teaching methods, the use of Didaktik narratives generates flexible and viable thought patterns for the construction of teaching.

In teacher education, Didaktik emerges as narrative when it is demonstrated in the prescribed course reading that teachers are capable of reflecting on what should happen in the classroom (planning and organisation), what is happening in the classroom (leadership, discipline, enabling a learning environment, relationships), and what has happened in class (assessment, evaluation, analysis). In the context of teacher education, Didaktik narratives in teacher education address teaching and learning at a general level, taking into account participants, conditions, processes, and effects. In the given context, Didaktik is described as an encounter between the pupil, the teacher, and the teaching material (KUD, 2009, p. 16).

In the Norwegian case, examples of these narratives can be found in the three modules of Pedagogy and Pupil Knowledge (PPK). These are available as a 'learning outcome' description, and they address important aspects of Didaktik such as the representation of the subject matter and the interplay between all actors and the pupils' learning experiences (Künzli, 2000). Because no one can learn in chaos and randomness, teachers must create a pedagogical order and structure in the classroom. Such a disciplinary structure concerns both the choice of material and the discipline of the pupils. Therefore, the PPK description includes the requirement that teachers must know about "classroom management" and about "leadership of learning, development of a good learning environment and an inclusive learning culture" (KUD, 2009, p. 17). To be able to offer teaching as an opportunity for learning, teachers must know about "leadership of teaching work" and be able to "plan, lead, vary and evaluate their work" (p. 18). Further, the curriculum also addresses issues related to teaching and learning methods in which pupils are the hub of all actions. Student teachers are expected to be able to create "mutual pupil relationships, pupil cooperation" and to use "various teaching aids" (p. 18).

In particular, Didaktik narratives in teacher education address the overarching goals of schooling as well as the complexity of good teaching. With this in mind, one may characterise various Didaktik narratives as the professional language of teachers. Those narratives set out general frameworks for teachers' development of lessons; they provide knowledge about teachers' work in social and political contexts; and they offer knowledge about teaching, assessment, and judgement. Through constructive and prescriptive capacity (that is, through model generating), the teaching of Didaktik narratives is understood to contribute to student teachers' development into autonomous, self-developing, and professional actors.

It must be stressed in concluding this section that Didaktik is not congruent or identical on both epistemological and ontological levels with the narrative of general pedagogic knowledge (GPK) developed by Shulman (1987). Such a category error was indeed prominently asserted in the TEDS-M model (Blömeke and Delaney, 2014) and replicated in several other contexts (Voss, Kunter and Baumert, 2011). However, Didaktik narratives can best be seen as

bodies of reflective knowledge, which means that they are therefore beyond empirical testing of knowledge by means of psychometrics.

Section three: the learning sciences: a well-defined narrative?

The groundbreaking work done in the late twentieth century in teacher education on Didaktik was based on an epistemology that named the philosophical foundations of education – educational psychology, school theory, general didactics, and curriculum theory – as the basis for the profession. More specifically, it became a requirement for teacher education to be set within a "pedagogical framework" (NOU, 1988, p. 42). Didaktik in teacher education was thus recognised as the leading framework of teacher education, binding the entire programme together. A decade later, the Norwegian parliament demanded the strengthening of educational foundational thinking as well as the philosophy of education (NOU, 1996, p. 144). Corresponding implementation work was guided by the teacher education curriculum of 1999 (KUD, 1999).

However, the trigger for the third wave of reform was the narrative that teachers are inadequately qualified (NOKUT, 2006a, 2006b). The initiatives behind the 2009 white paper were motivated by the argument advanced in 2002 in the OECD's *Understanding the Brain: Toward a New Learning Science* "that pedagogy should be replaced by neuroscience or learning science since these were perceived to be more effective for teachers' work" (Summak, Summak and Summak, 2010; Hardiman et al., 2012; Tokuhama-Espinosa, 2008) – although there is no evidence for that claim (Werler, 2017b).

In order to contextualise the outlined epistemological change in the curriculum, the chapter now continues with a review of contemporary understandings of 'learning science', based on Sawyer (2006, online-update 2012) and Fischer et al. (2018). These two handbooks represent a contemporary repository of state-of-the-art knowledge about the learning sciences.

A content comparison between the two volumes makes it clear that there is no agreement at all on the contents, theories, or methods of the learning sciences. The synopsis of the contents of the two volumes (Table 2.2) shows that the authors essentially do not deviate from established ideas on learning; on the contrary, these are presented in a classical way, albeit with modernised vocabulary. It is noticeable that both volumes include a considerable number of chapters devoted to technological questions. By contrast, there is only one chapter on neuroscience (Varma et al., 2018), and none on pedagogical or content-related aspects of learning. These findings are in line with the comprehensive analysis carried out by Nathan and Alibali (2010). Both volumes address the topics listed in Table 2.2 (in alphabetical order).

In principle, they see learning sciences not as an academic discipline but rather as an interdisciplinary field (Sawyer, 2006; Fischer et al., 2018), producing knowledge of different aspects of human beings' learning. Based on a

Table 2.2 Disciplines and subdisciplines of learning sciences

Psychology	*Biology*	*Education*	*Technology*
Behavioural neuroscience	Cognitive neuroscience	Curriculum studies	eLearning
Psychological science	Cognitive psychology	Open and distance education	Technology in education
Educational psychology		Research methods in education	

comparative analysis, both volumes can be identified as a multi-method, multi-perspective inquiry into understanding and fostering thinking and learning in school and beyond. In order to allow for a direct comparison between the conceptualisation of the sciences of learning in the scientific field and the OECD's understanding of the field, their view is presented later, along with a brief discussion of how the OECD explains and frames its understanding of the learning sciences.

In parallel with phasing-in the PISA surveys (OECD, 2001), in the early 2000s the OECD (2002) began to recommend changes in member countries' curricula for teacher education. The implementation of a new subject was recommended, which should include "elements of cognitive neuroscience: the nature of the brain, how the brain learns" (2002, p. 22). Furthermore, the new subject was to be based on neuroscientific, psychological/medical, and educational diagnostic content (p. 88, 90). The lobbying organisation (i.e. OECD) required nothing less than that future teacher education should be based on a "solid theory of learning" (2002, p. 26). Beyond that, it was argued that both "brain science" and ICT (p. 25) would suggest how "the practice of teaching can better help young and adult learners" (p. 27).

It is noteworthy that the OECD was presenting learning sciences as a homogeneous and established discipline as early as 2002. The suggested subject narrative appears to be transdisciplinary (p. 81) and has the brain as its fulcrum. At the same time, the OECD narrative of the learning sciences links "effective learning" (p. 17) with pupils' achievement of "health, wealth and happiness" (p. 17). This rhetorical juxtaposition allowed the narrative to move ideas of teaching (Didaktik) off centre stage and replace them with ideas of learning (the brain). According to the OECD, all learning must be understood through the prism of neuroscience. Therefore, learning-sciences content is defined as a crucial prerequisite for any reformed teacher education curriculum.

A comparison between the two positions makes it clear that the OECD had created a random, yet easy-to-understand, narrative about learning sciences that did not correspond to an established understanding of the field of learning sciences. The analysis reveals that the OECD adopted an instrumental view of neurobiological knowledge, rather than basing its position on an evidence-based

interpretation of the field. In several respects, the OECD was establishing its own narrative about learning, as distinct from the academic discourse of the learning sciences. Founded in a neurobiological point of view, this narrative defined learning as the solution to the technology deficit of *Pedagogikk*.

Such an understanding of the learning sciences has significant consequences for non-specialists. Given its apparent authority and recognition, it can be assumed that the OECD's learning-sciences narrative will be adopted and implemented by educational and other policymakers. This means that other ways of understanding learning will be treated as invalid. An educational view of teaching and learning is therefore off the agenda. That educational planning is a prerequisite for learning (of a given content) has gone unnoticed.

Is learning the answer in teacher education?

This chapter is based on the assumption that policy documents have an impact on the curriculum as a text for teacher education and that they are an educating and 'governing' force in professionalisation processes. The curriculum as text is a preliminary stage to the enacted curriculum. This section therefore explores the hypothesis that the focus on Didaktik in Norwegian teacher education was modified in accordance with the OECD's interpretation of the learning sciences. This section therefore reveals those curricular aspects of the OECD narrative that can be identified in the new curriculum of Pedagogy and Pupil Knowledge.

To underline that transformation, a brief comparative analysis of key curriculum documents (KUD, 2009, 2016a, 2016b) will be undertaken regarding the frequency of learning-outcome descriptions that use the terms 'learning' and 'teaching'. Here 'learning' is understood as an indicator for knowledge and competence related to psychology, whereas 'teaching' is understood as an indicator for Didaktik. It is important to bear in mind that these teacher education curricula are legally binding documents which define student teachers' expected learning outcomes. The frequency distribution of learning outcomes will therefore indicate whether teacher education is likely to operationalise either the learning or the Didaktik narrative.

Frequency analysis reveals that the term 'learning' (as verb, noun, or composite) is used 25 times in the 2010 regulation, and 20 times in 2017. The term 'teaching' is used three times in 2010 but is not used in 2017. A similar picture emerges from the guidelines for Pedagogy and Pupil Knowledge. In the 2010 documents, the concept of learning is used 49 times and the term 'teaching' three times (KUD, 2009, pp. 16–22). Seven years later, 'learning' is used 33 times and 'teaching' six times (UHR, 2016, pp. 18–22). The proportional comparison underlines the central position of the concept of learning in the curricula. In 2010, the term 'learning' constitutes 3.7 per cent of the guideline text and 3.1 per cent of the regulation text. In 2017, these figures have increased to 4.6 per cent and 3.8 per cent respectively.

The analysis reveals that the concept 'learning' (in various forms and shapes) is a dominant term in the curriculum documents. This finding emerges with especial clarity from a comparison with the use of the term 'teaching' (*undervisning*), a typical indicator for the Didaktik aspects in a curriculum. As teaching is the main activity in a classroom, despite all other tasks, this finding is quite surprising. The analysis emphasises that the curriculum semantics are characterised by the concept of learning.

To widen our understanding of this transformation, a curriculum analysis is carried out in the following section, applying the narrative historiographic approach.

New content: new curriculum?!

This section endeavours to answer the question of what narrative elements of the OECD's 'learning sciences' approach are to be found in the Norwegian teacher education curriculum (KUD, 2009). The 2010 curriculum was significant in that it introduced a paradigmatic change in the subject of Pedagogikk, while the modified plan of 2016 was less significant in this regard (hence its omission here).

Based on a governmental regulation in conjunction with detailed curriculum guidelines (KUD, 2009), the standards-based reform was rolled out between 2010 and 2014. In accordance with the idea that "pre-scientific discipline" pedagogy (OECD, 2002, p. 10) should be replaced by content from the so-called learning sciences (KUD, 2009, pp. 22, 26, 88, 90), the new subject of Pedagogy and Pupil Knowledge was introduced, replacing the traditional teacher education subject of *Pedagogikk* (pedagogy).

The subject of PPK was divided into three modules (totalling 15 credit points). These focus on:

- (Year 1) the teacher as facilitator of pupils' *learning* and development
- (Year 2) pupils' academic, social, and personal *learning* and development
- (Year 3) the development of teachers' professional role and identity

The first topic emphasises that teachers must be able to plan, implement, and evaluate their own teaching. Most interestingly, the narrative of the teacher who teaches has disappeared from the curriculum. The concern is no longer teaching content but how pupils can be made to learn. The teacher is seen merely as an enabler of pupils' learning. The respective learning outcomes are anchored by the following themes:

> planning of *learning* activities, *learning* theory, classroom management, *learning* environment, professional ethics, legislation, beginner training, basic skills, assessment, digital tools and observational knowledge.
>
> (KUD, 2009, pp. 17–18)

Throughout the second year, the focus is on pupils' learning. Pupils are to understand the significance of their fellow pupils' social, cultural, and linguistic heterogeneity. Substantial themes in this topic are:

> socialization in different social, linguistic, religious, cultural and media contexts, adopted teaching, cultural, linguistic and gender-related heterogeneity, the child as school beginner, children's language and concept development, gender identity, children in difficult life situations as well as *learning* strategies and meta-cognitive understanding.
>
> (KUD, 2009, pp. 18–19)

In their third year (the last year in which education is the subject matter), student teachers are to learn about the foundations of schooling, school development, and professional ethics. Pupils are expected to learn to:

> analyse interactions in classes, stimulate student democracy, carry out development talks, create aesthetic experiences, use local context for pupil *learning*, understand teacher roles.
>
> (KUD, 2009, pp. 19–20)

An overview of the PPK curriculum reveals a clear and striking focus on training student teachers to understand teaching as indistinguishable from learning. Furthermore, student teachers are to learn skills that will help their pupils achieve learning outcomes. To this end, they are to learn psychologically based concepts of learning. Pedagogy in this setting is reduced to 'educational diagnosis', the task of which is to identify learning disabilities or learning obstacles.

The findings document that the Ministry of Education sees the primary objective of the PPK subject as to enable student teachers to diagnose and interpret their pupils' learning needs. The learning-outcome descriptors of the curriculum suggest that Norwegian teacher education institutions must accept the idea that teachers are to be 'equipped' with learning-science knowledge (KUD, 2009, p. 17).

The success of this strategy is documented by a recent teacher education curriculum analysis. It shows that the course syllabus in about 80 per cent of Norwegian teacher education programmes (that is, in 38 programmes) contains learning-outcome descriptions regarding learning-science knowledge, competences, and generic skills (Werler et al., 2012). Almost all institutions have implemented learning outcomes regarding the planning of learning activities; the theory of learning; classroom management; the learning environment; socialisation in various social, linguistic, religious, cultural, and media contexts; in adopted teaching; and in cultural, linguistic, and gender-related heterogeneity. About 50 per cent of these institutions have introduced topics such as planning of learning activities, professional ethics, and evaluation and assessment.

Section four: the new learning narrative

This final section discusses empirical findings that acknowledge the fact that any (hi)story of change must always consider a comparison between previous and current sates. The discussion therefore begins by focusing on the achievements of the narratives in teacher education.

Didaktik narratives in teacher education function as holistic, and therefore powerful, stories about how to hand down cultural assets from one generation to the next. Didaktik appeals to both the imagination and the visualisation of the student teacher. This gives the narratives a power to go beyond what facts alone can convey. Both imagination and visualisation create a rich and imaginative experience, showing a coherent and meaningful solution to typical problems of teaching and learning. Even if Didaktik competence can be seen as similar intuition-like, it supports the profession's specific capability to make important classroom-relevant decisions (Kroksmark, 1997; Kahneman and Frederick, 2005; Myers, 2002). It helps teachers in sense-making, in understanding situations related to their teaching. Didaktik competence allows teachers to teach in the complex and changing world of schools and classrooms, a world that is determined by uncertainty and contingency. Beyond this, teacher education based on the Didaktik tradition prepares student teachers to adjust the corresponding scope of teaching in an intuitively meaningful way if a classroom situation is experienced as broken, or if a teaching sequence no longer works. Didaktik competence supports teachers in improvising reflectively and intelligently (Werler, 2015).

As shown, the Didaktik narrative is able to address the ill-defined problem of education at the level of content. Didaktik narrative enacted in teacher education supports the transformation of the ill-defined problem into a better-defined model of the relationship between teaching and pupil learning. Such a model explains how teaching generates learning of a particular content in a way that pupils will experience as meaningful to them. It reveals the principles of meaning-producing actions, and it triggers pupil learning and growth. In short, teachers' Didaktik knowledge helps them bridge the gap between pupil learning and the world from which that learning is separated.

The argument of the OECD in advocating change in the school curriculum so as to focus on increased teacher efficiency was that education knowledge was "pre-scientific" (OECD, 2002, p. 10). This argument denied education its scientific standard. It was argued that the knowledge base in education does not stem from an autonomous discipline and has no specific theoretical foundation (p. 10). This criticism alone might lead us to expect that the OECD's learning narrative will be clearly reflected in the curriculum.

The preceding analysis demonstrates that a strong narrative about 'learning' is constructed in the curriculum of teacher education. In particular, it indicates that it is doubtful how far the OECD narrative actually applied to teacher education in Norway at the beginning of the third and last reform wave. It is also

doubtful whether the OECD has succeeded in establishing a 'solid theory of learning' in the teacher education curriculum. The OECD reading does not seem to have been fully accepted by Norwegian teacher education stakeholders.

The Didaktik narrative – judged by the OECD as an art, not a science (OECD, 2002) – still holds a strong position in the Norwegian curriculum. This is already evident in the cautious renaming of the subject *Pedagogikk* as Pedagogy and Pupil Knowledge. The fact that knowledge about pupils (Pupil Knowledge) has been added as a supplement to *Pedagogikk* indicates that Didaktik is recognised as a scientific language about pedagogy and pedagogical actions.

Even though the OECD's proposal to institutionalise neuroscientific, psychological/medical, and educational diagnostic content has not been realised, it cannot be denied that Norwegian teacher training is now partly following a new paradigm in which shared content has been supplemented or exchanged. The blurred understanding of Didaktik may in fact have favoured its survival. At the present time, the linchpin of Pedagogy and Pupil Knowledge is a new learning narrative that approaches learning from multiple perspectives. It is unclear, however, how knowledge about learning is ultimately operationalised in the practical work of teacher-educators. The extent to which Pedagogy and Pupil Knowledge is capable of providing a new conceptual frame – a new knowledge architecture – for teacher education requires examination. The following section discusses some consequences, both intended and unintended, of the recent reform wave.

Achievements and challenges: the new learning narrative in teacher education curriculum

As the analysis reveals, these two conceptualisations of the curriculum for pedagogical studies in teacher education are markedly different. Today, the PPK curriculum stands out as a hybrid construct, amalgamating Didaktik with knowledge about learning. Given that the curriculum's new narrative represents various stakeholders' interests in teacher education, it should safeguard it as well as seemingly replacing it. It seems reasonable to assume that this double-bind situation is holding the new subject back (and equivalent subjects in Denmark and Sweden) from developing as a nave of teacher education.

Another consequence has been the fragmentation of the knowledge domains in the PPK curriculum. This raises the question whether general pedagogical theories and theoretical knowledge and learning topics can be sufficiently covered in teacher education. Furthermore, in PPK, student teachers encounter the different languages of Didaktik and the learning sciences. This makes the development of a developed professional language supporting student teachers transformation in public good professionals unlikely.

The OECD's proposal on learning sciences has weakened the position of Didaktik in teacher education curricula. Although the objective of anchoring its learning-sciences narrative has not fully succeeded, its advocacy by the

OECD triggered the creation of a learning narrative in Norwegian teacher education curriculum. Various learning-outcome descriptions about the process, the function, and the value of learning have now become part of the PPK curriculum. This narrative tells a different story about how learning happens and how it should be supported.

Compared to the Didaktik narrative, the new learning narrative has not proved capable of achieving a powerful or holistic language capable of describing how to choose and unfold content for the younger generation. The learning narrative is also over-strained when it attempts to explain how pupils are to experience meaningful learning. In short, the learning narrative does not support student teachers in transforming disciplinary knowledge into something that is teachable and relevant to pupils.

The problem with the learning narrative is that it presents learning as a technical, controllable capacity. Learning in teacher education practice can therefore be presented as a technical problem. Since the problem is presented in a scientific context, student teachers might be expected to be offered corresponding solutions to the problem. But the conflation of object and method into one is not sound epistemological practice, because it leads to the misconception that if learning is the problem, then learning is the solution. Such an approach does not support teachers' autonomous decision-making as is required in situations of unpredictability.

An obstacle to the learning narrative lies in the fact that it does not help to contextualise pupil learning. Hence, it cannot explain what teaching method is suited to what pupils. Another obstacle to the learning narrative is its focus on the individual's learning. This obscures that learning happens only when teachers teach school classes. The perspective that learning in school is a collective activity is absent.

As for the professionalisation of teachers, learning is presented as the *ultima ratio*. Making pupils learn is described as the aim of teaching (regardless of what is to be learned, how, or why). The learning narrative, as expressed in the PPK curriculum, therefore has the potential to distract from the actual task of teacher education: that is, learning to develop teaching and learning to teach. To assume that learning is something that pupils do may reflect the naive everyday learning experiences of stakeholders in teacher education, but those beliefs do not provide viable concepts for how to teach other people's children.

Outlook

Narratives are powerful stories that help people to coordinate other people's mindsets, knowledge, beliefs, and convictions. Narratives trigger the imagination and have the power to create future realities. In so doing, they create a virtual reality that can both address problems and simulate ideal solutions.

Regarding the new subject of Pedagogy and Pupil Knowledge, it can be stated that its curriculum addresses the political demand for the minimisation

of ontological uncertainty for the teaching profession. But the implementation of the new narrative has placed knowledge domains stemming from brain science or incompletely developed learning sciences in a position where they can impact the core of teacher education.

From the outset, the learning narrative merged several quite antagonistic narratives. It is reasonable to argue that this course was chosen in order to prevent teacher education from running into a dysfunctional situation in which a new narrative was to take over from a narrative disparaged as 'pre-scientific'.

Be that as it may, teacher education in Norway seems to have ended up with a curriculum that is a palimpsest of broken narratives. Despite all the changes, the question of what knowledge of pedagogy future teachers need to have in order to develop and deliver good teaching remains unresolved. It is highly probable that the fact that the reform was conceived by actors outside teacher education who do not recognise national knowledge traditions as valid is a central reason for this.

As a final note: if learning is the answer, what was the problem in the first place?

Note

1 Especially in central and northern European teacher education, Didaktik (as subject matter and research field) has addressed the ill-defined problem of education (Hopmann, 2003; Werler, 2015). For a more elaborate discussion of the differences between Didaktik and Anglo-American research on teaching and learning/curriculum research, see Gundem and Hopmann (1998), Hamilton (1999), Kansanen (1995), Nordkvelle (2003). Krogh, Qvortrup, and Graf (this volume) have elaborated on translation issues and the difference between the English word 'didactic' and German 'Didaktik'. Their argument is followed in the present chapter.

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3

Content in American educational discourse

The missing link(s)

Norm Friesen

Introduction: contemporary discourses on learning, curriculum, and knowledge

In American educational discourses ranging from instructional planning to educational psychology, education, teaching, and pedagogy are all understood predominantly in terms of *learning*. Learning, in turn, is seen as "a process . . . that takes place in the mind" (Ambrose et al., 2010, p. 3), one occurring via "the functions of the human brain" (Eyler, 2018, p. 12). (Note that here and later, I am citing popular summaries of the learning process because they bring into relatively sharp relief points that are often implicit or only partially articulated in more formal scholarship, e.g. Bransford et al., 2006; Sawyer, 2014.) It is regarded as a natural process determined by evolution – one that instructors today "can maximize . . . by employing evidence-based strategies in the classroom" (Eyler, 2018, p. 4). The principles of the mind's or brain's operation are further characterised as "experience-independent" and "cross-culturally relevant". They are seen as applicable to all "educational levels and pedagogical situations" as well as to various cultures and cultural environments. They are further described as "domain-independent", working the same "across all subject areas" – meaning that particular differences in content types and structures are effectively rendered moot (Ambrose et al., 2010, pp. 7–8; see also Eyler, 2018, pp. 5–9). Learning is seen as independent of all of these factors because it is said to be based on a common 'cognitive architecture' of the mind or a common set of biological characteristics of the brain. Learning, by further implication, is configured in a way that is monolithic, of one kind, and unchanging. It is not seen to occur on various levels, as Bateson (1987) has proposed, nor is it viewed as changing historically or biographically with the development of literacy and similar skills (e.g. Olson, 2016). Moreover, the learning of an infant in the crib is regarded as not fundamentally different from that of a graduate student in the science lab, and the learning of both does not differ in essence from the learning of a Neolithic hunter-gatherer (Eyler, 2018, p. 9). This emphasis on learning as a universal human process leaves little room for consideration (outside of historico-political examinations; see e.g. Popkewitz,

1987; Rudolph, 2002; Gustafson, 2009) of particularities of content that might be developed specially for teaching or educational purposes and of the varied pre-existing or potential connections that this content might (or might not) have with teachers and students.

The neglect of questions of content from the more specialised area of American *curriculum theory* and research, on the other hand, is rather different in kind but equal in degree. Early in the twentieth century, conceptions of curriculum content were influenced by both Edward Thorndike's behaviourism and John Dewey's philosophy of experience. Each of these emphasised possible connections between curricular content and life outside of the classroom (Dewey, 1897; Thorndike, 1912; Tyler, 1981) – although neither went into depth regarding what this might mean for the nature of pedagogical content *per se*. Ralph Tyler's famous 1949 rationale for curriculum development can be seen to combine a Deweyan stress on educational experience (Hlebowitsh, 2010, p. 203) together with the then-emerging paradigm of systems theory. As readers likely know, Tyler's rationale

> begins with identifying four fundamental questions which must be answered in developing any curriculum and plan of instruction[:] What educational purposes should the school seek to attain? What educational experiences can be provided that are likely to attain these purposes? How can these educational experiences be effectively organized? How can we determine whether these purposes are being attained?
>
> (Tyler, 1949)

Through its emphasis on educational purposes and their attainment, Tyler's rationale already anticipates systems conceptions of instruction as a closed process or feedback-loop. This is a process that begins with the definition of purposes or objectives, proceeding through questions of effective means or organisation, and ending with the feedback represented by measures of the attainment of these purposes or objectives (see Figure 3.1). Of course, to conceive of curriculum and instruction primarily as a systematic *process* – "as a series of actions or operations conducing to an end" (Merriam-Webster) – means to focus precisely on this purpose or end and on the most efficient way to reach it. This means that curriculum is placed in an instrumentalist or 'technicist' frame, often to the neglect of its stakeholders – including student, teacher, and community – and to the practices and material that can be seen to constitute it. In addition, content in this context is seen neither as being differentiated in its types nor as having a specifically pedagogical form or nature. It serves simply as one of so many 'inputs' into a system to be optimised for the production of outcomes or outputs.

Starting in the 1970s, this technicist reduction of education was critiqued within curriculum studies itself, most prominently by William Pinar (1975), to form a movement known as reconceptualist curriculum studies (e.g. Pinar,

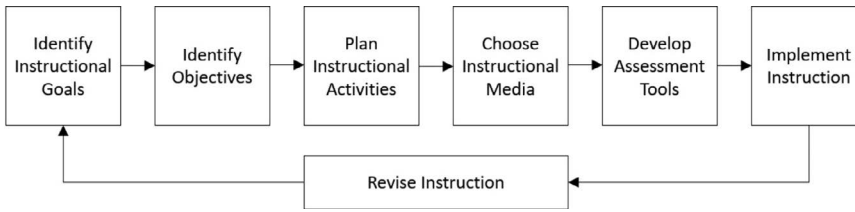

Figure 3.1 The component phases of an instructional system. Represents a conception of the development of instruction reflecting the influence of systems theory.

Source: Adapted from Glaser (1962)

2014). By concentrating on experience as 'lived' (a notion somewhat different from Dewey's 'experience'),[1] the reconceptualists have sought above all to rescue the subjectivity of the individual – of both the student and teacher – from the machinery of curricular efficiency. Unsurprisingly, the role and characteristics of curricular content are overlooked in this critical approach. Such content is dismissed simply as representing so much 'busy work' (e.g. Pinar, 2014) or as yet another part of a larger regime of indoctrination, testing, and control imposed by political interests.

In the face of this broad and consistent avoidance of questions of curricular content in American approaches to instruction – whether in theories of learning or those of curriculum – this chapter develops an account of curricular content as material that is *inherently* pedagogical. It sees such content as having intrinsic and distinctly pedagogical or didactical qualities and as also presenting multiple potential connections with both student and teacher. This chapter does this first by examining a few contemporary exceptions to the rule of the general *avoidance* of this topic – namely, Lee Shulman's concept of "content knowledge" and Michael Young's "powerful knowledge". It argues, however, that both of these approaches pay insufficient attention to students as active recipients of such knowledge and content. After offering Wolfgang Klafki's understanding of didactic preparation as a possible solution to this problem, this chapter concludes by suggesting a general "hermeneutic" theory of knowledge transmission as broadly commensurate with this understanding.[2]

Lee Shulman – as the first exception to the rule of the neglect of content – understands pedagogical content knowledge as "that special amalgam of content and pedagogy that is uniquely the province of teachers, [forming] their own special form of professional understanding" (Shulman, 1986, p. 8). Schulman further characterises this "content knowledge" as including "the most regularly taught topics in one's subject area" – and as centring on "the most powerful analogies, illustrations, examples, explanations, and demonstrations" (p. 8). "In a word", Schulman continues, this type of knowledge consists of "ways of representing and formulating the subject that make it comprehensible to others"

(p. 9). Schulman's original conception has since served as the basis for a relatively small body of research into teacher content knowledge, particularly in the natural sciences and mathematics. As one survey of this research shows, this type of knowledge is thus far rather underconceptualised (Depape, Verschaffel and Kelchtermans, 2013). The question of 'content knowledge', it appears, has been defined largely in terms of a range of empirically accessible particularities of teacher knowledge and practice. Specifically, it has been understood either as 'situated' directly in this practice, or as more 'cognitive' propositional knowledge that can be retrieved by the teacher and then put to pedagogical use. Depape, Verschaffel, and Kelchtermans conclude their research synthesis by asking for greater clarity and specificity in researchers' "conceptualization and operationalization" of pedagogical content knowledge, recommending that they "conscientiously align them with their intended research goals" (p. 23). Although obviously helping to clarify current conceptions of content in relation to teacher knowledge and action, this work cannot truly be said to articulate a 'theory' or 'account' of content that focuses on its relation to pedagogy, to practices of teaching. It also cannot be said to unambiguously identify any potentially pedagogical characteristics of such content. In addition, although it might help clarify teachers' relation to the knowledge they teach – and the way it is embodied in pedagogical content – it does little to shed light on the connection of such knowledge to the student or learner.

A second recent attempt to bring questions of content or more specifically, of content *knowledge*, back to the centre of concern is represented by UK scholar Michael Young. Young's conception of knowledge in education was championed by Michael Gove of the ill-fated David Cameron government (Wilby, 2018), and Young himself has garnered attention internationally. He advocates for a "knowledge-based approach to the curriculum", saying that above all, what "curriculum theory needs" is "a theory of knowledge" (2013, p. 107). He then takes it upon himself to provide the outlines of such a theory. The key question for education for Young is specifically about its content – namely, "*what* do students have an entitlement to learn?" (p. 101; emphasis added). Much of Young's theory of educational content is consistent with this question, and in particular with the word "entitlement": education, he believes, is undergirded by knowledge, above all, by what he calls "powerful knowledge" – "knowledge [that] is worthwhile *in itself*", (2013, p. 117; emphasis added). And it is this that makes exposure to it as a matter of entitlement. Students need to be told, Young says, that they should "never apologize that they need to learn" such intrinsically valuable knowledge (p. 117). Young also explains the general character of this knowledge, saying that it is specialised and disciplinary in nature: it is "*specialized*", Young explains, "in how it is produced (in workshops, seminars and labs) and in how it is transmitted (in schools, colleges and universities) and this specialization is expressed in the boundaries between disciplines and subjects" (Young and Muller, 2015, p. 142; original emphasis). As a result, Young continues, powerful knowledge is "not *general* knowledge"; it is thus to

be "*differentiated* from the experiences that pupils bring to school or older learners bring to college or university" (2013, p. 142; original emphasis).

Young brings his conception of the knowledge that underlies educational content into positive relation to the student by implying that the point of such powerful knowledge is not simply to "replace a pupil's everyday experience". Instead (and despite its differentiation from everyday knowledge), Young says that powerful knowledge builds on and "extends that experience", giving the student the possibility "to generalize about" what he or she experiences every day. At the same time, though, Young sees powerful knowledge as ultimately indifferent to students' interests: "[A]lthough knowledge can be experienced as oppressive and alienating", Young admits, "this is not a property of knowledge itself. An appropriate pedagogy", he continues, "can have the opposite consequences – it can free the learner to have new thoughts and even think the 'not yet thought'" (2013, p. 107). But in the final analysis, what is important for Young, it seems, is not how this knowledge is taught, but rather, "the commitment" of the learner "to a relationship to" powerful knowledge (Young and Muller, 2015, p. 141). The student has the entitlement to acquire knowledge that has been deemed "powerful"; but it is ultimately up to the him or her to realise this entitlement.

Young is right, I believe, in emphasising the need for new and differentiated ways of understanding knowledge in the light of its centrality to curricular questions. This knowledge is indeed to be differentiated from other forms of knowledge, and (as I also argue later), from both everyday knowledge and from strictly specialised, disciplinary knowledge. However, there remain a number of apparent unresolved tensions or contradictions in Young's account. For example, Young asserts at once that powerful knowledge builds on and "extends [students'] experience", but he simultaneously claims that it is also "*differentiated* from the experiences that pupils bring to school" (as quoted earlier). Young further insists that this knowledge requires "an appropriate pedagogy" in order to *not* "be experienced as oppressive and alienating"; but at the same time, he insists that this knowledge is valuable, powerful and worthwhile "in itself" (2013, p. 117). These rather different characteristics of educational content raise questions about the precise nature of its relation to the student as well as the teacher.

Didactics: cultural content and its exemplarity

Both Young's conception of powerful knowledge and Schulman's notion of "pedagogical content knowledge" challenge us to think about how such knowledge is 'situated' – how it is embodied and enacted in the curriculum, in acts of teaching – and in students' relationships to it. Young, in particular, also challenges us to think of this embodied and enacted knowledge not in isolation but as something that has a potency that is realised specifically *in relation*. However, he leaves us uncertain as to the precise nature of these relations. Such relations are at the centre of a rather different approach to curricular forms of

knowledge, action, and situation. These are ones that have developed gradually in Europe over the course of the modern era (often seen as starting with Comenius, 1657), and that, as John Dewey noted over a century ago, were most "highly elaborated . . . in Germany" (1911, p. 327). This approach or tradition lives on to this day, and is known in German as *Didaktik*, in French as *didactique*, in Spanish as *didáctica*, and in Finnish as *didaktiikka* (to give just a few examples). It refers, as Dewey notes, simply to "the science or art of teaching" broadly understood (1911, p. 327). The primary representative of Didaktik in Germany and perhaps in all of Europe from the post-war era to the present is Wolfgang Klafki, whose "*Didaktik* Analysis as the Core of Preparation of Instruction" serves as the key text in the discussion that follows. (A second is Martin Wagenschein's "On the Concept of Exemplarity in Teaching". Both Klafki's and Wagenschein's texts are available in English translation in *Teaching as a Reflective Practice: The German Didaktik Tradition* (2000), edited by Westbury, Hopmann and Riquarts.)

In general, didactics are based on a set of presuppositions that are in many ways diametrically opposed to those underpinning contemporary discourses of both curriculum studies and of 'learning' as a natural process happening in the mind or brain. Klafki's Didaktik can be seen, in effect, as an answer to the questions, "What it is to be human and what it is to educate?" As an aside, although one might think that such broad, philosophical questions are not considered in theories of learning or of curriculum, they actually are given very determinate (albeit tacit) responses in these discourses. If learning is something that happens in the mind or brain, something determined by eons of biological evolution, then to be human – to know what we know and act as we do – is to be a creature largely determined by our biology or our cognitive architecture. It follows that to educate then is indeed to use "evidence-based strategies" in order to leverage this biology and architecture for the sake of more efficient learning. In the case of reconceptualist curriculum studies, on the other hand, to be fully human is to have "reconstructed" both oneself and one's world politically and psychologically – with education then taking the form of a "complicated conversation" among those engaged in such reconstruction (Pinar, 2014, pp. 1–11).

Unlike theories of learning – but similar to reconceptualist understandings – Klafki and the European didactic tradition generally do not take *nature* as their focus. Instead, they begin with *culture*. At the same time, they do not ignore the reality of our natural biological conditions; rather, they see this condition *not* as something to be affirmed and leveraged but as something to be *overcome*. This overcoming, moreover, is not to occur through standard or evidence-based strategies or techniques but through the induction of the human individual into what is *not* natural – human history, society, and culture. Through education, according to this view, people are liberated from their 'natural' habits, passions, and dispositions to eventually become autonomous and responsible, both in their everyday lives and in the exercise of the knowledge and abilities gained through their education. The ultimate goal of

education, then, is not efficient learning but a kind of overall "maturation"; the student's attainment of "the state in which one can assume responsibility" as Klafki puts it (2000, p. 147).

In keeping with its distinctive understandings of both what it is to be human and what it is to educate, the didactic tradition also conceptualises the meaning and development of curriculum and content in ways radically different from those dominant in America today. Instead of emphasising sequences and procedures to attain measured "instructional objectives" – or the critique of such processes and sequences – didactical thinking occurs in *relational* terms. These relations link the three elements just mentioned – teacher, student, and content – to form a triangle, and this triangle, in turn, has come to be known as the 'Didaktik triangle' (Figures 3.2 and 3.3). The didactic triangle links student, teacher, and content in multiple senses and via multilayered affinities, tensions, and their negotiation. Each of the three solid lines or connections delimiting this triangle brings with it a different emphasis: student and teacher are connected through the much-studied student-teacher relationship (e.g. Pianta, 2001), or what is known in the German context as the 'pedagogical relation' (e.g. Friesen, 2017a). Student and content, on the other hand, are linked through learning, study, and work. Teacher and content, finally, are linked both through preparation and instruction. A further, indirect linkage is illustrated in the dotted vertical line and arrow in the middle of the triangle, which indicates the focus of the teacher specifically on affecting the relationship of student to *content* – to *mediate*, in a sense, the *student's relation to it*. In the pedagogical situation, the teacher intends to change the relation of student to content from indifference to personal interest, and from unnecessary uncertainty or confusion to clarity and confidence – without any of these relations and tensions between them being minimised or resolved. In its most elementary form, the didactic triangle can be readily identified in the widest range of pedagogical situations, including in snapshots of everyday pedagogical interactions (Figure 3.3).

In keeping with its emphasis on cultural and social possibilities rather than on biological determinations, didactics sees curriculum and content as above all *human* and *cultural*. This content is seen not so much as exemplifying ideological-charged busywork or as embodying indifferent but ultimately powerful knowledge. It is also not seen primarily as something that needs to be arranged for human cognitive architecture, for easy assimilation by the brain. Curriculum is instead understood as historical and cultural 'human content', which is itself multidimensional and dynamic, and which is handed down and transformed from one generation to another. It is precisely because this material is human and cultural (with natural science being included in the latter) that it possesses qualities which can be said to be intrinsically educational. It has, in other words a "formative power", as Klafki puts it (*eine bildende Kraft* – with Bildung referring to the formation of oneself through the world and in relation to oneself). Quoting Willmann, Klafki further describes this as "an organic power contained

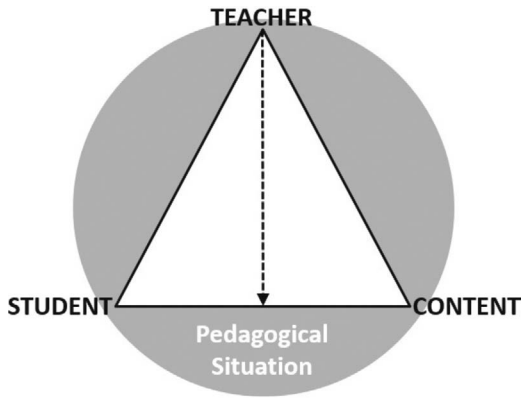

Figure 3.2 The didactic triangle

Source: From Friesen and Osguthorpe (2018)

Figure 3.3 The didactic triangle in a concrete teaching and learning situation, illustrating all of its essential elements and relations. The teacher, by leaning in and literally intervening between the student and the content with her hands, can be seen as mediating the student's relation to this content, or to be relating to the student *via* the content.

Source: Photo courtesy of the US Department of Education

in the content itself, which has a determining influence on the conceptions and thoughts during assimilation by the mind" (as quoted in Klafki, 2000, p. 147). This does not mean that this content is necessarily viewed as fun or easy by the student, but rather that it requires of the student a change – a change in perspective, in ways of thinking, in expressing themselves or relating to themselves.

Quoting Martin Wagenschein, Klafki explains that such content also reflects "the existential concentration in which the human, historical world is given to us in our life context, *from the perspective of the tasks* that arise in our specific and individual situation" (Klafki, 2000, p. 147; emphasis in original). It "is *not*" simply "an externally given matter", Klafki emphasises (p. 147), but, rather, it is the stuff of human culture and human being – not to be confused with 'canonized' culture, reading lists, or scientific discoveries – but substance that mediates, informs, and enriches our everyday life and work.

This dynamism of educational material, for Klafki and for the didactic tradition as a whole, is underpinned by two dimensions intrinsic to any content that can be called 'educational': the first is its Bildungs*inhalt*, simply its educational *content*, its own everyday meaning and function, or as Klafki says, its intrinsic "*inner* meaning" (p. 153). The second its Bildungs*gehalt*, or educational *substance*. Anything taken from culture for the curriculum – whether it is a famous scientific experiment or a short story – represents an object which can be given a specifically educational purpose. A scientific experiment can exemplify the force of gravity, the nature of the scientific method, or the formation of a historical scientific paradigm, just as a short story can exemplify elements of the author's life and times, or aspects of character or narrative. "The same item of content can" as Klafki explains, "exemplify a variety of general subjects". All of these possibilities reflect the educational *substance*, or Bildungs*gehalt*, of that resource (p. 146).

The dynamism of educational material is further underscored by the unifying principle of Klafki's Didaktik. This is Klafki's notion of the *example*, of exemplarity or *Exemplarität*. Whatever the object or content selected for a class or lesson, Klafki emphasises, it is always something in particular, it always "*represent[s] a larger set of cultural contents*" (p. 150; original emphasis). The example connects the particular and the universal. It is also the example that leads the student inductively from what is concrete and specific in the world around them to the general and theoretical. Finally, it is also the "logic" of the example, through which a particular perception or experience can be named and connected to a broader social reality. The red fire truck or stop sign are examples of 'redness' for the young child learning about colours. Indeed, one might go so far as to say that the logic of instruction, the logic of Didaktik, *is* the logic of the *example*. The ideal example, Wagenschein emphasises, is not simply an illustration of a single concept or principle. It is not simply a part of a whole, but instead provides "a mirror of the whole" (2000, p. 165). "The individual [object] is a focal point, admittedly only *one*, but one in which the whole is borne", Wagenschein continues. "In this sense, the individual does not accumulate, but bears and illuminates the whole; it does not lead away from the whole but enlightens it. Through resonance it excites further, related knowledge" (p. 165). "Words that are repeatedly used" to describe examples of this kind, Wagenschein goes on to say, "include *illustrative, representative, pregnant, model case, ideal, exemplary, paradigmatic*" (p. 165; original emphasis). Klafki and Wagenschein thus see the question of content from a hermeneutical, ontological, and, in some senses, even

an aesthetic or literary way. The exemplary possesses an aesthetic, poetic reality and depth; the best examples have the appearance of a rich literary or aesthetic symbol, such as the whale in *Moby Dick* or the German Romantics' *blaue Blume* (blue flower). It also certainly has both metaphorical and metonymic functions: the example resembles many aspects of the things it exemplifies, in the same way that we can say "my love is a rose". But at the same time, Wagenschein has made clear, it is a *part* that stands in for the *whole* (i.e. a synecdoche), as in references to 'the crown' or the 'White House'. And it is symbolic, finally, also in that it ultimately points to something transcendent, to the structure and unity of a rich idea or even an entire discipline.

Klafki: four questions of exemplarity

Klafki explores the pedagogical significance of any given example of educational content for his Didaktik through four questions. These are questions that help teachers differentiate between content generally and its educational potential or educational *substance*. These questions constitute Klafki's 'didactic analysis', with the first question or, rather, set of questions, asking:

> What wider or general sense or reality does this content exemplify and open up to the learner? What basic phenomenon or fundamental principle, what law, criterion, problem, method, technique, or attitude can be grasped by dealing with this content as an 'example'?
>
> (2000, p. 151)

What Klafki is asking here is about what the Bildungs*gehalt*, the educational substance or significance that is present in the material will manifest. Klafki is also emphasising that this significance can be found in the widest range of things – from an attitude or skill to a phenomenon or physical object.

Klafki's second question asks about the significance of the material or topic *not* for what is *to be taught or learned* but for students *in their current situation*: "What significance does the content in question, or the experience, knowledge, ability, or skill to be acquired through this topic already possess in the minds of the children in my class?" (p. 151). Klafki understands this question as being practical, empirical, and normative in nature. He is asking about what might already *be* significant for the child, what knowledge might be accessible to the child, as well as what *should be* significant and accessible for the student.

> [It] is a matter of whether the content in question, that is, the substance to be investigated in it, *can* and *should* be an element in the present education of the young people, that is, in their lives, in their conception of themselves and the world, in their areas of competence.
>
> (p. 152; emphasis added)

An obvious example would be a lesson in safe adult sexual activity, which would certainly neither be accessible to nor desirable for grade one students, but which would meet all three of Klafki's criteria in the case of those who are older. Then there is the descriptive or practical sense of Klafki's question, which has to do with the way that the example can be approached in instruction. Klafki characterises this through the following questions:

> From which angles do the students already have access to the topic? Which angles are still unfamiliar? . . . Must the children first be acquainted with the questions from which this topic is to develop – perhaps by shattering certain conceptions they take for granted – or can the familiarity be presupposed?
>
> (p. 152)

Thus, in the familiar example of teaching younger students about the earth rotating on its axis and circling the sun, it is likely first useful to ask them about their experiences of night and day, of the sun rising and setting, of seasons and their gradual progression. It would then be important to have something like a globe and flashlight on hand to provide concrete illustration for a scientifically accurate explanation.

Klafki's third main question asks: "What constitutes the topic's significance for the children's future?" Klafki again clarifies this through further questions: "Does this content play a vital role in the intellectual life of the adolescents and adults the children will become, or is there justification to assume that it will, or should, play such a role?" (p. 152). Klafki here is echoing a theme familiar from German pedagogy – one that goes as far back as the hermeneutician Friedrich Schleiermacher. This is the dual focus of pedagogy on the children's well-being in the present and on their future, and the tension that often exists between the two (Friesen, 2017a). It is captured in Schleiermacher's discussion of education's need to often "sacrifice" of "the present for the sake of the future" of the child (Schleiermacher, 1826/forthcoming).

Given that the present, according to Schleiermacher, should not be unnecessarily sacrificed for the sake of the future, it is not the knowledge of the expert that is necessarily seen as the ideal for the curriculum by Didaktik. The student is not to approximate an expert, as some contemporary theories of learning insist (e.g. Bransford et al., 2006; Sawyer, 2014). That would require a rather complete sacrifice of the present for the future. Instead, the student, as Klafki says, is to become an "educated layperson" (*gebildeter Laie*). By this, he means a

> democratic citizen who is to be aware of his or her responsibility for our society and our state [. . . a] 'consumer' who should be able to choose critically and with taste from among the wide range of opportunities for experiencing and forming culture.
>
> (2000, p. 145)

Klafki's fourth question is based on the answers provided to the previous three. It reads: "How is the content structured (which has been placed in a specifically pedagogical perspective by Questions I, II, and III)?" (p. 153). Its sub-questions are about "the individual elements of the content [when seen] as a meaningful whole", about "the relationship of the individual elements" of the content, and about "layers of meaning and significance" that might inhere in the content as a whole (p. 152). The relevance of these last few questions is related to the kind of subject matter in question. A text or an image in a class on arts and literature will often be the object of an ever-deeper exploration of significance, starting with surface meanings going on to more profound themes and patterns. "Relationships of individual elements", on the other hand, are particularly important in subjects like mathematics, engineering, and other sciences. Finally, the relations of parts and wholes are of particular importance when considering systems or cases: politics and organisations, the environment, and biological systems. Such typologies of knowledge explication have been outlined in greater detail, for example, by Chambliss and Calfee in their 1998 book, *Textbooks for Learning* – a rare recent treatment in the English language that touches on what makes content specifically educational or pedagogical in nature.

Klafki's many questions about the exemplarity of a given resource or piece of content suggest that such content is *not* simply neutral when it comes to its relation to the student. They instead suggest that knowledge brings inherent pedagogical value and meaning in some situations but not in others – and that such value and meaning is inseparable from its multifarious relations both to student and teacher. His questions show us that any given piece of content (or any example) has a range of aspects that need to be considered and mediated by the teacher – that require "an appropriate pedagogy" as Young rather elusively noted earlier. Educational materials must be evaluated from the perspective of the teacher's instructional intentions, of the student's present and future, and in terms of what these materials afford in terms of instructional pragmatics.

Conclusion: moving beyond what comes naturally

By examining the way it both conceptualises and analyses educational content, I have shown how Didaktik invokes a picture of education and of the human being that takes culture, society, and history – rather than nature, biology, and neurology – as its starting point. Didaktik sees education as a process always necessarily involving all three components of the didactic triangle, as an induction into powerful cultural or historical *understandings*, and as 'elevating' the human from the physical, emotional, and mental limitations of biology to the freedom and responsibility that is possible in a democratic culture and society. Now, in my conclusion, I consider some of the further implications of Didaktik for understanding content by considering one further linkage within continental theorising.

I consider the connection of the didactic conception of content to a particular way of understanding knowledge and its generation and reproduction over time.

Scientific and scholarly work, whether in medicine or gender studies, is generally expected to take the form and appearance of dispassionate inquiry. It answers to criteria that are, of course, very different from simplified knowledge that is highlighted in a health brochure or an advocacy pamphlet. This makes the results of scientific and scholarly work something that children on their own are rather unlikely to be drawn to or find intrinsically powerful. Take the very simple examples of the inequalities found in gender histories or the knowledge of how seasons arise through the earth's rotation on its axis. Such knowledge is complex and likely counter-intuitive to those not yet exposed to it. And it certainly does *not* provide the kind of comfort derived from believing, say, that the earth is the centre of the universe, or that history is the march of universal progress. As a result, I believe that Michael Young's assertion that powerful or curricular knowledge is not "oppressive or alienating [. . . in] itself" needs to be rethought. Disciplinary knowledge – from histories of genocide and exploitation through physics to modern astronomy – tends not to be comforting or already familiar. "The truth", as the saying goes, "sometimes hurts". This is recognised, for example, in understandings of Bildung that underpin Klafki's Didaktik.

Alienation and self-alienation are seen as indispensible components of Bildung as the process or experience of formation and self-formation. Wilhelm von Humboldt famously emphasised that alienation is inherent in human striving to "reach beyond [one]self to the external objects" that through Bildung are "integrated" into the self (von Humboldt, 2000, p. 59). Others have more recently characterised the moment-by-moment experience of learning as occurring at the uncertain threshold between "no longer and not yet" – between moments in which the familiar is lost, but in which it is not yet replaced by anything clearly known (Meyer Drawe, as quoted in Friesen, 2017b). Also, as adult educator Jack Mezirow has shown, periods of significant adult learning often have as their antecedent a major life crisis or "disorienting dilemma" that leads an individual to change his or her way of life (e.g. Mezirow, 2009). Finally, even John Dewey spoke of the "self-alienation" that is a part of "the mind giv[ing] up its immediate interests and go[ing] on [a] far journey" of higher learning (1890/1962, p. 52).

The alienation involved both in education and in one's personal development brings this concluding discussion to a second point: namely, the undeniable reality of the (sometimes uncomfortable) subjective experience of the student in educational contexts. It is worth noting that in the more recent accounts of educational content from both Schulman and Young, the backgrounds and experiences of the generations of students who are to acquire knowledge or develop intellectually and morally are given little attention. In Young's case, student subjectivity appears important only insofar as it might contribute to or detract

from the student's "commitment . . . to a relationship to" powerful knowledge (Young and Muller, 2015, p. 141). Contemporary accounts of 'learning', moreover, can be seen as underpinned by the impersonality of learning (and thus also of teaching) as an individually, culturally, and domain-independent process. In fact, it is only in the politically charged reconceptualist curriculum theory where issues of experience and subjectivity arise – but unfortunately, they are conceptualised in a way that is very distinct from questions of content, teaching, and the curriculum itself. In this light, it seems important to reference an approach to knowledge and content that sees the learner and learning itself as having an active, dynamic relation to this educational material or its 'substance'. What would be valuable, I suggest, is a conception of knowledge, of its development, circulation, and potential 'power' that would grant a significant place for the active involvement of students and their subjectivity.

One possible example of such an approach to knowledge and its intergenerational dynamism, I believe, can be found in a source that, strictly speaking, lies outside of the bounds of educational discourse. This is the 'theory' of knowledge represented by hermeneutics. It was familiar to Wolfgang Klafki and has been articulated in various ways by thinkers including Friedrich Schleiermacher (referenced earlier), Wilhelm Dilthey, and Paul Ricoeur. But for the purposes of illustration, I focus on H. G. Gadamer's *Truth and Method*, particularly the section titled "Language as the Medium of Hermeneutic Experience". Here, Gadamer underscores the "detachment" specifically of *written language* – its detachment "both from the writer or author and from a specifically addressed recipient or reader" (2004, p. 394). Adding that this situation gives writing "a life of its own" that is of particular importance for hermeneutics, Gadamer continues:

> In writing . . . the meaning . . . exists purely for itself, completely detached from all emotional elements of expression and communication. . . . Hence the meaning of something written is fundamentally identifiable and repeatable. What is identical in the repetition is *only* what was actually deposited in the written record.
>
> (2004, p. 394; original emphasis)

Something written, elements of knowledge or content – for example, those included in the day's lesson plan – are on their own self-identical and self-sufficient. They are in this sense alien to us and even to possibilities for their own interpretation. The content of my copy of the periodic table or of Shakespeare's *Hamlet* is identical to yours. Somewhat like Klafki's manifest content (Bildungs*in*halt), this content can be said to exist in some senses independently of questions of its potential pedagogical value or application. However, in being performed, enacted, and situated – in being *read* (ideally aloud) – the status of these texts, this content, according to Gadamer, is utterly transformed. What was earlier self-sufficient and self-contained is brought into greater proximity

and familiarity. Gadamer explains this by referring to the written tradition as a whole:

> Writing is self-alienation. Overcoming it, reading the text, is thus the highest task of Understanding [*sic*]. . . . Through it[,] tradition becomes part of our own world, and thus what it communicates can be stated immediately. Where we have a written tradition, we are not just told a particular thing; a past humanity itself becomes present to us in its general relation to the world. . . . It does not present us with only a stock of memorials and signs. Rather, literature has acquired its own contemporaneity with every present. To understand it does not mean primarily to reason one's way back into the past, but to have a present involvement in what is said.
>
> (2004, pp. 392, 393)

Gadamer adds to this the following sententious claim:

> The understanding of something written is not a repetition of something past but the sharing of a present meaning.
>
> (p. 394)

When something is read aloud, when it is understood, it loses at least some of its (sometimes alienating) self-sufficiency and self-identity. Instead, it becomes part of "our own world" – "our" world, both in the sense of individual and shared experience. It acquires "its own contemporaneity" with the present, as Gadamer says. To learn, for example, how a bean seed can be caused to sprout, or to 'understand' the periodic table, is to connect it with what is relevant in one's present, to have "a present involvement" with content or knowledge that might otherwise remain self-sufficient. Teachers, of course, play a key role in influencing what this involvement might be like – for example, by highlighting particular aspects of its educational substance (Bildungs*ge*halt), or its relevance to students' present and future. However, a significant part of this present involvement depends on the subjectivity of the students, the contingencies of their "contemporaneity", their historically conditioned sense of themselves and their future. Simply speaking and discussing aloud words like 'democracy' or 'totalitarianism' after Brexit and Trump, for example, invoke a notably different significance and resonance – whether for students or teachers – than they possessed beforehand. 'Social media', 'deadly virus', or 'climate change', as further examples, may possess a rather different 'contemporaneity' for young students than they might for their teachers or parents. In grappling with these and other perhaps more mundane topics, students and children bring their own value to the sharing of a present meaning and can be said to understand such meanings in their own way.

By bringing content back into discussion of education, teaching, and learning – and by considering its manifold and intimate interconnections with student

and teacher – can help, I believe, to bring back some balance into discussions of student subjectivity, teacher agency, and of the knowledge that is encountered in classrooms. It can help us to see education, moreover, not merely as a task of "maximizing learning happening in the classroom" (as it is so often seen in America) or as realising students' "entitlement to powerful knowledge" (as it has been recently rationalised in the UK). In place of such views, it offers an opportunity to see education as empowering the student to the exercise of his or her own autonomy and responsibility. Finally, teaching itself – particularly in its relationship to content – needs no longer be seen as something to be directed by scientific prescriptions. Instead, it can be regarded as something that unfolds in the vital interrelationship between the student and teacher, and through the dynamic interpretative connections of both to educational content.

Notes

1 It is different in that it critically opposes lived curriculum with traditional curriculum and sees the former as constituted by personal biography and political categories, including race, gender, and ethnicity.
2 This chapter adapts some content published in Friesen (2018), "Continuing the Dialogue: Curriculum, Didaktik and Theories of Knowledge".

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4

Outline of a taxonomy for general Bildung

Deep learning in the anglophone tradition of curriculum studies and the Didaktik of north-west Europe

Stefan Ting Graf

Since 2001, when the accountability discourse in the field of education in Denmark took off, culminating in 2015 with the introduction of a goal-oriented curriculum for the Danish Folkeskole (primary and lower secondary education, henceforth K-10), there has been a new and remarkable interest in taxonomies of learning in this country. A range of publications were targeted at the educational research community as well as practitioners in education (Albrechtsen, 2019; Andersen, 2008; Brønd et al., 2015; Caeli and Andersen, 2015; Duch and Wacher Kjærgaard, 2015; Hansen, 2015; Hook, 2016; Jensen, 2015; B. Nielsen, 2013, 2015; B. L. Nielsen, 2009). These publications present, and make applicable by examples, all the well-known taxonomies, starting with Benjamin Bloom's six cognitive levels (Bloom, 1956) and the revised version of 2001 (Anderson et al., 2001), as well as the taxonomy of affective learning by David Krathwohl (Krathwohl, Bloom and Masia, 1970), John Biggs and Kevin Collis's SOLO taxonomy (1982), Robert Marzano's taxonomy for educational objectives 2001), and Elizabeth Simpson's taxonomy for psychomotor learning (1966). These taxonomies – understood as classification systems that frame the way in which learning goals or objectives are evaluated and subsequently measured as learning outcomes – were justified on the grounds that "they can make it visible to both students and teachers, exactly what needs to be *learned*" (Brønd et al., 2015, p. 6; my translation, original emphasis). They have furthermore been praised as especially helpful in conceptualising the progression of learning, and hence of teaching (Andersen, 2008; B. Nielsen, 2015), and the differentiation of teaching and learning as well as designing and evaluating learning tasks (B. Nielsen, 2013).

A search through the Danish research database reveals that in the last 20 years there has also been an increase in publications with the word Bildung (in Danish, *dannelse*) in the title. With few exceptions (e.g. Løvlie, Mortensen and Nordenbo, 2003), most of these are in Danish. In Denmark, there is not only a long tradition of inspiration from German educational theory but a Bildung discourse in its own right. The term, used broadly and in several different senses, constitutes a shared point of reference for different educational

schools, conceptions, and practices. For my purposes, it is not necessary to give a specific account of this discourse; I will just give a general characterisation that is also recognised outside the field. In her comparative conceptual analyses, Rebekka Horlacher states that in the Nordic countries, the concept of Bildung often serves as a catchphrase, and that its renewed use can be seen as a counter-movement to the accountability discourse (Horlacher, 2016, p. 1).

While all taxonomies stem from the anglophone educational context and thus enshrine a particular concept of teaching and learning, the idea of Bildung has its origin in German philosophy and educational theory and is committed to a different idea of teaching and learning. In the Danish context, however, a renewed interest in and application of taxonomies *and* a renewed interest in Bildung seem somehow to be coexisting in educational practice and theory. Is this an example of what Bjørg Brandtzæg Gundem meant when he stated that the "Nordic countries have perhaps been better able than others to live with and exploit both traditions", "harnessing the potential that each of the traditions represents", so that "the two radically different ways of thinking" could perhaps "complement each other" (Gundem, 2011, p. 91, my translation)? Or are there differences that cannot be neglected, complemented, or harmonised?

There are, in fact, both clear differences and much in common between the two approaches. On the one hand, taxonomies have mostly been developed and applied for the purpose of *evaluating* learning, while didactical models in Bildung-centred Didaktik, on the other hand, are focused on *preparation* for teaching relevant cultural content. Nevertheless, there seems to be a shared interest: taxonomies as well as models of Didaktik deal with the 'content' of teaching and learning. Bildung-centred Didaktik, on the one hand, aims *directly* and *concretely* at the preparation of content, identifying the educational substance (*Bildungsgehalt*), including the *why* of the content; it is little interested in evaluating the learning, as Bildung appears to be unmeasurable. Taxonomies, on the other hand, deal *indirectly* and *abstractly* with content by defining a specific set of forms of knowledge to be acquired. While the first approach refers mainly to the intended curriculum, the latter refers to the curriculum as evaluated/tested (Schubert, 2008). Does it make sense, we may ask, to prepare teaching content within the Bildung tradition, then evaluate learning outcomes by taxonomies from the other paradigm?

One thing is clear: learning taxonomies have not been influenced by the German idea of Bildung, and the theory of teaching and learning in Bildung-centred Didaktik has not applied these taxonomies. In this chapter, I will scrutinise Bloom's cognitive levels and the SOLO taxonomy to pinpoint a few general issues in this kind of taxonomic thinking, then compare aspects of these with the forgotten content levels of Bildung-centred Didaktik, with the objective of investigating whether it may be possible to outline a different kind of taxonomy. On the way, I will touch on 'deep learning', an idea which

seems to have been conceived of in different ways. A taxonomy as the backdrop to a phenomenological foundation of learning, in the sense of categorical learning, may include other forms of knowledge besides those applied by the aforementioned taxonomies. Furthermore, a taxonomy assembled on the basis of Bildung-centred Didaktik, here in the sense of general education (*Allgemeinbildung*) in schools, would have to address levels for goal-content-complexes, as developed by Wolfgang Klafki and Martin Wagenschein in relation to exemplary teaching.

The reappearance of taxonomies in Denmark

In the light of the mutual influences between Didaktik and curriculum in the last 20 years (Terhart, 2012), the recent curriculum reform in Denmark is a complicated matter. In a country like Denmark, where the Bildung discourse is still predominant, the K–10 curriculum reform of 2015 looked like an importation of anglophone curriculum thinking. The focus on outcomes began in the mid-1990s; it was realised in the new curricula of 2001, "Klare Mål" (in English: Clear goals), reinforced and turned into binding goals in 2003–2006 in "Fælles Mål" (Common goals), revised in 2009 as "Fælles Mål 2009" (Common goals 2009), then further sharpened in 2015 in "Forenklede Fælles Mål" (Simplified common learning goals).[1] The framework for the 2015 curriculum introduced for the first time into Danish K–10 school the notion of a measurable competence goal, defined by a combination of knowledge goals and skills goals. Central for this chapter is that the framework contained curriculum guidelines that juxtaposed Bloom's, Marzano's, and the SOLO taxonomy, aligning them without explanation or comments. Furthermore, the guidelines advised the curriculum developers in each subject just to be consistent in their use of a taxonomy.

In a wider sense, the curriculum reform was explicitly intended to keep up with international tendencies, declaring a shift in paradigm. Content-oriented Didaktik was declared to be dead, and measurable learning goals to be the most important factor in improving teaching (Holm, 2014). Rather than learning something specific, students should *learn to learn* (Rasmussen, 2014). Consequently, the reform suggested a new but unexplained didactical model without the content category (Dorf, 2018, p. 125). Furthermore, the guidelines advised curriculum developers not to use the term 'understanding', because it was said to be too difficult to measure. Skovmand's systematic analysis of the written curriculum has showed that terms like subject matter (*stof*), enlightening knowledge (*kundskab*),[2] content, understanding, school, teaching, subject (*fag*), and purpose as well as Bildung, democracy, and citizenship had almost disappeared from 2009 to 2015. They were replaced by a terminology of 'learning' (Skovmand, 2016, p. 216ff.).

The curriculum reform of 2015 is said to have been inspired by the works of John Hattie, Andreas Helmke, and the so-called Ontario model (Rasmussen,

2015). Skovmand's study documents in detail how these sources were imported, translated, and twisted so as to fit with the educational policy and support the reform. However, none of these anglophone sources argued for a one-sided view of the interdependency of the teaching–learning complex in favour of 'learning' alone. None of them argued against content or understanding as highly relevant categories. On the contrary, referring to the SOLO taxonomy, Hattie and also Michael Fullan highlight *deep understanding*. Helmke stresses content, referring to Kurt Reusser and Franz Weinert (the latter three belong to the German-speaking community of empirical researchers). Neither Hattie nor Marzano argues for teaching predominantly steered by narrow goals (Skovmand, 2016, p. 179ff.).

Thus the 2015 curriculum reform *cannot* be primarily linked to the anglophone curriculum study tradition but rather to what Gert Biesta called "learnification" (Biesta, 2010) and additionally to an international trend towards accountability on economic and neoliberal grounds (Sivesind, 2013). It is against this backdrop that taxonomies have become revitalised in Denmark. In the following, I will briefly sum up some of the main critique exemplified by Bloom's taxonomy in order to recall the difficulties in applying such taxonomies.

Bloom's taxonomy and its use

It is astonishing how much Bloom's taxonomy has been discussed and is still put into practice despite the shortcomings that have been highlighted several times. First of all, and despite Bloom's intention to develop three taxonomies, a cognitive, an affective, and a psychomotor, only the cognitive version was widely used in practice. The cognitive version of the taxonomy distinguishes between knowledge and the five cognitive abilities: comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). Even though the original version has subsequently been revised (Anderson et al., 2001), it is still necessary to recall the critique.[3]

The first argument takes aim at the metaphor of knowledge as container. As criticised by Carl Bereiter and Marlene Scardamalia, this metaphor makes rational knowledge appear to be factual and descriptive knowledge, something to be remembered for school tasks (Bereiter and Scardamalia, 1998). Furthermore, critical theory will not accept such a concept of 'neutral' knowledge as something just to be learned and remembered (Paul, 1985). More importantly in the educational context, learning does not begin with knowledge as information. On the contrary, learning begins with the learner's preconceptions and involves several forms of knowledge has been especially underlined by phenomenological positions (e.g. Buck, 1989).

The second argument criticises Bloom's subordination of knowledge to "a panoply of intellectual abilities and skills of doubtful teachability" (Bereiter and Scardamalia, 1998, p. 677). We see this kind of underestimation and

trivialisation of knowledge once again in conceptions such as "21st century skills". According to Bereiter and Scardamalia, Bloom himself observed the problem at the time:

> [S]tudents in higher-level test items could understand gravity, acceleration and friction . . . and yet be unable to explain the logic of Galileo's experiment or to identify its unstated assumption", rather than achieving the intended higher skill of "recognizing unstated assumptions.
>
> (Bereiter and Scardamalia, 1998, p. 680)

The learning of such domain-independent skills is highly contested. Bereiter and Scardamalia, by contrast, build on the pattern-recognition concept of cognitive science and highlight a study by Lesgold and LaJoie in 1991 showing that experts differ from novices neither in intellectual abilities (such as problem-solving), nor in basic knowledge in the field, but in "their knowledge of the actual devices they worked with and on" (Bereiter and Scardamalia, 1998, p. 680). Generally speaking, pragmatic language theory and phenomenology would not separate knowledge from its actual use.

Third, there are a range of problems associated with using Bloom's taxonomy as a framework for progression in curriculum thinking and for teaching and learning. For example, the detailed account of Bloom's taxonomical terms in the Danish K–10 curriculum of 2015 shows severe inconsistencies, both for long-term progression within subjects and for cognitive levels between subjects (Skovmand, 2016, p. 87), so that it cannot easily form the basis for progression (Dorf, 2018, p. 125). Not even within a single teaching unit does it make sense to apply the taxonomic term 'understanding' and the fourth cognitive abilities as ascending levels. Bereiter and Scardamalia suggest that a better conception of such cognitive processes is that they "go on in concert at all levels" (Bereiter and Scardamalia, 1998, p. 684).

An interesting and recent example of the Bloom approach in use, and of the overestimation of high generic skills, is presented in a recent PhD thesis on history teaching. The dominant understanding of teaching history in Denmark aims at "historical thinking" and "historical consciousness", specified by abilities such as "source criticism, contemporarisation and empathy", in this way leading to a "chronocentristic" view of history (Bjerre, 2019, p. 10). The study shows that students are forced by typical school tasks to contemporise and make judgements about historical events without having met "the historical foreign in itself" (p. 11). Inspired by the concept of epoché from phenomenology, the study suggests placing temporary brackets around the inevitable contemporarisation of historical events and letting students meet the historical foreign world on its own premises. Such an approach not only facilitates another world view, and consequently empathy, but represents a concrete urge to bring content and historical knowledge back together again (see Deng in this volume). In the

context of history teaching, Sam Wineburg went so far as to argue for "Turning Bloom's taxonomy on its head" on the grounds that knowledge is not just the starting point but the purpose of teaching (2018, p. 81).

Using the example of Bloom's original cognitive taxonomy, I have recalled a few critical issues with broader relevance – a narrow notion of knowledge, the overestimation of domain-independent cognitive abilities, and the constraints inherent in their use for progression of learning. In the next section I will briefly touch on other taxonomies that feature the term 'deep understanding'.

Deep understanding

While Bloom and others have developed taxonomies that pursue *higher* levels of cognitive abilities, there is an increasing interest in *deep* learning. Influential programmes like the Partnership for 21st Century Learning, the William and Flora Hewlett Foundation, and the New Pedagogies for Deep Learning programme initiated by Michael Fullan present deep learning as generic skills or competencies, including analytic reasoning, critical thinking, learning to learn, ability to collaborate, and so forth. Such conceptions are typically based on a contestable assumption that knowledge changes rapidly and hence is less important, and on an overestimated belief in the transferability of generic skills.

Both the SOLO taxonomy and the taxonomy by Marzano use the notion of deep learning. The SOLO taxonomy,[4] for example, is designed to move from the concrete to the abstract and to achieve higher complexity in reasoning. Students are to be brought to use deep-learning approaches rather than remaining with surface activities. The taxonomy builds a constructivist version of learning and seeks to differentiate levels of understanding from the point of view of learner activities (Biggs and Tang, 2007, p. 79). Biggs and Tang define surface-learning as not seeing the wood for the trees, that is, as (a lot of) unconnected information, but they underline that this is not to be confounded with remembering. Rather, surface-learning denotes students' omitting strategies (sweeping things under the carpet, cutting corners, or doing 'as if') (p. 22). On the other hand, Biggs and Tang describe deep learning as an activity where students are joyfully engaged and focusing on "underlying meanings, of main ideas, themes, principles, or successful applications" – that is, understanding the big picture – while they "naturally try to learn the details" (p. 24).

This notion of deep learning shows interesting similarities with the conceptions of exemplary teaching and learning in German Didaktik since the 1950s (Graf, 2013). Facing an overloaded curriculum that leads to knowing a little about everything, a German curriculum movement claimed priority for the basic and relevant issues of the cultural heritage acquired through student activities on one exemplary matter (free and condensed paraphrase of the Tübinger Resolution in 1951). Martin Wagenschein's conception of exemplary teaching and learning, in particular, pinpoints the epistemic passage, by way of the many-faceted example containing detailed information,

to the powerful underlying categorical concept that explains a wider range of phenomena. Wagenschein also uses the term 'in depth-understanding' – deep drilling and deepening, moving from the concrete to the abstract – in contrast to an overload of undigested knowledge in a step-by-step teaching manner (surface-learning) (cf. Wagenschein, 2000b, p. 165).

It is surprising that Bloom's "higher" ability of "analysing" appears as "analytical reasoning" in the sense of a "deep" learning skill in the newer conceptions. There are other differences between the metaphors high/low and surface/deep. One may argue that 'higher' connotes achievement and the measurability of outcomes, while 'deep' learning may be thought together with time and with serious and persistent learning (Albrechtsen, 2019). But another argument may be that both metaphorical expressions are framed in the vertical dimension and hence in principle denote the same concept, just switching the perspective. The use of 'high' or 'deep' may just be a question of rhetorical context. Instead, the systematic issue as Wagenschein and others have framed it in relation to exemplary learning is rather vertical and horizontal learning as two forms of necessary learning: a deep exemplary learning and orientative learning, in mutual dependency.

There are several other differences between the SOLO taxonomy and the conception of exemplary teaching. From the perspective of well-roundedness, for example, the SOLO taxonomy is predominantly cognitive, while Wagenschein involves other forms of knowledge, such as animistic reasoning or folk theory, in the learning process and requires the development of a personal relation to the content. Furthermore, while the SOLO taxonomy seems to focus on the eloquence with which a student moves within a cognitive landscape with many interrelated concepts, Wagenschein strongly underlines the connection between disciplinary methods and teaching/learning methods in order to make students understand the *why* of the understanding.

Another issue is that the SOLO taxonomy, in common with some other taxonomies, is preoccupied with construing, carrying out, and evaluating school tasks or school test tasks. The difference between surface and deep learning is thus a question of whether the students are doing "the task properly" (Biggs and Tang, 2007, p. 22). Such a focus on school tasks inherits a tendency to limit knowledge to school knowledge, in the sense of knowledge that is mainly, sometimes only, valued in school. Such school knowledge may well improve the chances of school advancement but has little relevance in everyday life. Andreas Gruschka has raised a similar critique of the Didaktik encounter in Germany. Didactical models tend to perceive content as school knowledge that has little to do with understanding the world, which is the purpose of general Bildung (Gruschka, 2002). By contrast, in Wagenschein's conception, the phenomenon as the object of understanding is at the beginning and centre of teaching and learning (Wagenschein, 1988). Uljens and Kullenberg in this volume deal with this question of how we may conceptualise the transition from a shared life-world as different individuals at the beginning of schooling

to a shared, common life-world, while yet becoming unique by the end of the educational process.

Finally, and against the backdrop of the preceding, the main reason why one should be cautious about applying the SOLO taxonomy in primary and secondary schools, where the main purpose is general Bildung, is because the taxonomy was developed in the context of the tertiary level, where eloquence in cognitive landscapes is more likely at stake. In times of generic educational conceptions, there is too little focus on the differences between the educational purposes of the three levels of education.

All in all, I have dealt with a range of critical issues attached to anglophone taxonomies: a narrow and predominantly cognitive notion of knowledge and learning restricted to school knowledge and tasks, the overestimation of generic abilities and their hierarchical progression, and a decoupling of content and educational purpose. Such taxonomies may be applied for purposes of evaluation but do not consider the human process of learning, beginning with pre-knowledge and with all the in-between steps. Hence, they are not suitable for the preparation of teaching and learning processes. Let me turn now to a further approach to deep understanding and forms of knowledge.

Understanding deep things

It occurs to me that we need another kind of taxonomy: one dealing with other forms of knowledge than those taxonomies that are preoccupied with evaluating school tasks and knowledge that only schools appreciate. Bereiter and Scardamalia represent a quite different approach. They define deep understanding of something as "understanding deep things about it" (Bereiter and Scardamalia, 1998, p. 684). Their broader approach to the notion of knowledge follows a connectionist approach and seeks to describe a well-rounded set of forms of knowledge leading towards a well-rounded person. Bereiter identifies six kinds of personal knowledge, without claiming a taxonomy of strictly separated forms of knowledge or an ascending logic:

1 Statable knowledge comprises all kinds of propositional knowledge (e.g. also playing a piece of music in a certain manner).
2 Implicit understanding represents experience-based, tacit knowledge in order to make predictions or react intuitively in everyday life.
3 Episodic knowledge is characterised by recalling experiences and episodes and adopting analogous reasoning.
4 Impressionistic knowledge is based on feelings and influences our actions in a tacit way within a particular field. In so far as this knowledge can be seen as including wisdom, moral sensibility, and connoisseurship, it can support creativities by taking risky choices, but can also contain strong prejudices.
5 According to Bereiter, skills have a cognitive (I know that I am able to analyse literacy) and a subcognitive dimension (doing the analysis).

> Regulative or self-regulative knowledge is a kind of domain-independent metacognition that balances various considerations by means of regulative ideas such as truth, equity, the good, and so forth.
>
> (Bereiter, 2002)

Bereiter did not himself do so, but these forms of knowledge seem to me an interesting point of departure for developing a taxonomy for teaching and learning. While the taxonomies discussed previously focus on the end result of the student's acquisition, they do not take into account the forms of knowledge that play a role before and during the process of acquisition. Implicit, episodic, and impressionistic knowledge not only play a role as the student's pre-knowledge (*Vorwissen*) or basis for preconceptions (*Vorverständnis*) but may during the learning process itself contribute to new impressionistic knowledge as a basis for new feelings applying to issues in the world. At this point there is once again a connection to exemplary teaching and the tradition of *Interessenbildung*, dating back to Herbart. Knowledge is not solely a school object that is has to be acquired as something external in a high/low, deep/surface metaphor; the knowledge-building process has to take its departure in and connect to a personal and life-world dimension on the part of the learner (see Uljens and Kullenberg, this volume). The task of teaching is not only to motivate students in a psychological way, but to reinvent the balance between the subjective and the objective each time. It seems to me that Bereiter's forms of knowledge are compatible with Wolfgang Klafki's theory of categorical Bildung, understood as a phenomenological conception of the learning process and his theory of the elemental (*Elementartheorie*).

Levels of categorical understanding

Categorical learning is a holistic epistemic act through categorical intuition (*Anschauung*) in which the subjective and the objective, the procedural and propositional, as well as past, present, and future, merge together and thus change the learner's world. In this Bildung-centred Didaktik, the purpose of a well-rounded education is not divided into parallel taxonomies. Categories are not exclusively cognitive or scientific concepts but can also be of an emotional, moral, or aesthetic, volatile, and practical kind (Klafki, 1964, p. 293f., 2000, 2007a).

Categorical learning also contains an understanding of deep learning: it is based on the notions of the elemental and the fundamental (see also Deng in this volume). Klafki reveals, "While scrutinizing the question of general education it has been a surprising experience to me to discover a layering of content and goals" (Klafki, 2007b, p. 75, my translation). In influential textbooks in Didaktik, unfortunately, the elemental, the fundamental, and the exemplary are placed on the same level (e.g. Jank and Meyer, 2002, p. 219; Meyer and Meyer, 2007, p. 31). That is why I call attention at this point to Klafki's explicit presentation in his dissertation of three levels (*Stufen*, *Schichten*, or *Ebenen*),

inspired by both Erich Weniger and Theodor Litt: the historical-elemental, the categorical-elemental, and the fundamental-elemental (Graf, 2013, p. 155ff.; Klafki, 1964, p. 327). Each of these levels is then a level of categorical Bildung.

The "historical-elemental" is a level of categorical insight related to content that is subject to some degree of historical change. It covers matters (*Gegenstand*) of relevance, including actual phenomena, situations, and tasks in the present time that will persist for some time and affect both the young and the adult world (Klafki, 1964, p. 388). Klafki mentions as examples historical-political issues such as the East–West confrontation in the Cold War period of his time, changing social forms in society, and issues of economy and technology, as well as such issues as hygiene, nutrition, forms of living, and basic oral and written forms in society. It is evident that forms of communication are changing quite rapidly under the new technological circumstances, and that teaching ICT today is very different from just a few years ago.

Even though all the levels must be conceived as categorical learning, Klafki calls the second level "the categorical-elemental". At first sight this is a little misleading, but it makes sense when insights on this level are defined as categorical preconditions for the further epistemic encounter of concrete phenomena on the historical-elemental level. Klafki himself mentions here basic conceptual knowledge (the concept of number, state, and civilised development); the concept of cause/effect; values such as truth, freedom, justice, and altruism; and ideas, structures, types, and basic human motives. While the historical-elemental can change more rapidly, these kinds of knowledge are more stable concepts, methods, experiences, capabilities, values, and so forth, yet not ahistorical. Furthermore, categorical insights on this level inherit a domain-specific or discipline-specific validity, though not without the possibility of a more generic value.

The third and 'deepest' level is the "fundamental-elemental", or just "the fundamental". Here, Klafki identifies a category of experience which, like the other levels, merges an objective and a subjective dimension during the epistemic act (Klafki, 1964, p. 332). In Klafki's early writings, the objective dimension refers to a well-rounded range of cultural-societal "forces" (*Lebensmächte als Bildungsmächte*), including the state, the Church, working and civil life, science/truth, art/aesthetics, and social/moral codes. The reference to Schleiermacher indicates that these could be understood as praxeological domains of general practice, as in Dietrich Benner's theory of education (Benner, 2010, p. 19ff.). The subjective epistemic dimension in these intergenerational forms of practice is the spirit, ethos, or attitude of the respective domain or discipline. The acquaintance with such fundamental categories of experience forms and pre-structures new experiences within and across the domains. Finally, it is important to underline that, from a phenomenological perspective, the fundamental has to be understood in terms of bodily grounded experiences. 'Deep' therefore means something beyond abstract, multi-leveled, relational, conceptual clusters like in the SOLO taxonomy or, simply, cognition and metacognition as the core of Marzano's approach.

I think these three levels of deep understanding from Klafki's theory of the elemental still deserve to be a point of departure in establishing a taxonomy for Bildung-oriented teaching and learning. Furthermore, Klafki developed a draft of how the different school subjects can be differentiated through this level-content-matrix (Graf, 2013, p. 152; Klafki, 1964). Here ends the contribution of general didactics, and subject didactics may take over.

Unfortunately, Klafki, in his later work, did not explicitly relate the following issues to the levels of his theory of the elemental. But in my opinion, they can. First, the East–West problem, the epoch-typical key issue (*epochaltypisches Schlüsselproblem*) in his later work, Klafki already mentions as part of the historical-elemental in his earlier work. His catalogue of epoch-typical key issues may be understood on the historical-elemental level (Klafki, 2007b, p. 56ff.). This does not exclude that teaching key issues involves learning instrumental knowledge and skills, and may also lead to categorical-elemental insights (e.g. the conceptual roots or basic structures of an issue) and to fundamental experiences (e.g. the experience of being shaped by history and history-making).

Second, Klafki's catalogue of dimensions of meaning (*Sinndimensionen*) as a basic framework for a well-rounded educational approach in his late work is nothing else than a general framework for the level of the fundamental. The most recent of these comprises six central dimensions of experience: pragmatic everyday life, democratic action, productive/receptive aesthetics, understanding basic concepts of culture and science, ethics, and broad bodily experience (Klafki, 2007a, p. 22).

And third, Klafki considers the question and status of basic instrumental knowledge and skills, also called secondary 'virtues', such as reading, writing, accurate observation, self-discipline, and technical skills. These, he argues, should not be presented as neutral learning for its own sake, but functionally integrated into example-based teaching. In that sense, the secondary virtues appear to be an implicit fourth level of the elemental in his theory. This kind of knowledge and skills is usually the lowest level in the taxonomies discussed earlier.

Other than in these taxonomies, the content sensitivity of Klafki's levels supports a different approach to curriculum development and to teaching and learning. The levels differentiate between lasting knowledge and areas of more changeable content. This somehow forgotten issue is important, because there is pressure on schools either to overrate generic skills or to constantly take up newly arising content (for a critique of this in natural science, see e.g. Sjøberg, 2005). The introduction of ICT in the name of the (economic) future is one example of the pressure on changing content in schools. Students are supposed to learn all kinds of specific software as if this was the most important thing in the world, even though these rapidly disappear again. This overestimation of the future over the past – which, paradoxically, also shows an inordinate belief in the transfer of learning – Bereiter calls a futuristic education (Bereiter, 2002, p. 220). The move from very simple and ephemeral ICT knowledge and skills some decades ago to the present call for more basic technological

understanding (e.g. computational thinking) would be an interesting analytical case in the light of Klafki's theory of the elemental. Much of this content would be on the level of secondary virtues and the historical-elemental, while for a long period the teaching of ICT failed to reach the levels of the categorical-elemental and fundamental insight.

Deep learning as exemplary learning is part of Klafki's theory; but it is most fully elaborated in Wagenschein's approach.

Wagenschein's forms of knowledge

Wagenschein, who was working with the didactics of physics and mathematics, is a well-known exponent of the idea of exemplary teaching (Wagenschein, 2000a, 2000b). Exemplary teaching can be characterised as a slow, Socratic enterprise dealing with tricky phenomena (examples) in a manner which makes all basic (methodological) steps of understanding visible to all. It could be described as a kind of problem- and inquiry-based teaching. Wagenschein bases his educational reasoning on the notion of becoming (*das Werden*, see also Uljens and Kullenberg in this volume) and the principle of genetics (*genetisches Prinzip*): the becoming of the student as a disciplinary thinker, and the becoming of the subject within the student. Wagenschein's research approach is to theorise concrete teaching, rather than develop a theory. The development of his taxonomy of knowledge is based on the teaching of Galileo's law of free fall and the Pythagorean theorem. He suggests six levels, divided into two blocks and an additional level (Table 4.1): local knowledge (A), that is, example-based knowledge with restricted general validity; and exemplary knowledge (B), that is, knowledge with general validity within a domain divided into disciplinary methods. The sixth level is systematic knowledge. Like Klafki, Wagenschein labels this last level 'the fundamental'. In this case it means to experience and

Table 4.1 Forms of knowledge

Wagenschein's levels of knowledge		*Law of free fall*
A: Local knowledge	I: Solely propositional (remembering)	'S (length) equals t^2 (time squared)'
	II: Solely technical (applying)	Calculate length
	III: Insight (understanding)	Understanding Galileo's experiment
B: Exemplary knowledge (transfer to the subject)	IV: Subject specific methods	Learning to experiment
	V: New neighbouring subject matters	Developing the theory of mechanics
Transfer to the whole world	VI: (Categorical) considerations on the basis of philosophy of science	What is a scientific experiment? Physics as a partial understanding of the world

Source: Wagenschein (1970, p. 414), my adapted translation

understand the epistemic approach that made natural science possible as an *aspect* of understanding the world.

Concerning the previous issue – the relation between school knowledge and understanding of the world – Wagenschein construes his 'taxonomy' as a path from the students' pre-disciplinary knowledge to the becoming of disciplinary understanding and ability (levels III to V) and finally, on level VI, a kind of distancing from the discipline by seeing it in relation to other disciplines and to the life-world. In this respect, Wagenschein refers to Simone Weil's concept of *enracinement* (Weil, 1949): rooting in the sense of deep learning.

When we look at the first two levels, there are obvious similarities between Wagenschein and Bloom. But the phrasing 'solely' indicates that Wagenschein aspired to conceive of these only as secondary and less important levels. His entry into teaching would be the students' actual preconception of the phenomenon at hand, not what should have been learned in the previous lesson. More important are the similarities with Klafki: level III would be the category of the historical-elemental, because the teaching and experience of Galileo's historical experiment of 1604 would not be the most up-to-date version of the free fall. It was an insight of the time, based not on free fall but on an inclined plane and without the knowledge of gravity on earth. One might claim that we should teach the most updated scientific version right away. Reconstructing the experiment in teaching with its old-fashioned measuring of time by a pendulum and other low-tech means would involve learning ephemeral insights and skills, but would form the basis of secondary virtues (measuring time and length, accuracy, approximation, and so forth) and the historical insight of $s=t^2$ (level III). This experienced insight given in the experiment, and the relation between the route of the bullet and time, are a pre-stage of the categorical-elemental (a natural law). In exemplary teaching, this Galileo example represents an educational opportunity to learn the basics of a scientific method (level IV) as a methodological categorical insight and as the basis of the systematics of physics (free fall and gravity at level V). These categorical abilities and insights, once again, are epistemic preconditions for new exemplary teaching, for example, Newton's classical mechanics, in order to widen the systematic basis of the discipline. In this way, Wagenschein tries to capture the process of *becoming*, that is, how physics evolves in the student from the concrete experience of the phenomenon of free fall. And finally, the same Galileo example is the opportunity to acquire fundamental insight (level VI) in a double sense. On the one hand, for Wagenschein, teaching should make it possible to experience what physics is about (questioning nature); and, on the other, it should make it clear, through the previously mentioned distancing, what the limits of physics are.

Outline of a taxonomy for general Bildung

Finally, by aggregating Bereiter's broad notion of knowledge with Klafki and Wagenschein's levels, I present here a kind of condensed 'taxonomy' for general

Bildung (see Table 4.2). General Bildung here means the contribution of basic schooling to the possibility of Self-Bildung towards a shared world.

From Wagenschein, and from Gruschka's critique, we learned that general education consists of a path from phenomena in the world that have not yet been unfolded by subject knowledge (in SOLO's terms, prestructural and unistructural) to local and historically bound categories connected to the example at hand (in SOLO, multistructural). This is what I call *example knowledge*, which is rich, confusing, and requires investigating action involving information processing and other secondary skills. Phenomena in the world are complicated, and it is not yet clear what the most important information and approaches are. The didactical enterprise, then, is to help the student to see – for Sünkel, to articulate (Sünkel, 1996) – both the trees and the forest: that is, to gain conceptual and methodological insights tied to the phenomenon. From here, that path may lead to other examples to test or deepen the provisory insights, or it may deepen the original example or phenomenon in order to gain exemplary methodological or systematic insights (that is, categories on Klafki's level of categorical-elemental). Such categories have, as I have shown, a certain historical stability without being ahistorical, and they are therefore powerful preconditions for new learning, besides being a vehicle for cultural mediation between generations. In other words, either within the same example or in connection with new examples, local categories may be lifted onto a higher level of generalizability, as expressed by the term 'exemplary'. These levels of methodological and systematic categories expand the learner's experience with and of the subject (for SOLO, the relational and extended abstract). To fulfil the purpose of general education, Wagenschein suggests deepening one's experience with the subject on the fundamental level, yet at the same time distancing oneself from the subject once again in order to move towards a well-rounded world view. Here we are talking about fundamental exemplarity. Once you have experiences and have reflected on the power of agreeing or not agreeing on the agenda of a meeting, you have a bit of tacit, impressionistic, statable, and regulative knowledge of 'the political'.

In line with this, I suggest a taxonomy of knowledge consisting of six levels: four main levels with two bifurcations into sub-levels:

The levels are an attempt to identify different categorical levels, combined with some kind of a teaching and learning progression connected to the learning experience of the content by example. Most of Bereiter's forms of knowledge are in play in the first and last levels, in the beginning (level 1) and on the fundamental level, while there is a more explicit focus on specific forms in levels 2 to 5.

Although it is difficult to separate the subject methods from the subjects' conceptual elements, and although they belong together, I differentiate in line with Wagenschein between the methodological-elemental and the conceptual-elemental. In order to understand this approach, it is important to recognise the subject/method/object triad (Litt, 1954, p. 60). The same distinction is repeated on the next level, and there is also a pragmatic reason for this. While

Table 4.2 Outline of a taxonomy for general Bildung

Progression by Wagenschein	*New taxonomic levels*	*Bereiter's forms of knowledge*	*Exemplary teaching*
Phenomena before subject knowledge	1) Example knowledge	All forms of knowledge	Wealth of information and secondary virtues connected to the example Associating from example to example
Into the subject	2) Methodological-elemental	All, but focus on skills including a subcognitive dimension	Categories connected to the example Analogising from example to example
	3) Conceptual-elemental	All, but focus on statable knowledge	
Deeper into the subject	4) Methodological-exemplary	Skills and regulative knowledge	Generalised categories (explainable by examples)
	5) Systematic-exemplary	Statable knowledge in a broad sense and regulative knowledge	
Deeper into the subject and out again	6) Fundamental-exemplary	All, but focus on regulative and self-regulative as well as impressionistic and implicit/tacit knowledge	Metacognitive categories bound to experiences

the subject methodological issues are well known in the teaching of natural science, in teaching humanities, cultural or social sciences there is too little attention to the subject specific methods that lead to new understanding so that students will be able to follow their own experience of the epistemic enterprise of the phenomenon at hand.

In the light of the widespread use of anglophone taxonomies, I seek to call attention to the potential of Bildung-centred Didaktik to offer an outline of levels for (deep) understanding, and thus of a wider conception of forms of knowledge. I have tried in this chapter to sketch out some of the possibilities for developing these levels and connecting them with Bereiter's forms of knowledge. Whether it will be possible on these grounds to establish a taxonomy for general Bildung that is also suited to the evaluation and eventually the assessment of learning in the categorical sense is something that will require further investigation and argumentation within general didactics, as well as concretisation and testing by the various subject didactics.

Notes

1 Since the national breakthrough in the critique of this curricula rationale (e.g. Skovmand, 2016), there have been revisions (2018) moderating the K–10 curriculum and turning the mandatory goals once again into guiding goals.
2 A specific term in the Danish school tradition connoting general knowledge, insight, responsibility. More than information and facts: a kind of enlightening knowledge.
3 The revised version of the taxonomy of 2001 differentiates between a dimension of knowledge and a dimension of cognitive process. The notion of knowledge is much broader, and consists of remembering factual, conceptual, procedural, and metacognitive knowledge (Anderson et al., 2001). The cognitive processes are now expressed in verbs instead of nouns, but still form an ascending hierarchy. The new sequence goes: remembering, understanding, applying, analysing, evaluating, and creating. There are still reasons for readdressing the critique of Bloom's original version. First, it is still one of the most frequently presented and emphasised taxonomies, overshadowing the revised version. Second, the original taxonomy is still in use, at least in Denmark. Here, it is not only foundational in the 2015 curriculum but common in everyday didactical practice. Third and most important, the narrow understanding of knowledge as basic knowing-by-heart knowledge is being re-actualised by several educational forces. In Denmark, these are back-to-basic movements and a certain version of canon thinking (cf. Graf, 2006).
4 John Hattie estimates this taxonomy because of its satisfying inter-rater validity in evaluations of learning. Furthermore, he suggests that surface learning is connected to the unistructural and multistructural level, and that deep learning occurs when students achieve the relational and extended abstract level (Hattie and Brown, 2004, p. 17).

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5

Curriculum development as a complex policy process in Denmark and Germany

Two cases of competence-oriented curricula in social science education

Anders Stig Christensen

Introduction

This chapter is a contribution to research on the analysis of curricula, and more specifically analysis of the decision-making processes leading to the formulation of curricula in a specific context. I take a comparative view in two cases: (1) the processes leading up to the formulation of curricula for social science education in lower secondary school in Denmark in 2014, and (2) the discussion of national standards for 'politische Bildung' (political education or civic education) in Germany in 2004 and its effect on state-level curricula.

In both countries, these processes were directly tied to developments and initiatives originating from international organisations, in particular the OECD and its PISA programme and the EU with its European Qualifications Framework (EQF) (EC, 2008). In the German case, the Academic Society for Civic Education, the GPJE (Society for Civic Education Didactics and Civic Youth and Adult Education, http://gpje.de/) proposed a framework for national standards for 'politische Bildung' in 2004 that made direct reference to the PISA results (Detjen et al., 2004). This proposal had a direct influence on curricula in some states in Germany. In the Danish case, the EQF adopted by the European Commission (EC, 2008) served as a framework guiding the formulation of curricula for the Danish Folkeskole (primary and lower secondary school) (UVM, 2015).

In both cases, the concept of competence was central; and both cases can be seen as instances of the general shift from content-based to outcome- or competence-based curricula (Young and Allais, 2011). But, as I will show, the process is not uniform, and the interpretations of the concept of competence are different.

The question is how to best analyse this process. From one perspective – which I will describe as a top-down perspective – this is, as Krejsler et al. describe it, a development that "Scandinavian education finds itself increasingly compelled to follow" (Krejsler, Olsson and Petersson, 2014, p. 174), thus reducing the scope for action by state-level actors to mere compliance with international standards.

DOI: 10.4324/9781003099390-6

This view is similar to the perspective of Michael Young and Stephanie Allais, who also see the shift to outcomes-based qualifications as linked to the "marketization of education" (Young and Allais, 2011, p. 3).

A different perspective sees the decision-making processes in the European states as a complex multi-level decision process, or 'soft governance'. I discuss later in the chapter whether using the concept of *demoi-cracy* can clarify and at the same time bring nuances to the discussion (Borrás and Conzelmann, 2007; Borrás and Radaelli, 2014; Cheneval, Lavenex and Schimmelfennig, 2014). This proposed perspective is comparable to the "discursive institutionalism" proposed by Wahlström and Sundberg, which also takes a multi-level view of the decision process, distinguishing between four levels: the classroom, the local (municipality) level, the programmatic (transnational and national) level, and the institutional/societal level (transnational and national policy arenas) (2018, p. 171). In this chapter, I focus on the institutional level (the decision process) and the programmatic level (the formal curriculum), and I use a normative theoretical framework, discussing the process in light of theories of democracy.

In the following sections, I will first give an overview of the international background to educational policy, including the central actors, the OECD and the EU, followed by a brief discussion of theoretical approaches to policy-making. After that I will discuss the two cases: first, that of civic education in Germany and, afterwards, that of the development of the social science curriculum in Denmark. Following that, I will give a comparative view of what is common and what is distinct in the two cases. Finally, I will discuss how we may analyse policy developments in curricula from an international point of view, taking into account questions of democracy as well as the curriculum and Didaktik traditions.

The international background in educational policy

Educational policy is traditionally regarded as a matter for national governments. Education has been considered important for nation-building, both in terms of creating a feeling (sentiment) of allegiance to the state and ofcreating the foundation for economic development through education.

Globalisation, on the other hand, influences educational policies – but in which ways? In the 1990s, with the opening up of Europe and the eastern enlargement of the EU following the fall of the Berlin Wall, there was a widespread expectation that globalisation would lead to a dissemination of democracy and a stabilisation of liberal democracy as a widely accepted form of government (Fukuyama, 1992). More recently, education and educational policy have been seen as a vehicle for developing state competiveness in an international economy in which globalisation means international competition. This was the motivating force behind the OECD and the European Union becoming more active in education.

When evaluating globalisation and the influence of international organisations on educational policies, it is important to take into account that organisations such as the OECD and the EU differ both in the aims of their work and in the capabilities they have for exercising influence on national policies. The OECD is the organisation for economic cooperation and development, and as an international organisation of sovereign members, it does not exert direct influence on the educational policies of its members. But indirectly it has had an important influence, in particular through international comparisons such as the PISA tests, but also by way of more theoretical publications, such as the DeSeCo project (Definition and Selection of Competencies) (Fratczak-Runicka and Torney-Purta, 2003; OECD, 2005). The European Union, on the other hand, given that it has law-making capability through regulations and directives that are legally binding on member states, has different possibilities for influencing policies. Therefore, it is also relevant to discuss the law-making process and the way the EU influences the law-making process in member states in the light of a theory of democracy.

Theoretical approaches to international influences on policymaking in education

The analysis of developments in the curriculum – and here I am focusing on the formal curriculum, that is, the legally binding guidelines for teaching in schools – can investigate both content and the decision-making process. In the following, I will do both. In the first place, I will be looking at how the concept of competence enters the curriculum debate and how it becomes a part of the curriculum. This is probably the most interesting aspect from a pedagogical/educational point of view, as it deals with the content of education. Second, I will focus on the process of decision-making in order to give a description of this and also to discuss how we may evaluate the degree of democracy in the process. This is particularly interesting when working with educational policies in an international perspective. Are the international processes undermining the (national) democracies, or is an international organisation like the EU providing a new forum for an international approach to way of democracy?

In the analysis of the international decision-making process, I distinguish between two perspectives. One of these sees the international influence on curriculum-making as a top-down process in which local decision-makers are subject to international hegemony. This is the perspective presented, for instance, by Krejsler and colleagues in their description of an 'international grip' on Scandinavian educational reform (Krejsler, Olsson and Petersson, 2014). A different perspective sees the European decision-making process possibly as a new form of democracy, a democracy of more than one people or *demos*, as expressed in the term *demoi-cracy* (*demoi* being the plural of *demos*), using a term originally coined by Joseph Weiler (1999). In this view, international institutions such as the EU can be a democratic possibility in a globalised

world, creating institutions that can match the global structures that influence local circumstances.

The case of 'politische Bildung' in Germany

In the following I will discuss the development in the curricula for 'politische Bildung' in Germany. This is complicated, among other reasons because Germany is divided into 16 federal states, each of which has its own educational policy.

On a national level, the conference of the ministers of culture (*Kultusministerkonferenz*) plays a role in, for instance, taking common decisions on national standards, but generally the responsibility for the educational system is at the state level, and that is where decisions are made. It also means that the structure of the school system (to some extent) and the curriculum, as well as the content of the curriculum, are decided at the state level. Some subjects differ in the curriculum, and relevant in this case is that the subject that entails what in Germany is known as 'politische Bildung' has different names, and content, such as politics (*Politik*) or social science (*Socialkunde*), or politics and economy (*Politik und Wirtschaft*) (Töpper, 2017).

In my investigation I have looked at curricula in the various different states in the subjects of social studies (*Socialkunde*); politics/economics (*Politik/Wirtschaft*); political education (*politische Bildung*); and politics, society, and economy (*Politik-Gesellschaft-Wirtschaft*) (Christensen, 2017, p. 263). All these curricula have some description of competence relevant to political education, and this has been the focus of my investigation. The fact that the subjects are not the same is an example of how the study of the curriculum must not only be comparative between countries but also within a country. And it must be noted that this investigation takes only the formal curriculum into account, not the perceived or taught curriculum (Goodlad, Klein and Nye, 1979; Glatthorn et al., 2015).

The development of curricula in political education in Germany

The German tradition of Didaktik means that the teacher has (at least in theory) a degree of freedom and responsibility regarding the content and method in teaching. This, again, means that the formal curriculum (*Lehrpläne*) is less detailed regarding content (Westbury, 2000, p. 17). In practice, however, the formal curricula are at least detailed enough to be relevant in an investigation of the content.

In this section, I focus on how formal curricula with content within civic education have developed in Germany since 2004 in some states. In that year, the GPJE published a proposal for national standards in political and civic education that had a direct influence on the curricula in some states and an indirect

influence in others (Detjen et al., 2004). The initiative for the proposal was taken for two reasons: first, because of the PISA reports and the mediocre performance of German schoolchildren in these tests, and second, because the conference of the ministers of culture was working on proposals for general standards in the school subjects, and because the members of the GPJE had an interest in influencing that process.

In this light, the GPJE proposal can be seen as a reaction to an international political situation in which actions by international actors (in this case the OECD as an intergovernmental organisation) and national institutional actors (the conference of the ministers of culture) had had an effect on local actors (in this case, the GPJE). It should be noted that the GPJE's action actually anticipated the decision by the formal institution. From one point of view they can be seen to have been acting proactively; from a different point of view, this is a case of what Foucault calls governmentality, which can have the effect that there is no need to change the legislation because the actors already have anticipated the political agenda.

I will not go into detail with the proposal but call attention to two points that can be seen as elemental parts of the international trend: the focus on competence, and the focus on output and measurability. The focus on competence in the proposal is very clear, and it centres around a model of competence areas for 'politische Bildung'. These areas are described as (1) political power of judgement, (2) political ability to act, and (3) methodological abilities. All are fitted into a frame of "conceptual interpretation knowledge" (Detjen et al., 2004, p. 13). As regards the focus on output, this shows in that this is a proposal for standards, and that its third chapter is dedicated to giving examples of standards, expressed in the form of what students should be able to do at the various different levels of their education (Detjen et al., 2004, pp. 19–29).

Competence in the German pedagogical discourse

The focus on competence has been an international trend in education, with the OECD acting and exercising an influence through its publications, including the DeSeCo project (OECD, 2005) and the PISA reports. In Germany, a report from the conference of ministers of culture published in 2003 gave a proposal on how to formulate standards for education at all levels (Klieme et al., 2007). In this report, competencies are understood (in my translation) as cognitive skills for the solution of specific problems as well as the motivational and volitional disposition to use these with success and responsibility (Klieme et al., 2007, p. 71).

A different approach to competence that has had a huge influence in Germany dates back to 1971, when Heinrich Roth published a definition of competence including self-competence, subject competence, method competence, and social competence (Roth, 1971). This was later further developed with the concept of action competence (*Handlungskompetenz*), which has been included

in several curricula, for instance Mecklenburg-Vorpommern (Detjen et al., 2012, p. 19; Bois et al., 2002).

In the GPJE proposal, as mentioned, the competence areas in political education are described as consisting of three areas (or domains): political power of judgement, ability to act politically, and methodological competence (Detjen et al., 2004). This model has been further developed, used, and also criticised in several publications. While some authors seek to broaden the model and formulate a more comprehensive model for civic education (AF, 2016), others have worked on developing a model of political competence (Detjen et al., 2012; Weißeno et al., 2010).

The proposal from the GPJE did not lead to the formulation of national standards for civic education, as the conference of the ministers of culture decided not to formulate standards for all subjects, but it did have an impact on curricula in several states, most notably in Berlin-Brandenburg, where it was implemented directly (even though it was subsequently changed once again). In other states, a combination of the Mecklenburg-Vorpommern model and the GPJE model was implemented (Christensen, 2017, p. 263).

To sum up, development in the curricula for 'politische Bildung' in Germany was influenced by international developments and by international actors such as the OECD; but the political structure in the country, both on a national level and at the level of the federal states, was also important. Furthermore, the existence of a community of scholars in the field has also influenced the way curricula are formulated.

The social science curriculum in Denmark

In Denmark, schools are the responsibility of the municipality, but the general guidelines, including the overarching curriculum, are set by the government. According to the format established in 1995, the published curricula include the definition of a set of areas of knowledge and skills and a guiding reading plan (*vejledende læreplan*). The municipality can either accept these definitions (which happens in almost all cases) or they can decide on a local reading plan. It has also been regarded as important in Denmark that teachers have freedom of method (Thejsen, 1997). This principle can perhaps be seen as an expression of the ideal of Didaktik: that the teacher has both the professional responsibility and the freedom to decide on what will go on in the classroom. Nevertheless, freedom of method has not been described formally in the legal documents and guidelines for the Danish Folkeskole, and it has been widely discussed and contested in the debate following the reform of 2014.

With the reform of 2014, the curriculum for both primary and lower secondary school in Denmark changed. The reform of the curricula, it was decided, should follow a set of guidelines intended to follow standards for competences set out in the European Qualifications Framework (EQF). In the EQF, competence is defined as:

> the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.
>
> (EC, 2008, p. 11)

In the guidelines for the developers, the curriculum is described using competence goals that are on a higher level, and the goals for knowledge and skills form part of the competence. For instance, in social studies one of the competence areas is politics, and here the competence goal is that the student should be able to "take a stand on political issues, local and global, and give suggestions for actions" (UVM, 2019c, p. 8).

It was a feature of the accompanying material provided by the ministry for teachers that the goals of knowledge and skills should be interpreted by the teacher as concrete learning goals for the students. It is this feature of the reform that has perhaps been the most debated, partly because it can be seen as a movement away from the Didaktik tradition – if we interpret this as meaning a situation of broad freedom for the teacher to choose method and content in the teaching. In this light, this alteration is seen as a move towards a more centrally defined curriculum, and towards a situation where how the teacher is to work is decided centrally, using what was described as goal-oriented teaching (*læringsmålstyret undervisning*) (Skovmand, 2016; Rasmussen, 2015; Rasmussen and Rasch-Christensen, 2015). On the other hand, proponents of the reform goals argue (or could argue) that the goals in question are not more detailed in their content than in the curricula of 2009, and that the teacher still has the freedom to choose the adequate method in the teaching (Rasmussen, 2015; Rasmussen and Rasch-Christensen, 2015).

This example of a curriculum can be seen as an example of how the framework from the EQF has been used and transformed in the making of the curriculum of the Danish Folkeskole.

One of the questions I wished to address is how the concept of competence is expressed in the curriculum. Again, I will use social studies as a case. The subject is divided into four competence areas: politics, economics, social and cultural issues, and social scientific methods. Each has its own competence goal – for instance, the competence goal for politics is that "the student can take a stand on local and global political issues and give suggestions for actions" (UVM, 2019c, p. 8). For the other areas (except for the social scientific methods), the competence goal is expressed similarly: that the student can take a stand and give suggestions for actions or can act (in the case of social and cultural issues).

Compared with other subjects in the 2014 curriculum, there is no consensus on how the concept of competence is to be interpreted. For some subjects, the competence areas are more like areas of knowledge. For example,

the subject of religious education (*kristendomskundskab*) has four competence areas: the philosophy of life and ethics (*livsfilosofi og etik*), stories from the Bible (*bibelske fortællinger*), Christianity (*kristendom*), and non-Christian religions and other life-views (*ikke kristne religioner og andre livsopfattelser*). An example of a competence goal from the Christianity area is that "the student is able to interpret foundational values from biblical tales" (UVM, 2019b p. 8). Other subjects describe the competence areas by means of verbs rather than nouns, thus signalling a more active understanding of 'competence'. For instance, the subject of history has competence areas such as the use of history (*historiebrug*) and work with sources (*kildearbejde*) (UVM, 2019a, p. 8). In the natural sciences subjects (biology, physics/chemistry, geography), a different approach has been taken, with four competence areas: investigation, modelling, communication, and perspective (putting into perspective). In this respect the natural sciences have implemented a common and more general concept of competences across the subjects (Daugbjerg and Negendahl, 2015).

These examples serve to underscore that there is no common understanding of the concept of competence in the Danish curriculum. Here, once again, is another example of the complexities involved in analysing the process of curriculum-making. Even if the Danish curriculum has been expressed in certain terms as a consequence of the implementation of a European framework – the EQF – the interpretations on the level of the subjects are distinct and depend on the actors around each respective subject. For instance, the natural sciences were able to choose a common framework for the competence areas, while social studies, history, and religion express very different understandings of what are regarded as competence areas.

Compared with the way the concept of competence is used in the German context of 'politische Bildung', it is clear that even when concepts are used internationally the use and interpretation vary depending on the local context. This is also in line with findings from Sweden by Nordin and Sundberg (Nordin and Sundberg, 2016).

Democracy and the international decision process

In the European Union, educational policy has been, and still is, the responsibility of the member states. On the other hand, there has been an interest in developing a common system and common standards. The EQF is an example of this. The so-called open method of coordination (OMC) is a way of making decisions that does not require the legal and institutional framework of directives. If the countries can agree on standards but leave it up to each state to decide on how they implement these standards, the entire legal framework is shaped within the purview of the member states. The decision-making process by which the member states together agree on the EQF but can then decide how to use the framework in local law-making is similar to the open method of coordination.

One question from the perspective of democracy is whether these processes are democratic, or in what sense they are democratic. The scholars Borrás and Radaelli have developed a framework for this analysis and suggest, following Weiler, the use of the term *demoi-cracy* to describe a form of democracy involving more than one people, or *demos*. When working with a multinational cooperation such as the EU, it is not enough to talk about one *demos*: it is necessary to work for a democracy of more *demoi*. Borrás and Radaelli use three normative models to discuss the legitimacy of the decision process, as shown in Table 5.1.

The models they use are liberal, communitarian, and deliberative, and they compare these with their own demoi-cratic criteria. In their view, the decision-making process (in this case the open method of coordination, OMC) can be evaluated from a democratic point of view using these criteria, which opens the possibility of a more complex understanding of European democracy – or demoi-cracy.

If we look at the process of the formulation of the Danish curriculum in this light, it seems that the parliamentary involvement is pronounced high. Even though the framework of the EQF is used, the interpretation is very much based on a national interpretation. On the other hand, this is exactly what was

Table 5.1 Normative principles of democracy and *demoi*-cratic criteria in OMC governance

Principles	*Link with democratic theories*	*Demoi-cratic criteria*
Parliamentary involvement	Liberal, communitarian, deliberative	• Participation of national parliaments in OMC processes • Parliamentary control of OMC results (national parliaments)
Societal input	Liberal, communitarian, deliberative	• Equal access and participation of interested stakeholders and civil society organisations at national level • OMC processes' responsiveness to societal demands • Possibility of public debate on the OMC processes overall and specific goals
Transparency and accountability	Liberal, deliberative	• Publicity of decision-making progress and results of OMC • Monitoring, reporting, and verification of OMC results
Deliberative quality	Deliberative	• Arguing vs bargaining as interaction mode in OMC process • Substantial openness of deliberation in OMC processes • 'Democratisation' of expert input in OMC processes

Source: Reproduced from Borrás and Radaelli (2014, p. 135)

criticised in the process: that the government is taking too much power over the content of the curriculum. Regarding the societal input, while numerous actors were invited to participate in the process of formulating the curricula, the process in itself was on the other hand rather closed, as the members of the working groups were instructed not to discuss the results before the work was completed. In one case – the curriculum for the Danish language – a discussion ensued when some members of the expert group found that the ministry of education had changed their input. As for whether transparency and accountability were achieved, the curriculum of 2014 has been widely discussed, and the process that followed when changes were made can be interpreted either as an example of deliberative qualities or as political bargaining following a change in government. Thus, it is not possible to give a clear-cut evaluation of the democratic qualities of the process as such, just to give an example of the factors involved.

Conclusion

Is the decision-making process a top-down process in which national governments fall in line and follow directives from transnational actors? Or is it a complex form of democracy which can be described by the concept demoi-cracy? As I have shown in this chapter, the process is indeed complex and involves a number of actors. In Denmark, the development of the curriculum has been directly influenced by international decisions, in particular the EQF; but the effect of that influence and the way it has in itself been interpreted has also been influenced to a large extent by local actors. This can be seen in the differing uses of the concept of competence between the various school subjects.

In Germany, looking at the development of the curricula in civic education, it is clear that international developments have also played a part, but local interpretation has an important influence. The existence of an academic community, for instance, plays an important role.

The conclusion is that the development of curricula in a comparative view must be seen as a complex process involving different actors on different levels. This is sometimes described as "multi-level governance" (Chou et al., 2017). The impact of international actors such as the OECD and the EU is to a large extent dependent on local factors such as academic traditions and the existence of organised groups.

To sum up, concepts that on the surface appear to be uniform, such as competence, can end up having different meanings across countries and across school subjects within countries. This calls for an ongoing international research effort to shed light on how concepts travel and change across countries and traditions – as has also been pointed out by Nordin and Sundberg (Nordin and Sundberg, 2016).

This conclusion emphasises that research in comparative curriculum development can give a new perspective on the development of the curriculum. It

can also be used to enhance understanding of the issues at stake in the dialogue between the Didaktik and curriculum traditions.

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Part II

Directions of educational scholarship within the field of didactics

6

Towards laboratories for meta-reflective didactics

On dialogues between general and disciplinary didactics

Ellen Krogh and Ane Qvortrup

In continental Europe, didactics is a core concept of educational theory and practice within which two specialisations have evolved: domain-specific didactics – here termed *disciplinary didactics*[1] – and *general didactics*. In Denmark, as in the wider Scandinavian context, the scholarly field of didactics is traditionally conceived as a subdiscipline of the overall scientific field of pedagogy, with the range of individual disciplinary didactics (in the plural) viewed as subdisciplines of general didactics. This conceptualisation has been contested since the 1980s. In the wake of globalisation and following the importation of anglophone educational paradigms, the position of didactics as well as the relation between general and disciplinary didactics have increasingly become issues of controversy, both within the world of academia and that of teacher education. The present chapter delves into these issues. Building on the Danish case, we develop a conceptualisation of didactics in which it is viewed as an independent education science rather than a mere subdiscipline of pedagogy. We suggest that both general and disciplinary didactics are meta-reflective scholarly fields, but that they constitute different yet complementary perspectives on educational matters. This meta-reflectivity supports reflection on and prioritisation of various educational goals. It further paves the way for scholarly self-reflection on didactics as a field rooted in specific cultural and political historical circumstances that have shaped ideas of education and educational goals.[2]

Didactics: a general introduction

The international dialogue on didactics unfortunately encompasses a problem of translation, as key terms in the discipline are not directly translatable into English. The narrow and somewhat derogatory meaning of the English word 'didactics' as the method of direct instruction in no way covers the meaning of the term in the north-west European educational context, where didactics involves theoretical, descriptive, and exploratory as well as normative, prescriptive work with the basic questions of teaching and learning – the what, the how, and the why. As such, it is involved or embedded in almost all professional activities dealing with teaching and schooling (Gundem, 2000). More specifically, didactics can be seen as operating at three concurrent levels: a theoretical or research level, where

didactics denotes a field of study; a practical, exercised level, where didactics mainly comprises the fields of teaching, curriculum-making, and schooling; and a discursive level, where didactics denotes the frame of reference for professional dialogues among teachers discussing school matters or other issues of teaching and learning (Hopmann and Gundem, 1998, p. 334).

Historically, there has been a wide variety within the field both in foci and in ranges of scope, but most of these share basic commonplaces: the autonomy of teaching, the distinction between content and the educative meaning, and, tightly connected to these, a commitment to the concept of Bildung:

> The purpose of teaching and schooling is . . . neither to transport knowledge from society to a learner (curriculum), nor a transpositioning of knowledge from science or other domains to the classroom, but rather the use of knowledge as a transformative tool of unfolding the learner's individuality and sociability, in short: the *Bildung* of the learners by teaching.
>
> (Hopmann, 2007, p. 115)

Hence Bildung relates to the transformative potential of education: the assumption that individuals can shape themselves and, in the process, contribute to wider social progress (Hamilton, 1998, p. 80).

The division of labour between general and disciplinary didactics originates in German didactics and teacher education (Gundem, 1998). Here, general didactics represents the overarching theory of pedagogic decision-making, as well as general theories of teaching, learning, and Bildung, while disciplinary didactics concerns the didactic issues of school subjects and disciplinary knowledge: that is, the relations among the content of disciplines (the 'what'), approaches and methods (the 'how'), and reasons and justifications for choosing content and approaches (the 'why') (Gundem, 1998; Ongstad, 2002). In the 1980s, the emergence of disciplinary didactics created a new wave within the field of didactics in the Nordic countries (Gundem, 2000, p. 254f.). In France, a similar ascendancy in disciplinary didactics had begun a decade earlier, related to the development of disciplinary didactics as an academic field (Schneuwly, 2011). But whereas French didactics is first and foremost to be understood as disciplinary didactics, focusing on transmitting and conveying disciplinarily organised content, in the Nordic countries, according to Gundem (2000), the growth of disciplinary didactics in the 1990s did not minimise the influence of general didactics. As we shall see next, however, other trends did work to reduce the influence of general didactics in the Danish context.

General and disciplinary didactics in the Danish context

In parallel with the wider international trend in the closing decades of the twentieth century, both interest and knowledge development accelerated within

disciplinary didactics in Denmark (Krogh, 2017; Holmberg et al., 2019). As in France, this development was related to the rise of didactics as an academic field. In the 1960s, the Danish Teachers High School or Lærerhøjskole[3] had been established to offer primary and lower secondary school teachers an academic education and to conduct a programme of pedagogical and didactic research.[4] With some delay, in the late 1990s, a university department for "upper secondary pedagogy"[5] was established, developing the Pædagogikum as well as advanced didactic courses for upper secondary teachers. Both institutions, dedicated to disciplinary didactics as a general research field, contributed to the rise of Danish disciplinary didactics (cf. Holmberg et al., 2019, p. 10ff.). At the present time, research within disciplinary didactic fields such as L1 didactics, natural science didactics, math didactics, and foreign-language didactics has become institutionalised in higher education positions and has organised itself in networks and around journals. In addition, researchers meet at regular Danish symposia on comparative disciplinary didactics as well as at biennial NoFa conferences (i.e. Nordic disciplinary didactics). Publication channels are the Danish *Cursiv* as well as the Norwegian *Acta Didactica Norden*.

As academic disciplinary didactics grew in influence, general didactics lost pre-eminence in the Danish context for several decades. Research environments oriented towards general didactic issues would often refer to pedagogy or learning theories rather than using the term 'didactics' (Qvortrup and Krogh, 2016). These changes originated in broader educational trends in which students' learning and learning theories were coming increasingly into focus. Within the so-called learning paradigm, teaching – and thus also teaching research – was oriented towards activities where the "learning environments and activities are learner-centred and learner-controlled. They might even be 'teacherless'" (Barr and Tagg, 1995, p. 21f.). The paradigm manifested itself in mantras such as "from teaching to learning" (Barr and Tagg, 1995), "responsibility for one's own learning" (Ansvar for egen læring, Bjørgen, 1991), and also in the Australian PEEL project (Baird and Mitchell, 1986), with its focus on students' learning processes, activities, and skills. At present, notions of learning have penetrated Danish education and schooling, and under the mantra of lifelong learning, serve to conceptualise activities across the span from day care to the 'third age'. The preoccupation with learning led to a reduced interest in, even a devaluation of the concept of teaching, because teaching was constructed as a phenomenon associated with conservative, authoritarian ideals of education (Qvortrup and Keiding, 2016). From the perspective of the learning paradigm, didactics was a blind spot.

Related to the learning paradigm, competence goals, overlapping with content categories and knowledge goals, were introduced into Danish curricula at all levels after the turn of the millennium. This, together with societal shifts in emphasis towards individualisation, has created uncertainty about the objectives and content of educational programmes that traditionally were oriented towards integrated aims of socialisation and individuation as incarnated in the notion of Bildung.

As both general didactics and disciplinary didactics are challenged by the learning paradigm and by the importation of the notion of competence, it may be surprising that disciplinary didactics grew stronger and more visible during this period, even as general didactics lost influence. According to Gundem (1998, p. 41), one reason for this is the close association of disciplinary didactics with both academic content and classroom practice, in contrast to the more abstract and overall issues raised within general didactics. Applying a sociology of knowledge perspective, Ongstad (2006) suggests that the flourishing of disciplinary didactics should be viewed as a response to the permanently changing contexts of school subjects and disciplines in the present age. When disciplinary knowledge is subject to pressure for change, there is a constant need to justify, reflect on, investigate, and further develop the knowledge field in question within the changing contexts, a motivating force for research and development. A parallel analysis is found in Schneuwly (2011).

Getting closer to our own time makes it harder to maintain a clear picture of movements within the Danish didactic field, and we find contradictory tendencies. On the one hand, the developments just described are confirmed, particularly within the field of teacher education, where disciplinary didactics has now been allocated a stronger position in curricula (Qvortrup and Krogh, 2016). On the other hand, as elaborated later, general didactic knowledge and knowledge development have also become increasingly influential, both at the academic level and at the level of teaching practice.

New actualisations of general didactics

The increasing interest in general didactic knowledge development may be viewed in the context of two trends, both of which draw on broader international inspirations than the traditional orientation towards German and Nordic contexts and hence indicate that the Danish and Nordic education system has moved in the direction of a more international perspective (Telhaug, Mediås, and Aasen, 2006). One trend targets the content of education, while the other targets a more structural dimension. Regarding the content of education, the increasing interest in general didactic knowledge can be related to shifts in and negotiations of educational and disciplinary standards. A stronger focus on competences and on knowledge defined not from within the disciplines but by reference to societal demands and the time we live in has resulted in a shift in the balance of knowledge and meta-knowledge such that "more disciplinary didactics [in the plural] are approaching general didactics or general disciplinary didactics" (Ongstad, 2006, p. 12). Thus, general didactic aspects have become accentuated through and in dialogue with disciplinary didactics. Regarding the structural dimension, we refer to the political interest in evidence-based knowledge spurred by international comparative studies, particularly the OECD PISA studies, and the growth of influential empirical meta-studies such as Hattie (2009), Helmke (2009), and Meyer (2004). These meta-studies actualise general

didactic issues because they focus attention on the more general aspects of teaching: what general criteria for good teaching can be identified, independent of the specific subject and specific context? According to Hattie, the knowledge we get from empirical meta-studies "does not supply us with rules for action but only with hypotheses for intelligent problem solving, and for making inquiries about our ends in education" (2009, p. 247). The very fact that empirical education research does not provide instructions to be enacted points to the importance of didactics, with its theorising, its modelling, and its normative focusing on teaching and teaching processes. Helmke points out that "[w]e must wish and hope that, in common interest, we will succeed in diminishing the gap between on one hand empirical research in teaching and learning and on the other hand general didactics" (2009, p. 54). Quoting Arnold, he continues: "What is fascinating in this constellation is that one research area contains precisely the supplementary components that the other area is lacking" (p. 54).

Thus, the emergence of empirical meta-studies and political demands for evidence-based teaching have created a renewed awareness of the need for didactic theories and research. One result is the call for investigations and discussion of the implications of meta-data for the understanding of teaching and learning (cf. for instance Biesta, 2012), as well as for transforming the meta-study indicators of what characterises good instruction into didactically reflective and applicable categories (Qvortrup and Keiding, 2014).

The revitalised dialogue between general and disciplinary didactics

This development only served to make renewed dialogue between general didactics and disciplinary didactics more important than ever. In the 1980s and 1990s the two fields were seen in the Danish context as hierarchically related. General didactics was described as "a more fundamental discipline than disciplinary didactics" (Nordenbo, 1983, p. 10), and a decade later, Schnack (1993) deplored the rise of strong individual disciplinary didactics (in the plural) with differing notions of learning and views of the human and society, claiming that this development poses an obstacle to shared didactic work towards general Bildung aims. In the other direction, from the perspective of disciplinary didactics, the field was constructed in reverse hierarchical fashion, positioning the scientific discipline as the overriding reference for disciplinary didactics, while general didactic issues concerning students and the social circumstances of teaching were conceived of as problems to be addressed at lower levels (Niss, 1997).

Since the turn of the millennium, however, we find Nordic endeavours to construct the relation between the two fields differently. Gundem (1998) argues that a wide understanding of didactics capable of including social and organisational structures and processes that influence the conditions of students and teachers is at the centre of pedagogy and in fact integrates its other subdisciplines. She further claims that within the field of didactics, it is disciplinary

didactics that has most explanatory force in relation to concrete decisions and choices, since disciplinary didactic reflections take place "in the intersection between pedagogical theory and disciplinary science, between general didactic theory and educational practice" (Gundem, 1998, p. 41f.). Further, Gundem documents that disciplinary didactic theory was developed within this intersection before becoming generalised into general didactic theories and models.

Ongstad (2006) argues for a similar understanding of the potentials of disciplinary didactics, without, however, adopting Gundem's placing of the field within the disciplines of pedagogy. He regards disciplinary didactics as an independent, communicative knowledge field that develops reflection on specific subjects and their significance for our knowledge about the world, about society, and about the forming of identities. Within this conception, rather than leading to narrow specialisation, researching specific subjects can offer a way of achieving overriding Bildung aims. Ongstad regards this development in disciplinary didactics as an invitation to engage in dialogue with general didactics:

> Carefully generalised disciplinary didactics [in the plural], along with an open-minded general didactics that follows the development of disciplinary didactics, may contribute to a new platform for both the theory of science, research, and education within the field.
>
> (Ongstad, 2006, p. 31)

Within the wider European context, the relation between general and disciplinary didactics has been thematised within the EERA 27 research network, Didactics: Learning and Teaching. In the introduction to a special issue of the *European Educational Research Journal* on the occasion of the tenth anniversary of the network, Ligozat and Almqvist discuss the "fiercely debated" structuration of didactics within different traditions: "The tendency to keep the subject specificity as a core principle is often opposed to the conceptualisation of the teacher–learner–content relation as a more general unit of analysis" (2018, p. 4). In line with the preceding Nordic reflections, Ligozat and Almqvist find that the research field as it stood in the year 2017 – as represented in the papers of the special issue – has the potential to go beyond the divide between general and disciplinary didactics. They extend this argument further to cover disciplinary didactic fragmentation and divides between specific subjects, as well as divides between curriculum theories and classroom studies in anglophone countries (Ligozat and Almqvist, 2018, p. 12). Ligozat and Almqvist point to comparison as the key tool for this venture (see the concluding section).

Didactics as a doubly reflective science

Concurring with these possibilities for dialogue and suggestions of a shared platform for knowledge development and practice, we call attention to *meta-reflection* as a didactic answer to contemporary challenges. The observed

development can be described as a response to uncertainty concerning fundamental issues of knowledge, schooling, and education – uncertainty that challenges teachers' didactic analyses and calls for research and renewed theoretical reflection on the knowledge field of didactics.

An important backdrop to contemporary challenges is the global knowledge economic competition which puts pressure on educational knowledge and expertise to promote competitive innovation and directs political attention towards efficiency and quality in education. Neoliberal management approaches call for decentralising government through market regulation of public schooling, but at the same time serve to secure centralised control through quality measures of 'outcome' that are based on standardised goals of student performance. As a result, accountability demands for the justification of choices of content and teaching practices have changed, and teachers are currently experiencing pressures for new kinds of reflection related to didactic analyses and choices. We could say that insofar as it represents a doubt that undermines their very foundation, uncertainty imperils didactic choices. How do we know what is better for the students in the concrete classroom – to prioritise training for tests and exams, so that their individual options of further education and jobs are increased? To prioritise other goals relevant for the workforce, such as innovative competences? Or to prioritise disciplinary knowledge goals, which are directed at developing and qualifying new perspectives on the world? There are no absolute and general answers to these questions. Yet teachers have to judge, decide, and act accordingly every day.

This analysis naturally implies no disregard either for the daily didactic analyses in which teachers engage or for the rich knowledge field of didactic and disciplinary didactic theories that serves to inform didactic analyses. It does, however, imply an enhanced complexity of the conditions of didactic analysis, as well as a need for recognition among teachers that theories and models offer possible answers and possible choices that might have turned out differently had other perspectives been adopted. Teachers need to be capable of adopting a second-order perspective on their didactic choices, that is, to observe these as choices.

At the theoretical level, we suggest capturing these developments by characterising didactics as a doubly reflective science. Even though developments within general and disciplinary didactics have been theorised differently, we also find shared features.

The analyses that follow of the meta-reflective positions within, respectively, general and disciplinary didactics draw on *perspective* – not only as a key concept but also as a focal point for understanding didactics as a humanistic science and didactic analysis as the form of knowledge of didactics. Drawing on the work of anthropologist Kirsten Hastrup (1999), we regard the *interpretation* of something that gives meaning as being at the core of humanistic sciences. The hermeneutic project is foundational in humanistic science for the very reason that it sustains the Renaissance discovery of the human

perspective, and this argument gives hermeneutics as a scientific practice a scope of higher order that transcends the literary and philosophical hermeneutic positions of the nineteenth and twentieth centuries. Adding to this line of thought, the historian of ideas Lars-Henrik Schmidt (1999) discusses humanistic science as a practical philosophy *or* as an analytical practice, yet with interpretation tied to a perspective being the basic condition common to both. Schmidt defines this practice as a *form of knowledge*, a ritualised disciplinary strategy tied to a specific knowledge area (Schmidt, 1999, vol. I, p. 36ff.). Within this frame of reference, we regard didactic analysis as the form of knowledge of didactics, tied to the knowledge area of education, content, teaching, and learning.

At the sociology of knowledge level, this development can be registered as shifts in the conceptualisation of the didactic fields towards independent knowledge areas, while in institutionalised contexts they still retain the status of disciplines. An illustrative case is Krogh's (2009) comparative study of Gundem's and Ongstad's conceptions of disciplinary didactics. Whereas Gundem (cf. earlier in the chapter) conceptualises disciplinary didactics as a subdiscipline of pedagogy that is exclusively related to education, Ongstad conceptualises the field as a late modern social phenomenon related to changes in disciplinarity and knowledge (see further later in the chapter). As a scientific subdiscipline, disciplinary didactics has established structures in the field along binarities such as abstract/concrete and whole/part, with the constitutive forms of knowledge being theory and practice. When, in contrast, disciplinary didactics is regarded as a late modern social phenomenon related to changes in disciplinarities and areas of knowledge, the field generates more processual and context-reflective analytical practices and reflection comes to be regarded as the constitutive form of knowledge. As emphasised by Krogh, these two conceptualisations of disciplinary didactics currently supplement each other, and this analysis illustrates a double reflectiveness at the scholarly level. It further demonstrates that teachers' uncertainty regarding educational goals and choices has its parallel in scholars' uncertainty regarding culturally constructed forms of knowledge and educational ideals.

In what follows, we take our departure in the preceding theoretical frame of reference and proceed to explore general and disciplinary knowledge as parallel, equally important, but different *perspectives* on the increasingly complex didactic area of knowledge. In Danish didactic research communities, the new conditions of double reflectiveness have been theorised within two different frames. The general didactic perspective has been theorised within the frame of sociological systems theory and the disciplinary didactic perspective within semiotic communications theory. Both didactic perspectives, however, point towards what may be termed laboratories for comparative didactics – whether these are to serve as 'contingency management' at the general didactic level or 'didactisation' at the level of disciplinary didactics.

General didactics as contingency management

Within Danish general didactics, the double reflectiveness of didactics has been theorised in the systems-theoretical didactics developed by Keiding and Qvortrup (2014). Since the mid-1990s, Niklas Luhmann's systems theory has been the source of inspiration for a community of Danish education researchers within educational sociology (e.g. L. Qvortrup, 2004; Rasmussen, 2004), pedagogy (von Oettingen, 2010), and didactics (Hansen, 2006; Qvortrup and Keiding, 2014). The systems-theoretical didactics proposed by Keiding and Qvortrup (2014) builds on their previous analytical and theoretical work and draws on a range of further German didactic research in addition to Luhmann and Hopmann.

According to systems-theoretical didactics (Keiding and Qvortrup, 2014), teaching is characterised by a boundary or distinction between intentionality (e.g. teaching) and uncertainty (e.g. learning). The distinction cannot be removed, and teachers need to maintain and reproduce their sensitivity towards it by insisting on both sides of the distinction. While it is probably not desirable to give in to uncertainty and unpredictability, even given intensive planning and controlling it will rarely be possible – and not desirable either – to maintain a strict steering towards the intended goal.

Systems-theoretical didactics describes the didactic knowledge field as an important resource for handling the distinction between intentionality and uncertainty. Thus, the didactic field holds theories that position themselves on either side of the distinction. We find theories that regard the unpredictability of teaching as an inconvenience and consequently focus on trivialising teaching, and we also find theories that regard unpredictability as an ideal quality that contributes to the emergent nature of teaching or advances teaching that is governed by the students' unpredictability and dynamics of self. These differing conceptualisations of teaching become resources that teachers can use to maintain the awareness of "what is possible if *this* is not possible" (Luhmann and Schorr, 1982, p. 16): that is, the permanent awareness of doing something, acting, but also always doubting the act; the need to trivialise teaching, but at the same time focus on its emergent nature. In this respect, didactic theories constitute an important knowledge domain of 'reflection programmes' for teachers' continual movement back and forth across the boundaries of teaching. The separate theories do not solve the 'problem' of teaching, since that is a basic condition, but they constitute a 'script' that provides solutions within its own context. "If this script is made the basis of teaching (and that applies to other scripts as well), it merely means that the teaching will be observed and assessed from this viewpoint" (Luhmann, 2006, p. 171). Hence it is essential that no theory should stand alone but needs to be doubted and supplemented with other didactic theories so as to maintain sensitivity to the boundaries of teaching. Any didactic theory implies blindness to something and therefore necessarily calls

for reflection on the choice of what to see. For this reason, systems-theoretical didactics is described as a both/and didactics. Didactic analysis based on repeated both/and focusing is described as an essential didactic competence that includes meta-reflection – which is conceptualised as a second-order position that makes it possible to catch sight of the blind spots of concrete choices (Keiding and Qvortrup, 2014, p. 260f.).

Künzli (2002) and Hopmann (2007) have identified three distinct phases in the history of didactics: didactics as (1) order, (2) sequence, and (3) selection. With the systems-theoretical analysis of didactics as a doubly reflection science, we may add a fourth phase, identified as *contingency*[6] *management*. While didactics as selection captures the situation in which a surplus of available knowledge creates the need for didactic reflection on what to include or exclude (Hopmann, 2007, p. 113), didactics as contingency management deals not only with selection but also with awareness of this *as* a selection and of the risk that follows from this. Teachers who maintain and reproduce their sensitivity towards the complexity of teaching will continually observe and thematise their didactic choices as choices; they will be driven by permanent critical reflection, searching for perspectives and opportunities for action that provide concrete answers in specific situations. But despite the demand for ongoing questioning arising from uncertainty about choices, systems-theoretical didactics does not paralyse action; on the contrary, it directs attention to the testing of both old and new roads. Hence, a crucial aspect of the theory is the advance of knowledge about these possible roads: about didactic research, theories, and models that create the basis for reflection not just about concrete choices, but about a wider set of approaches and possibilities for action.

This position involves a change to the academic field of general didactics. Historically, didactics was a humanistic (*geisteswissenschaftliche*) Bildung philosophy and also, in teacher education and educational practice, a practical methods discipline. It was regarded, in other words, as by definition normative or prescriptive. After the 1970s, however, a descriptive tradition became established that applied scientific methods to the empirical study of the circumstances in which teaching and didactics take place (Imsen, 2006). The theory of didactics as contingency management challenges the boundaries between didactics as, respectively, a normative prescriptive and a descriptive analytical discipline. Instead, an analytical normativity has been developed, which caters for the need to reflect on teaching in the light of *different* normativities. These different normativities form a central domain for reflection on teaching, and one that complements and must engage in dialogue with two additional domains – teachers' experiential knowledge and empirical educational research (Qvortrup and Keiding, 2014). The diverse range of didactic theories and models offers different thematisations of teaching that may be considered in a given situation in order to provide resources for acting according to the complexity and unpredictability of teaching.

Disciplinary didactics as didactisation

Within Danish disciplinary didactics, the double reflectiveness has been theorised within the communicative conceptualisation of disciplinary didactics, developed by the disciplinary didactician Sigmund Ongstad. Ongstad (2002, 2006) points out that a research-based disciplinary didactics rests on relations between the content of the subject (the what), the methods (the how), and the reasons for choosing content and approaches (the why). These interrelated aspects provide the point of departure for disciplinary didactic practice and research. There is, however, also a need for meta-didactic reflection and communication. For Ongstad, this constitutes the primary task for contemporary disciplinary didactics, but it is also the background against which increased attention can be paid to disciplinary didactics within academic disciplines and professions.

In knowledge economies, where there is demand for global competitiveness and adaptability, specialised knowledge is under pressure. Hence, there is a need for subjects and disciplines to discuss and justify their special contribution to education in answer to fast-changing conditions and contexts. Disciplinary didactics occurs through and as communication, which as a meta-dimension involves reflection on subjects and disciplines (cf. Ongstad, this volume). Ongstad introduces *didactisation* as the key concept for the communicative processes of reflection that propel contemporary disciplinary didactics (Ongstad, 2006). He states, as a purely descriptive observation, that contemporary disciplinary didactics, realised as didactisation, must take on a strategic responsibility to preserve, continue, and develop specialised knowledge that is under pressure from permanent change.

Didactisation, then, is both a descriptive and a neutral concept. Reflecting on processes of didactisation within Norwegian teacher education, Ongstad (2004) emphasises that there will be potential traps with both weak and strong didactisation of subjects and disciplines. With weak didactisation comes the danger of losing sight of the complexity of learning and the diversity of learners, and thus losing relevance in the teacher education context. With strong didactisation comes the danger that subject-specific content will be downplayed to the advantage of general educational aims and policies. Strategic responsibility in the context of current disciplinary didactics therefore involves a balancing act to avoid both these pitfalls.

Didactisation takes many shapes. It can take place at both practical, theoretical, and research levels. Importantly, it can also take place outside the educational field, wherever disciplinary knowledge and expertise is put to work in new contexts, or when the benefit of specialised knowledge is called into question. Ongstad's triadic semiotic communication concept draws on work by Bakhtin (1986) and Bühler (1934/1965). Rejecting the understanding of communication as a mere translation device between discipline and didactics, he conceptualises communication as an independent third aspect that actualises basic life-world aspects. In the communicative utterance, an 'I' addresses a 'you'

about the 'world'. The utterer expresses himself and gives *form* to a knowledge *content* through a communicative *act*. Thus, understanding disciplinary didactics as both communication and reflection actualises existential and *Bildung* issues that derive from the communication itself. Rather than directly combining disciplinary knowledge and general didactics, therefore, Ongstad regards disciplinary didactics as a post-industrial knowledge phenomenon connected to communication which constitutes an independent position for the observation of knowledge, subjects, teaching, and learning.

This theory makes meta-reflection part of the definition of disciplinary didactics – but as a both/and position. The classical didactic questions – what, how, why – are still of basic importance for disciplinary didactic knowledge production. Didactic analysis concerning the selection of content and the structuring of classroom practices constitutes disciplinary didactic practice, but didactic analytical practice has been expanded to include the role of communicative reflection. As core agents of schooling, teachers face various different challenges of didactisation. They may be challenged to didactise *outwards* so as to justify and argue for the relevance and usefulness of their subject in relation to for instance a fluent job market. They may need to direct didactisation towards their colleagues, in circumstances when interdisciplinary work requires the elaboration of subject knowledge and forms of knowledge production. But they may also face *inwards* challenges of didactisation in classroom discussions with students about the relevance of the subject and about what they need to learn, how, and why.

For teachers, therefore, the need for double reflection is a daily condition. To be able to face the challenges, they need access to a repertoire of research-based disciplinary didactic knowledge. They need access to theory and models of action that make it possible to respond reflectively *and* dynamically to uncertainty about the knowledge foundation of their teaching practice, where new discourses are offered at ever-increasing speed both by reform policies and by the textbook market.

Drawing on Michel Foucault, talk about the need to develop a *disciplinary didactic ethos*. Foucault described the philosophical ethos of modernity as a double attitude marking itself at one and the same time both as a state of belonging and as an obligation to think about what is outside: that is, with an inseparable duality between acting and reflection (1984, p. 568; cf. Krogh, 2006).

Laboratories for comparative didactics

As we have seen, contingency management and didactisation conceptualise parallel practices of double reflection. In both cases, meta-reflection is regarded as the contemporary condition for didactic analysis. No single theory, model, or concept can handle the contemporary challenges encountered in the previously protected space of schooling and education. Under challenge from

empiricist evidence orientation, politicisation, and economisation, school subjects are forced to develop a "pronounced and permanent readiness for change" (Ongstad, 2006, p. 28). The same applies to the concept of Bildung, and to discussions of the relationship between subjectivity and sociality in which "the self, the subjectivity, is not simply integrated into the social. In modernity, the balance between subjectivity and the world appears as a task" (Krogh, 2006, p. 127, transl. by chapter authors).

But the differing perspectives and theoretical groundworks from which the two concepts derive mean that the didactic analysis is construed somewhat differently within the two settings. Within the theory of systems-theoretical didactics, contingency management is described as a norm for a specific analytical practice that makes it possible to cope with paradoxical distinctions and fundamental doubt. Through its second-order conceptualisation of didactic analysis, this analytical practice provides both explanatory power and recommendations for how teachers are to handle contemporary educational challenges. In advancing 'analytic normativity', the theory challenges the traditional boundaries between normative practice and descriptive theory. Thus, although the theory of contingency management does not claim a fundamental difference in status for its repertoire compared with other didactic theories and models, it does claim to offer an unprecedented and highly relevant answer to contemporary challenges.

Within the theory of communicative disciplinary didactics, on the other hand, didactisation is conceived as an empirically observable condition of contemporary disciplinary didactics, and one that is propelled by permanently changing contexts for disciplinary knowledge and expertise. The analysis of this condition offers no recommendations but, on the contrary, points to the risks inherent in both weak and strong didactisation. Still, the theory of semiotic communication as a constituent of disciplinary didactics provides a framework for didactic analysis that actualises a Bildung aim through the access that students gain to different disciplinary knowledge areas. Since didactisation connects knowledge, teaching, and learning with fundamental life-world dimensions, this practice holds the expectation that processes of didactisation within school subjects will actualise affective/aesthetic as well as cognitive/epistemological and social/ethical life-world aspects. Hence, while systems-theoretical didactics is normative at the level of teachers' realisation of didactic analysis, communicative disciplinary didactics is normative at the level of the Bildung concepts and aims that inform didactic analysis.

An interesting further convergence between the two positions, in addition to the double reflectiveness approach, is connected to the pivotal status of communication in both theoretical frameworks. Communication, however, is not easily established as a theoretical commonplace. Within systems theory, social systems such as teaching are conceptualised as operationally closed networks of communication. Hence, communication is closed to psychic systems such as human agents, operating rather as socially manifested, observable processes.

The concept of communication proposed by Sigmund Ongstad is theorised within a social semiotic framework in which human agents are presupposed as sign makers, 'utterers', and addressees, and where the meaning of utterances is dependent on socially established genres and discourses.

The two frameworks – and the didactic *perspectives* framed by them – may, however, complement each other, both at the level of teachers' practical didactic analyses and at the academic level of research and theory development. At the practical level, teachers will need access to both general didactic and disciplinary didactic knowledge resources, and they will most often combine these in personalised didactic approaches. Still, "Didaktik and Bildung require normativeness, but they do not force submission to just one set of norms or beliefs" (Hopmann, 2007, p. 117). In the face of changing contexts that challenge their established didactic knowledge construction, teachers depend not just on the accessibility of knowledge resources but also on meta-reflective knowledge about the potentials and limitations of different perspectives. Hence, the need develops for communication within teacher education as well as in-service training that support meta-reflection in the form of contingency management or didactisation, while at the same time acknowledging the existence and qualities of the alternative perspective and additionally suggesting complementary approaches.

At the academic level of research and theoretical development, the distinctions between the two perspectives are much more clearly drawn, even "fiercely debated" (cf. Ligozat and Almqvist as quoted previously). At a theoretical level, the difficulties of finding common ground were illustrated in the preceding comparison of sociological and semiotic conceptions of communication. At the same time, however, these sporadic observations also illustrate the potential offered by comparative studies for reaching new insight by acknowledging and further exploring differences of disciplinary and theoretical positions.

As already indicated, the realisation of these potentials within the Danish and Nordic disciplinary didactic community led to the establishment of 'laboratories of disciplinary didactics'. These were institutionalised in research programmes, symposia, and conferences and are documented in a range of Nordic-language publications. More recently, we can extend the scope of developments even further. Contemporary *laboratories for comparative didactics* include comparative work across the perspectives of general and disciplinary didactics, as well as renewed dialogues between the international educational traditions of didactics and curriculum (Qvortrup and Krogh, 2016; Christensen et al., 2018; this volume). Within the wider European context, there are parallel endeavours within Network 27 on Didactics, Learning and Teaching of the European Educational Research Association (EERA), as documented in special editions of the *European Educational Research Journal* in 2007 and 2017 as well as in Hudson and Meyer (2011). Ligozat and Almqvist (2018) suggest that the divides between general and disciplinary didactics, as well as those between didactics and curriculum, can be bridged by two strands of comparative research, both of which are

exemplified in the special issue. One of these strands addresses the relationships between the theoretical constructions developed within the research traditions and the epistemologies in which they are embedded. This requires the double process of examining the historical and philosophical roots of their emergence and examining empirically how they operate. The second strand concerns comparisons between educational contexts, school subjects, curricula, and classroom practices.

Within the present laboratory of comparative didactics, Ane Qvortrup (2018) has explored the capacity of the "art of eclectic approaches" (Gundem, 2011) to address theoretical and cultural differences. According to Gundem, the art of eclectic approaches is a matter of "contributing to *clarification* and *understanding*, not least through providing concepts that help describing and explaining problems, situations, and associations" (2011, p. 65); further, the "next step . . . is also important: to explore, explain, articulate possible *alternative solutions* with different consequences" (p. 98). Or, as thematised in Schwab: "The eclectic art is art by which . . . we discover and take practical account of the distortions and limited perspectives that a theory imposes on its object" (1978, p. 323).

Eclecticism in this sense further advances the potential of double reflectiveness approaches for both cross-cultural and cross-theoretical exploration of educational constructions, as well as the scholarly self-constructions that they involve (Tröhler, 2014; Introduction, this volume). Thus, double reflectiveness calls for a didactic or philosophical ethos that involves the obligation to engage wholeheartedly in teaching, developmental work, or research, while always keeping in mind that other perspectives might have been taken which would probably have led to different decisions, solutions, or results.

Notes

1 In the didactic literature, the common English language term is 'subject didactics' or 'subject matter didactics', relating the field to the school subject. The reference terms, French 'discipline', German 'Fach', Danish and Norwegian 'fag', are, however, used for both academic and school disciplines as well as for other institutionalised knowledge fields. Since contemporary conceptions of the field are wider than the reference to school subjects would indicate, we consider disciplinary didactics to be a more relevant term. Cf. also Schneuwly, this volume.

2 This chapter is a revised and updated version of a Danish language article published in a Nordic journal (Qvortrup and Krogh, 2016) and further draws on a Danish language study book on general and disciplinary didactics (Krogh, Christensen and Qvortrup, 2016). All Danish, Norwegian, and German quotations are translated by the authors.

3 Currently, the Danish School of Education, Aarhus University.

4 In Denmark, the four-year education of primary and lower secondary teachers takes place at university colleges. The Danish School of Education at Aarhus University offers further and higher education of teacher educators. To teach at the upper secondary level, a five-year university education is needed, supplemented by a didactic in-service course, Pædagogikum, which for many years has been managed by the University of Southern Denmark.

5 Presently, the Educational Sciences unit at the Department for the Study of Culture.

6 According to Luhmann, 'contingency' concerns the condition that something is neither necessary nor impossible, but that something else may always be possible. There is, further, always the risk that the most favourable selection is not made: "Complexity [. . .] means compulsion to select, compulsion to select means contingency, and contingency means risk" (Luhmann, 2002, p. 62).

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7

Bildung as the central category of education?

Didactics, subject didactics, and general subject didactics in Germany

Helmut Johannes Vollmer

Introduction

The following chapter deals with the unresolved issue of the explanatory power and the impact of didactics or the didactics approach on school education which is prevalent in many European countries, especially in northern and western Europe.[1] Taking Germany as an example, the analysis shows that the Bildung-centred Didaktik[2] in the traditional form is in a crisis, it is rather powerless as to its orienting function for teacher education and for the professionalisation of teachers. It does not seem to be capable anymore of solving some of the overt problems in preparing teachers successfully and efficiently for the challenges of their future jobs. There are at least three weaknesses (one could even speak of 'deficiencies') which will be analysed in this context, namely (1) losing the content dimension out of sight, (2) lacking empirical orientation, and (3) defining the notion of *(Allgemein)*Bildung too narrowly as a more or less personal dimension of education and not enough in material or functional terms. In this chapter, I will argue that these serious weaknesses can only be overcome if the content-/subject-specificity of didactics is appropriately taken into account and if the concept of education as Bildung is extended and redefined on more than one level, namely on a *personal* AND on a *functional* level, thus preparing teachers and students alike for the challenges of the twenty-first century.

Didactics as a respected and academically acknowledged scientific field can only survive, the central role of didactics for educational theory and practice can only continue to exist, if this identified 'gap' is overcome. General didactics clearly needs to be revised or rather complemented by another scientific approach which is already partly in the process of replacing it in the quest for a cohesive understanding of powerful knowledge and Bildung at a time of global change and of preparing for an unknown future. My claim is that subject didactics is the missing link between the content-oriented academic disciplines at university on the one hand and the educational sciences at large (including general didactics) on the other hand.

Subject didactics in diverse forms and types have evolved over the last 30 to 50 years, from providing teaching recommendations at first into areas of

scientific inquiry in relation to specific but limited domains of reality and of analysing the world. Significant features of all subject didactics are (1) focus on content-based education within the system of historically and culturally marked subjects in school, (2) empirical orientation in their research and procedures (at least in principle), and (3) development of an overall theory of *subject-specific education as Bildung* in the double sense (based on personal and functional dimensions).

In the following I will illustrate this dynamic change away from Didaktik/didactics as a general approach towards subject-specific didactics and their multiplicity of relevance for education of individuals, for acquiring basic insights and powerful knowledge and at the same time the tools for continued learning, for critical self-reflection and relating to oneself as much as to the world. The specific development in Germany stands for the massive incorporation of subject didactics into teacher education and for the theoretical advancement towards a common theory of all subject didactics (under the label of general subject didactics).

In the long run, we need to compare the different varieties of subject didactics within Germany with those in Scandinavia or in other German-speaking countries, but also in France or in Switzerland. By making transparent their commonalities as well as their specific differences and thus identifying their relative contributions to a comprehensive understanding of education in a formal and material sense (cf. Klafki, 1996), will we be able to strengthen and renew the Didaktik/didactics tradition and offer an alternative to the curriculum-based thinking and research as practised mainly in North America and other parts of world outside of Europe. Whether both approaches could be related to each other more productively and could jointly design elements for an extended, strengthened conceptualisation of teacher education and of teacher professionalisation remains to be seen (cf. Hordern, Muller and Deng, 2021). To find out about the potentials and possibilities of such an encounter is exactly the purpose of this project and the book devoted to it. A prerequisite for finding common ground would be an in-depth mutual understanding of each other, of both approaches in their traditional forms as well as in their renewed, modernised theoretical perspectives (based on appropriate conceptual translations or paraphrases; cf. Vollmer, forthcoming). In that way, this chapter could help to outline some points of departure – at least for one of the two strands – and offer links for a future discourse.

Structure of the chapter

The chapter is subdivided into three major parts. General didactics will be outlined first, describing its achievements and the didactic models which it produced. The fact that these models exist next to each other and that they are not empirically validated led to a crisis in the field which has continued for some time and even increased. Others contradict this evaluation and take

different counteractive measures so that the future of general didactics is somewhat open today.

Contrary to that, the status of subject didactics has evolved positively over the years, which will be dealt with in the second part. Generally speaking, it is more secure than ever before (for some areas better than for others). The individual branches of subject didactics fulfil an important function in studying education from a subject-based point of view: given the existence of school subjects within the curriculum, they reflect this subject-specific structure of teaching and learning on the scientific level. They have a clearly defined object of study and an array of appropriate research methodologies at hand so that they are beginning to become well established, equal partners as scientific disciplines, acknowledged in the academic world. As such, they have become very influential for teacher education.

In the third part, I will report about the emergence of general subject didactics as a meta-theory. In recent years, it has become clear that the individual subject didactics have much in common, yet that they are also very specific and different in nature. Under the roof of a joint professional organisation (the German Association for Fachdidaktik) the contacts became more intense and systematic, as will be demonstrated. It was only natural that the goals and outcomes of different subjects and that of education as a whole were compared and put into relation with one another: the approaches, procedures, experiences, and results from different subjects and subject didactics were linked across curricular borderlines, so as to identify their specific contribution to a meaningful personal development of the learners and to the construction of powerful, sustainable knowledge, tools, and capabilities as part of a comprehensive education. In this context, the German discourse on Bildung will be introduced, lately defined in a wider sense: distinguishing a more *traditional* variety (relating to self-formation and self-cultivation) and a more *functional* understanding of Bildung (relating to the knowledge of the world, preparing for life and work, for participation in society, for socio-cultural and political activities). This reinterpretation of education as Bildung in the double sense implies an active role of the subject as well as that of the teacher; both are considered *central* and will guide the rest of the chapter.

Didactics in general – general didactics

Didactics in general deals with the question of what constitutes 'good' teaching, how to plan a lesson well, and how to produce satisfying results among students. Within that frame of reference, the 'what' of teaching (the content) sometimes plays an ambivalent role, whereas the 'how' of institutionalised teaching (the methods and means) is predominantly present in all didactic models. However, decisions about content and methods of teaching are fundamentally dependent on the *goals* of teaching (and of learning), as defined, set, or strived for by the school, by the state, or by teachers and learners themselves. Those three

dimensions are central, but in an extended view, didactics also deals with the 'who' (with 'whom'), the 'when' and 'where', and the 'why' or 'what for' (in the long run); traditionally, it deals less with the question of 'How do we know?' (striving for empirical evidence).

Focusing on the case of Germany specifically, the educational sciences cover a large area of topics and research questions all related to education, its conditions and effects in the widest sense, on the formal and informal level, on the personal and institutional level. Many of its subdisciplines want to understand and describe what education is, how it functions under diverse circumstances and how development/progress takes place, also wanting to improve the practice. Didactics is the theory and practice of teaching and learning in school (Jank and Meyer, 2011, p. 16) and beyond (in the space outside, before and after schooling). Others like Coriand (2017) define it more explicitly as a theory about the relationship between teaching and learning, acknowledging the dialectics between instruction (German: *Erziehung*) and Bildung. Didactics will have to integrate these different facets into its scope of educational thinking all the way down to good lesson planning. In particular, it has to mediate content and pedagogy, individual development with the empowerment of students through meaningful educational experiences and relevant knowledge building. It does so largely independent of content or subject area.

General didactics as a mode of thinking and reflecting about institutional teaching and learning has a long-standing history, starting in ancient times through the influential work of Johann Amos Comenius, with his major work entitled "Didactica Magna", all the way down until today. As a 'science', however, it is struggling for acceptance within the academic world, mainly because of its lack of empirical data (generation) and its normative orientation. Nevertheless, general didactics is still reasonably well established in many universities of Germany today, mainly because of its claimed importance for teacher education. At the same time, it is more and more under attack and in a self-declared crisis.

Didactic modelling

In general didactics, there are many models offered for characterising good teaching, and many theoreticians working in that field. Yet, didactic modelling is hardly based on empirical research – rather it is predominantly normative and value oriented. Little is known about what really goes on in the classroom or in a particular lesson dealing with a specific topic and taught in a specific way. So we receive little or no new information about educational reality over the years. Nevertheless, many ideas about alternatives in teaching or learning are offered in more or less abstract terms which are only partly helpful for understanding or mastering a concrete teaching/learning situation. General didactics sometimes turns to a particular content item, but only for illustrative reasons, it is not really embedded in subject-matter structures or knowledgeable about them (except when a scholar is a go-between), common issues for all learning and

structural conditions for all teaching are addressed like general processes or general assumptions about teaching and learning, perceived obstacles or injustices, potential contradictions, etc. General didactics helps to reflect those structures and conditions and to relate them to basic goals and educational values, speculative at times, but that is its strength as well: it can offer a critical corrective to the actual teaching and learning practice. And this critique is normally not turned prescriptive. Meaningful modelling, however, or lesson planning requires more.

It is perhaps surprising, but understandable, that general didactics is being replaced to some extent by approaches of educational psychology with their highly sophisticated models of teaching, interaction with other variables, and outcomes orientation. Yet it is exactly the philosophical dimensions of education (goals, norms, values, social conflicts) that keep didactics in business.[3] As to the growing crisis, some influential representatives like Hilbert Meyer (forthcoming) saw it already develop over the last years; he lists the following four indicators:

1 professorial posts formerly dedicated to general didactics are more and more redefined for empirical classroom research; alternatively, the posts are cancelled altogether. This shows that general didactics has not succeeded to give itself an empirical basis, in spite of recent efforts (cf. Rothgangel, 2017, pp. 151–152).
2 The time allotted to general didactics within teacher education curricula is also shrinking. Whereas it was self-understood for years that all teacher students had to take a course in that field and had to participate in one or two seminars on that topic, this is not the case anymore. In many universities, there are no didactics lectures offered at all; rather, students turn to subject didactics right away. And where general didactics is still being offered as an introductory course, subject didactic topics and programmes are quickly taking over.
3 Many representatives of subject didactic disciplines do not relate to the discourse in general didactics anymore;[4] instead, they rely on their own extensive research results and their own models of teaching, which are quite differentiated by now, though content-bound.
4 Educational psychology is gradually taking over the core domains of general didactics. What used to be a unique object of didactics for more than 200 years turned into a topic of psychology, almost unnoticed and without protest or public debate. Another candidate to threaten general didactics could be what is called 'empirical teaching-learning-research' or indeed subject-matter didactics itself, with its new extension of general subject didactics (discussed later in this chapter).

The future of general didactics

Other representatives in the field of general didactics strongly contradict and oppose this critical view – e.g. Meinert Meyer (2016) or Ewald Terhart (2019). The first one, co-founder of a newer variety of didactics (*Bildungsgangdidaktik*,

Meyer and Reinartz, 1998), has rejected this perspective for a long time (Meyer and Meyer, 2009). The second one, the author of many influential publications, also sees no need to question the status of didactics within the German academic landscape (e.g. Terhart, 2018). Others, like K. Zierer, editor of the *Yearbook on General Didactics*, or N. M. Seel, even claim that 'general pedagogy' (their translation of *Allgemeine Didaktik*) is indispensable in view of the unsettled issues of 'good' teaching or 'instruction', as they prefer to label it (Seel and Zierer, 2018).[5] They quote G. Heursen (2005) who pointed out that (general) didactics will only survive ("experience a new springtime"), if the integration of empirical teaching-learning research into the discipline would be successful. This seems exactly what, according to Seel and Zierer, is starting to happen: overcoming eclecticism, studying general educational models empirically (Wernke, Werner and Zierer, 2015). It should be noted, however, that the empirical methods applied here are mainly qualitative and 'judgemental' (cf. Zierer and Wernke, 2013). The authors also mention Hattie's meta-analyses (2008) as a proof for this development, plus closer links between general didactics and instructional design. All of these processes indicate to them that general pedagogy is "capable of handling the developments in the scientific field and of staying the central discipline for the education of teachers in the future" (Seel and Zierer, 2018, p. 388; my translation).[6] And indeed, basic didactic models will continue to be of relevance and helpful in the first phase of teacher education, at least for beginners.

Interestingly enough, there is another new approach of comparing the different "didactic models" in a meta-theoretical perspective. Scholl (2018) identified almost 100 competing designs within Germany over the last 100 years. According to him, the pending crisis was also caused by general didactics itself, namely through the fact that the models hardly make explicit reference to one another, nor do they build on preceding suggestions. Additionally, none of the models reflects classroom reality completely and thus cannot claim to represent the discipline as a whole. Scholl takes resort to a fundamental theory of communication (as part of a comprehensive systems theory of society) formulated by Niklas Luhman (1992), in order to develop a common frame of reference against which he then re-analyses and classifies the different models, focusing on the most powerful and influential ones (such as Heimann, Otto and Schulz, 1979; Schulz, 1991, or Klafki, 1996) as prototypes for particular aspects within the overall framework. He comes up with a meta-structure of ordering the field, subdivided by components like content, time sequence, and socio-communicative order (Scholl, 2018).[7] It remains to be seen whether Scholl's study will cause new debates and disciplinary self-inquiry; certainly it has the potential to do so.[8] In this context, we can look forward to a new edition of the book on *Didactic Modelling* by Jank and Meyer, announced for 2021. It cannot be denied that some basic models about lesson planning and good teaching as well as recent introductions into general didactics (e.g.

Coriand, 2017; Terhart, 2019, or Jank and Meyer, 2011, 2021) have a clearly orienting function and will be important also for future generations of teacher students and teachers.

Curricular perspectives

There is good reason to believe that general didactics will continue to exist, though in a different form. Its relevance might reduce, since its educational tasks and goals are (partly) incorporated by other disciplines, as shown previously. What is the general within general didactics? It all depends on whether the discipline can contribute to defining the general goals and dimensions of education, the common core of institutionalised teaching and learning on the conceptual, the content, and the communicative level. And this is more than describing the tasks and purpose of educational practice: it requires to mediate explicitly between the individual and society, without "sacrificing" the needs or demands of the individual to those of society or vice versa (cf. Benner, 1987, p. 123), without losing one or the other out of sight or stressing one dimension of education more than the other. This is an issue that general subject didactics (see later in the chapter) also faces in a similar way, as rightly observed by Terhart (2018, p. 89): if we re-discover Bildung and its relevance in both directions "as the core principle for determining which tasks a school should undertake and which ones it should reject" (von Hentig, 1996, p. 13), it would give us the power to judge what is important, valuable, and "good" (p. 13). Ideas like these are still rather vague or even fuzzy, they would have to become more concrete or even operationalised on the personal and on the content level, e.g. by defining a shared system of values and a shared base of knowledge as key competences.

At this point, the work of Baumert (2002) becomes important. His educational theory is an important provider of new theoretical considerations for general didactics (as much as for general subject didactics, by the way). Based on the existence of school subjects, Baumert acknowledges them as historically grown organisational units. But he also qualifies them as social and intellectual organisers of reality, of providing access to the world, of encountering and experiencing it. Baumert describes their potential for becoming restructured into groups of related subjects with a similar underlying type of orientation or logic: he distinguishes four types of 'rationality' or ways of relating to the world (2002, p. 113), namely

1 Cognitive-instrumental modelling of the world (math, natural sciences . . .)
2 Aesthetic-expressive encounters with and shaping of the world (language/literature, music/fine arts (painting/visual/graphic art), physical expression)
3 Normative-evaluative approaches towards economy and society (history, economic education, politics/social/legal studies)
4 Tackling problems of constitutive rationality (religion, philosophy).

These rationality types have already been applied for subdividing areas of literacy within the PISA approach of large-scale testing and of comparing achievement results internationally. According to Baumert, they represent something like the "structure of an international core curriculum" (2002, p. 108). They are amazingly close to the idea of a general education (*Allgemeinbildung*) based on these structures (even with explicit reference to Humboldt; Baumert, 2002, p. 107). In our context, suffice it to say that Baumert strongly criticised specific didactic models like those of Klafki (e.g. 1996) or Blankertz (1973), because they wanted to overcome the issue of a curricular canon in an unrealistic way and to question the future of subject didactics (even as domain didactics, for example) and were against changes in curriculum development accordingly. Instead Baumert recommends an orientation along the lines of Wilhelm Flitner (1961) who was the first to formulate the aforementioned types of 'rationalities' as modes of world encounter (*Modi der Weltbegegnung*).

As a provisional result, the very idea that the general within general didactics could be identified and named positively in terms of goals and content seems to be problematic. Rather, we have to accept that there are alternative ways to perceive, experience, and structure the world and thus to relate to it educationally, as persons, teachers, or learners. Similarly, it seems somewhat naive to think that one can renounce a certain canon of subjects or subject-matter areas altogether. This insight and conviction underline the need for subject-matter didactics and support their theoretical and practical work.

Subject-matter didactics

Subject-matter didactics (or short: subject didactics)[9] has many branches according to the specific area of focus and expertise, developed over the last 50 years and well established by now as academic disciplines. What helped to secure this status was a clearly defined object of study and an increasing orientation towards empirical research plus the insight into its importance for teacher training. Whereas the curriculum movement of the 1960s and 1970s failed to fulfil its own claims to model the world as a whole for learning purposes in school, subject didactics were more successful because they kept to school subjects as part of the existing (state) curriculum. They created teaching materials, gave advice and made recommendations, developed teaching models, and finally turned to empirical studies (e.g. teacher and learner attitudes, motivation, teaching/learning preferences, feedback practices, etc.). Later they dealt with questions like transforming new academic insights into teachable content or restructuring the subject-specific curricula altogether, in view of PISA and operational definitions of educational success. Also the increasing diversity of the student population became a major concern. We can identify the different individual subject didactics like biology or history didactics as separate disciplines, dealing with the teaching and learning of a specific, more or less defined area of social reality, in school and beyond. But at the same time, they all share a large number

of similar, comparable, unresolved issues which are waiting to be tackled and solved. The assortment of research methods to be applied for scientific inquiry and practical studies is somewhat limited. Yet, there was little cohesion among the different subject didactics; as a matter of fact they are only beginning to find out about their differences and commonalities under certain comparative perspectives, stimulated by the existence of a newly developed scientific approach under the name of general subject didactics (GSD, see later on in the chapter).

Subject didactics as scientific disciplines

According to self-definitions of representatives from different subject didactics, there are three major tasks identifiable for all of them:

1 Reflection and analysis of the school subject with all its dimensions (from institutional matters via content issues to new goals, experimentation with or theoretical justifications of teaching/learning methods).
2 Improvement (even "optimisation") of subject-specific teaching, learning, and education, including analysis and management of inequality problems and enabling Bildung as a process and product for all through dealing in-depth with subject-based issues.
3 Mediation between academic knowledge, subject-didactic knowledge and the fields of application on the personal and public level (including subject didactics for the media, for industry, museums etc.) – areas often neglected, but also not well defined. These dimensions are left aside in this chapter.

Thus, the individual subject didactics describe, analyse, and theorise subject-specific teaching and learning in all its forms, including the relevant societal as well as anthropological conditions (cf. Schneuwly, 2011). Historically speaking, subject didactics as disciplines developed from agencies of reflection and counseling, based on issues of normativity and societal values, into empirically oriented scientific fields, responsible for the selection and justification of goals, for the preparation of teachable content (within the framework set by society and politics), for the successful mediation of relevant knowledge and skills (including support for special needs), and for studying the variables and conditions that influence the teaching-learning process. Given the myriad of tasks, it is assumed that up to 200 different subject didactics exist as academic fields of study, including the ones for all the vocational subjects and special learning areas (without necessarily being labelled as such). Each one has a clearly marked object of study, equipped with appropriate methodologies and built-in forms of self-reflection and self-evaluation. Some disciplines are better anchored within universities or colleges of education than others. Some constituted themselves later or developed slower, others set the pace, also in theoretical reflection and research output, and in the numbers of young emergent researchers waiting to become initiated into their specific subject area. The research balance is

impressive, though biased by qualitative approaches (given the number of publications and third-party funding from esteemed research agencies).

One could demonstrate how subject didactics is positioned between the academic content disciplines (*Fachwissenschaften*) on the one hand and the educational sciences in their different forms on the other hand (Abraham and Rothgangel, 2017). This last area relates particularly to general didactics as opposed to subject didactics. Subject didactics participates in both areas of research and discourse mentioned, but over the years it has become independent and autonomous in its own self-definition and achievements. The different subject didacticians are also actively involved in analysing and supporting solutions for problems existing in their respective subject area; advising school districts, teachers, or ministries and developing appropriate policy papers or teaching material(s); also making suggestions for cross-curricular topics or projects (like data management, digitalisation, inclusion, or teacher education). All of this is also influenced by the institutional context in which they operate and which they serve, namely whether it is part of a comprehensive Faculty of Philosophy, a Faculty of Education, a Teacher Training College or a University of Applied Sciences or Arts. These different types of embedding will have some effect on the self-definition of the subject didactic disciplines and their modes of self-presentation and legitimisation.

The status of subject didactics in the academic field is largely secured within Germany (although there are still some tendencies to occupy some posts consecrated for didactics with pure scientists or empirical educational researchers). Each of them has developed its own self-concept, each one presents itself scientifically at conferences (either separate or together with the teachers in the field), all of them publish their own book series and collection of materials, many of them edit a peer-reviewed journal, except where the development of the discipline is less advanced. So, the need to exchange between them, to see how a neighbouring subject discipline is operating, whether there is overlap and common ground between them, and last but not least what the specific challenges of the future are, has developed quite naturally for almost 25 to 30 years.

Relationship between different subject didactics

Within Germany, individual subject didactics have cooperated with one another on the national level for a long time, formally so under a common roof of a professional organisation named Association for Fachdidaktik (Gesellschaft für Fachdidaktik, GFD, co-founded by the author in 1999, with forerunners to that; cf. Vollmer, 2017). The GFD comprises almost 30 professional membership associations by now which meet twice a year, hold regular bi-annual conferences, try to influence research organisations and politics in their agendas, and above all provide platforms for the internal discourse among all the different subject didactics which profit enormously from this exchange. In addition

to a book series (*Fachdidaktische Forschungen*, with over 20 volumes by now), the GFD also publishes a new international journal (online, peer-reviewed, in English only) entitled *Research in Subject-Matter Teaching and Learning* (RISTAL.org), which offers a global platform for discussing subject-didactic issues and research findings worldwide.

Teacher education especially profits from this dynamic cooperative movement. The ongoing discourse among the different subject didactics has already led to discoveries of mutual interests, to joint scientific actions or theoretical clarifications. With a spreading number of professorships for subject didactics and their relatively secure institutional embedding, the status of subject didactics and its role as an academic partner and a serious research co-operant is more or less acknowledged. However, communication and exchange between general and subject didactics as a whole is still underdeveloped and needs to be better promoted within the next years.

Through all of these measures and interactions a high level of conceptual and organisational exchange was reached, leading to an infrastructure among the different individual subject didactics which is strong and productive, and which respects the differences between them. Simultaneously, many commonalities like research topics, research methods, goal settings, use of reference systems, balance between theoretical and practical work, etc., are identified and mutually acknowledged. The same is true for subject-didactic contributions to teacher education (including offers for in-service training) and to teacher professionalisation, which becomes more and more *subject-specific* (e.g. Prediger, Leuders and Rösken-Winter, 2017). This is exactly the area where subject didactics could cooperate extensively with the educational sciences and already does so to some extent (cf. Cramer and Schreiber, 2018). What does a teacher need as a knowledge and competence base for becoming and staying a good professional in the twenty-first century? This is a question concerning many disciplines and is discussed in many parts of the world. In dealing with this question, the educational sciences and particularly general didactics plus subject didactics could contribute substantially: their different scientific approaches and findings could interact productively (cf. Abraham and Rothgangel, 2017; Rothgangel, 2017; Vollmer and Klette, forthcoming).

General subject didactics

Again, the central question has to be raised: what is the common good among all the different school subjects and the subject didactics related to them? Can one identify a general educational strategy or consensus and a common goal among them? And how does each of them contribute to such a common educative purpose? Questions like these originate from the need to look beyond one's own disciplinary boundaries, comparing and generalising different subject didactics as to their structures, procedures, practices, and insights, and finding out what they share, but also what distinguishes them and how each contributes

to the overall education of an individual – because of or in spite of their distinctive differences. To put it metaphorically: answers to these questions require us to step onto *a higher level of observation* in order to see and compare the activities and results of the different individual subject-matter didactics. This is exactly what constitutes general subject didactics (GSD): it is based on several columns, which can be defined as levels of 'observation' or research, related to the theory of science by Niklas Luhmann (1992). Applied to the topic of subject didactics, the three levels distinguished by Luhmann are as follows:

1 First order observations are, for example, observations of teachers and pupils in subject-specific teaching and learning processes.
2 Second order observations are, for example, research within subject didactics, in which the observations between teachers and pupils in subject-specific teaching and learning processes are observed on their part.
3 Third order observations are, for example, research on the level of general subject didactics, where the observation is now directed towards the respective research and theory-building in subject didactics and how they arrive at their findings through observing the subject-specific teaching and learning processes taking place in the classroom.

This last level involves scientific re-analysis, namely comparison between different subject didactics and their theories (bottom-up movement) plus the construction of theoretical insights based on comparison or related to subject-based education as such (top-down movement). These processes lead to a *Theory of Subject Didactics* at the same time (Rothgangel, 2020; Rothgangel and Vollmer, 2020). The term 'GSD' and the concept it denotes (in German: *Allgemeine Fachdidaktik*) is not easy to translate into smooth and comprehensible English. Yet, we have no other choice than to paraphrase and contextualise it, if we want to try and make us understood by others and comprehend each other in the mutual socio-cultural embeddedness of our thinking altogether.

The cooperation among the different subject didactics as academic disciplines has already led to the establishment of many interdisciplinary research groups and activities across subject borders, within universities or faculties and also within the Association for Fachdidaktik (GFD) itself. One group has been working for some time now on finding out about the self-concepts, the research foci, and the state of theoretical reflection in the individual subject didactics. Parallel to that, attempts at defining what a particular subject-specific view of school education is or could be (as opposed to a general, philosophical view of education as such, independent from subjects) have been advanced theoretically. Both movements together led to the formation of this new scientific approach, general subject didactics. The initiating research project was formed by six scholars belonging to five different subject didactic backgrounds as their fields of expertise: namely, German as a Mother-Tongue Didactics, Biology Didactics, Music Didactics, Didactics of Religious Education, and English as a Foreign Language Didactics.

As they tried to look at the achievements and the deficits of the individual didactic disciplines, it became clear that one cannot do this just from the outside: that the project required cooperation from within the subject didactics themselves in self-describing and presenting their view of their specific approaches and ways of looking at the world, of modelling their insights and the findings of their neighbouring disciplines and qualifying their own contributions. Accordingly, these self-reports were then compared and analysed as to their commonalities and differences. In spite of the fact that general subject didactics is a fairly young scientific theory, there are already two major book publications out on the market (Bayrhuber et al., 2017, and Rothgangel et al., 2020) plus a number of contributions in article form describing and explaining the approach as well as its results so far (e.g. Bayrhuber et al., 2018; Bayrhuber and Frederking, 2019; Rothgangel and Frederking, 2019), some in English (e.g. Vollmer, 2014; Rothgangel and Vollmer, 2020) or in French (Vollmer, 2013). Extracts from the first two volumes mentioned here are in the process of being translated into English by the authors (cf. Vollmer and Rothgangel, forthcoming).

Foundations of general subject didactics

One of the reasons for the establishment of general subject didactics was the observation that the bulk of more recent research within the various subject didactics was no longer being processed or taken into account by scholars of general didactics. In that sense, GSD fills a task that was insufficiently performed by didactics as a branch of educational science (but cf. M. Meyer, 2016). The word 'general' within the term 'GSD' refers to the results of 'generalising' the subject-specific findings and theories of the many different subject didactics themselves, while also taking their subject-related peculiarities into account (Rothgangel, 2020). General subject didactics thus follows a logic that consists of the interplay of bottom-up comparisons and analyses and independent top-down reflections, focusing on teaching and learning within and beyond the different school subjects and on the specific theories about subject teaching and subject learning that one or another subject didactics had already developed about it (cf. Rothgangel and Vollmer, 2017, 2020).

The agency for relating the different subject-oriented disciplines to one another has created this new discipline, or rather *meta-discipline*, which does not fully exist yet but which is under way (among other things through discussions within and among the subject-didactic communities at large, nationally and now internationally). Areas of comparison so far have been historical developments, goal settings, influences from the state and political agendas, curricular expectations, research approaches applied, procedures for identifying teachable content, definition and evaluation of subject-specific teaching models and of (measurable) outcomes, and cooperation with other subjects in school or with neighbouring disciplines. Other areas like more teacher- and teaching-related ones will follow. Through the different avenues of self-explanation and

self-presentation, *one* particular common goal turned out to be of utmost joint interest and to become more substantial: in how far does each of the subjects involved think they contribute to the overall education (in the emphatic sense of the term) of the learners and how can we evidence this? More concretely: how does the next generation of students become equipped with the appropriate knowledge, tools, and intellectual plus moral strength for mastering their own future? How do they learn to think, to think in relations, constitute mental networks, become critical and autonomous through subject teaching and learning; how do they learn to communicate across social and cultural dividing lines and how does the official subject-based curriculum help them to do so?

Subject-based education as Bildung: the core of all subject teaching and learning?

At this point, the notion of 'subject-based education as Bildung' came up within the reports of individual subject didactics and thus the need for developing a theory which acknowledges the contribution of content teaching and learning for a comprehensive education of young learners. How could we bring the subject-based contributions into play, re-examining the concept of Bildung as a process and a product, redefining it in subject-specific terms, looking at both sides of the educational process, the personal and the functional one and the needs to go along with it, as mentioned earlier?

In her book *The Educated Subject and the German Concept of Bildung* (2016), Horlacher has given an impressive overview of the manifold meanings and uses of the term 'Bildung' at different times and in different socio-cultural contexts in which it was activated accordingly and revitalised again and again, not only in Germany or the German-speaking countries but also elsewhere on the globe. She was able to demonstrate that this continues to happen till this very day: the term seems to be flexible or fuzzy enough (on top of being 'trendy' again) to serve a number of functions for different philosophical traditions and lines of thinking over time, concerning education at large, by now also obligatory, state-governed education, even when it is based on assumptions of teachability, learnification, and outcomes orientation (cf. Horlacher, 2016, ch. 9, pp. 118–129). And indeed, for many of the subject didactics in Germany the notion of Bildung has become a synonym for the ultimate goal of their education – yet in a much wider sense than was traditionally meant. Accordingly, we developed an understanding of the notion which comprised not only the tacit forms of shaping the individual mind and personality of each learner in a purposeless manner (quasi as a side effect to content learning or as an addition to it). What seemed equally important was the development and unfolding of basic capacities or key competences and skills for personal development as a social being and for solving problems of the twenty-first century in a participatory, interactive way. In our revised and extended understanding of Bildung this part would imply the mental and socio-cultural equipment of

individual learners for intercultural sensibility, for cooperation and democratic citizenship.[10] Each subject would still be self-responsible for such a development towards autonomy and critical evaluation of knowledge and facts, but the school's (or society's) responsibility would be to offer rich opportunities for developing such critical and practical knowledge to be acquired by everyone. So in the end, we distinguished between two aspects of Bildung: personal versus functional Bildung, acknowledging that this notion can take on both meanings (cf. Frederking and Bayrhuber, 2017, who identified early as well as contemporary traces of both understandings). We are aware that this heuristic distinction could trigger wrong connotations: personal aspects of Bildung also rely on a sound knowledge base, whereas the acquisition of functional competencies and dispositions also require personal readiness and motivation and can imply corresponding benefits for the learner as a person, for his or her own personal development and cultivation. Possibly the different facets and dimensions of both sides are more interwoven than perceived so far, there seems to be no real contradiction between the two goals in this perspective. Many more theoretical advances in formulating an appropriate and precise theory of subject-based Bildung are still needed, of course.

As to the term 'knowledge', we can distinguish at least three different types: 'factual' knowledge (*knowing that* . . . which, however, involves always more than one single notion alone, which connects to a whole network of concepts), 'epistemic knowledge' (*knowing how or how to*, knowledge about the origins and procedures of gaining new pieces of knowledge) and 'applied knowledge' (*knowing why or what for*, including social use or misuse of knowledge, knowledge of the powerful vs. powerful knowledge; cf. Young, 2008; Muller and Young, 2019). This trifold division also reflects the structures of content, as analysed and distinguished as early as 1964 by Schwab: he distinguishes 'substantive' structures (conceptually organised, e.g. research results) from 'syntactic' ones (relating to the acquisition of knowledge). Both should be complemented, however, by 'applied' structures as a third type (cf. Bayrhuber, 2017) where knowledge is used for a number of purposes, among them uncovering problematic or false assumptions, finding out about wrong assertions or fake news, experiencing degrees of reliability and trustworthiness or checking its relevance. At least the last the two types of knowledge can be accounted for as elements of *functional education as Bildung*, since the learner is empowered and put into the position of acquiring and evaluating new knowledge or handling given/factual elements critically. This second element is clearly needed as a reflective mind with a firm critical attitude so to look through and overcome the simple and easily superficial structures of knowing that and knowing how. At the same time, this is a basic educational outfit for life, also against the misuse of knowledge by powerful others. It was the educational sociologist M. F. D. Young (2008) who introduced the term 'powerful knowledge' in this context in order to qualify the content basis as fundamental for learning for life.[11] He triggered a whole debate about curriculum change and the reintroduction

of specialised knowledge as equipment with appropriate tools (cf. "What Is Educationally Worthwhile Knowledge?" Derry, 2018; cf. also Vollmer, 2021).

In the course of our research, we became aware that in times of OECD and PISA the second meaning of Bildung, the functional one, is becoming more prominent in educational philosophy and practice: it is strongly connected with an extended literacy concept, originating from North America itself or at least from the anglophone world (Frederking and Bayrhuber, 2017) and more indirectly with the notion of competence (as contextualised ability, yet as a transferable disposition; cf. Vollmer, 2021). By focusing primarily on the many subject-based literacies at school, these can easily become the dominant goal or area of attention in modern, globalised education, while the original aspects of Bildung (associated with the unfolding of the person, with self-formation and self-cultivation) could become more easily overlooked, forgotten, or even endangered in the everyday practice of teaching for useful skills, measurable outcomes, and competences. On the other hand, mental procedures like inferencing, comparing, probability thinking, cultural-historical embedding, or even learning to learn could exactly become part of the personal qualities of Bildung. And, in the acquisition of functional literacies, in getting to know the basic epistemological structures of a field, the basic procedures of acquiring content knowledge, of using it and adding to it and thereby discovering even more of it, there is actually a personal educative dimension already implied in these activities.[12] In that sense, personal aspects of Bildung partly happen within or through functional acquisition processes, as an aside or as a side product, so to speak – almost unintentionally at first, as a way of building up and unfolding critical, powerful knowledge in the students, provided they actively want, adopt, and support this in the longer run.

General subject didactics as a developmental project

General subject didactics, as illustrated, is a new approach, a new mode of thinking, comparing and generalising. It is a well-documented cross-disciplinary project of scholars within the German Association for Fachdidaktik, offered to subject-didactic communities worldwide. It has striking similarities with the network *Knowledge and Quality across School Subjects and Teacher Education* (KOSS), which operates even internationally and brings together three cross-disciplinary educational research groups rooted in several academic disciplines from Sweden, Finland, and England. They seek "to understand how educators and education systems can ensure that school-based knowledge building reaches its transformative potential" (cf. KOSS, 2020). In their work, they draw upon the concepts 'powerful knowledge' and 'epistemic quality' to help understand the qualities that knowledge building has when it is effective and empowering and how educational processes can build and develop these properties.[13]

As to general subject didactics in Germany, the methodological framework of this research approach has been thought through and described with care

and precision, contrary to many projects of general didacticians where the methodological framing is simply left out or forgotten. The main basis of this qualitative research approach is that of the *Grounded Theory* (Strauss and Corbin, 1996, as one of several appropriate methodologies), by which the subject-based observations about subject-specific teaching, made within subject didactics, are once more observed on a higher level, compared, systematised, and generalised (actually a meta-analysis).

GSD is a powerful frame of reference in which the central questions of subject-based teaching and learning as well as the links beyond and across subjects are adequately dealt with. This is particularly true under the perspective of Bildung in the double sense as the overriding educational purpose. In this perspective, general didactics could become a relevant reference partner again for subject didactics, all the more if a meta-theoretical justification of general didactics is also winning ground and generalisable empirical results would be offered, based on comparison between subjects, subject didactics, and subject-specific modelling, similar to the self-understanding of GSD. General subject didactics is an abstract concept; it is not a new discipline, it is not institutionalised within university structures and will probably never be nor has it any equivalence in professorial posts. Rather, GSD represents a mode of comprehension and thinking (in the sense of Popper, 2009) or a mode of observing on three different levels, as outlined earlier according to Luhmann (1992), by which peculiarities and differences among individual subject didactics, their concrete theories and findings can be studied and made transparent through comparison. In that sense, GSD can also be paraphrased as a Theory of Subject-Matter Didactics (Rothgangel, 2020; Rothgangel and Vollmer, 2020).

The decisive point here is how general subject didactics will describe and justify the general dimensions within its meta-theory, whether or not it will be successful in identifying and characterising the different facets and aspects of subject-specific education as Bildung on a general level and put it into a convincing theory or theoretical frame of reference (*fachliche Bildungstheorie*). This is the major task at the moment. There are several sources possible on which to draw for such a theoretical construct:

1 Reported experiences from subject teachers (*first order observations*: a topic lending itself for deeper educational processing, materials, or goals cutting across subject-specific borderlines, cooperation with other subject teachers, team teaching, cross-curricular projects, etc.).
2 Self-analysis and reports from the different subject didactics (*second order observations*: concerning educational practices in the classroom, goals identified, research results, and above all theoretical modelling of the subject-specific teaching-learning processes). This source is open to further findings, discoveries and reports (cf. the 17 contributions in Rothgangel et al., 2020, on the state-of-the-art and the research perspectives of the respective subject didactics).

3 Selected results from general subject didactics (*third order observations*, according to Luhmann, 1992), as presented selectively in Rothgangel et al. (2020), Rothgangel and Vollmer (2020) – especially in view of personal or functional education (Bildung). These illustrate the strength and productivity of a bottom-up procedure through comparison and analysis (based on the Grounded Theory) as much as of a top-down approach through theorising.
4 Systematic reconstruction of *historical traces*: what was understood by Bildung in earlier times of history until today? Can one identify a distinction between personal versus functional Bildung in the past, in the classical literature from the Middle Ages via Wilhelm von Humboldt till today? Can one find traces of 'subject-based education' as a task for schools or self-learning (cf. above all Frederking and Bayrhuber, 2017; see also Schneuwly and Vollmer, 2018). In this context, Baumert's theory of four "modes of world encounter" or of relating to the world (2002, p. 113) is helpful: it assumes that there are "horizons" of world knowledge and of understanding the world which are fundamental for education (in the sense of *Bildung*) and which cannot be replaced by one another nor anything else. This insight supports the survival of a general, canon-based (possibly domain-oriented) curriculum.
5 Finally, *anthropological dimensions* (like rationality, reflexivity, or emotional balance) as much as *basic socio-cultural ones* (like discourse ability or acceptance of otherness/diversity) have to be checked for inclusion into such a list of components for a subject-based educational theory. Many more will be worked upon within the next months (cf. early reflections in Vollmer, 2013, 2014; more recently in Vollmer, forthcoming).

Only by shifting away from descriptive-analytical levels towards normative argumentation plus recourse to Baumert's modes of world encounter will a theory of education succeed in assigning a specific role and position for subjects or subject didactics in a future curriculum. Overall, there will be flexibility necessary between different methodological approaches: on the one hand, systematic-historical (re-)construction of subject-oriented facets of Bildung, inductive reasoning and analyses, generalised from specific observations and findings (bottom-up movement), and finally the level of theoretical construction and insight (hermeneutic procedures, top-down movement). All of these approaches can help to identify central elements for an extended understanding and conceptualisation of a *subject-based education theory*. We are looking for cognitive, emotional, physical, and interactional categories of Bildung which are cross-curricular and generic in nature, forming the basis for a learner's personal development and his/her empowerment simultaneously that help master future challenges and demands. Other components are self-reflective, critical, education towards autonomy, and citizenship. The publication of such a subject-based theory of Bildung is planned for 2022.

Outlook

Resuming the research question which was posed in the Introduction: can subject didactics fill the gap which was left open by general didactics – at least in part? As we have demonstrated, a diversification and specialisation of different subject didactics can indeed be better equipped and respond more appropriately to the issues of content education, of researching within a limited area of concern and discussing goals and consequences in personal as well as functional terms. But it is only the scientific work on the "third level of observation" (Luhmann, 1992), the comparative subject didactic research within the framework of general subject sidactics, which allows us to look at the overall educative endeavours of the whole system and derive a theory of subject didactics from it. In connection with a newly developed approach of 'subject-based education as Bildung' we had to overcome (or surpass) the traditional 'Bildung-oriented Didaktik' in the version of Klafki and others in order to unfold an extended understanding of education, of didactics, and of subject didactics (deliberately spelled in an Anglicised form) in which Bildung figures differently, yet even more centrally as the goal of personal development and self-cultivation as much as of knowledge-building and functional empowerment through the acquisition of competencies. Such a theory of subject-based education as Bildung needs more clarification and theoretical precision, of course.

There are also a number of unsettled issues (theoretical and practical ones) in connection with the topic that we cannot deal with in this chapter. To tackle them requires a reconsideration of the whole educational system or systems plus reorganisation of curricula. One of them has to do with a reevaluation of what constitutes educationally worthwhile knowledge (cf. Derry, 2018; Muller and Young, 2019), in close relation with the concept of Bildung, as presented in this chapter (Vollmer, 2021). Another one has to do with a restructuring of the subjects or learning areas in school. In view of these complex issues, more general subject didactics is needed: advances in subject-based education theory as much as in empirical teaching and learning research, including design-based research, specifically geared to individual subjects.

Whether this is just a national agenda or a European one (cf. Hudson and Meyer, 2011, or Ligozat and Almqvist, 2018; Hordern, Muller and Deng, 2021) or whether it will even be possible to communicate and discuss these questions worldwide with some chances of mutual understanding remains to be seen (cf. Ligozat et al., forthcoming). The problems of different historical, cultural, and professional traditions remain and those of translation are also enormous (cf. Hopmann, 2007, 2015). Yet, we need precise terms for the international exchange on the topic. 'Subject(-matter) didactics' is already a compromise in translating the German term *Fachdidaktik*: it is an attempt to enable a more unified exchange and scientific communication across national borderlines, at least among those who are familiar with didactic thinking. The use of English as a *lingua franca* is different from that of British or American

English: 'Subject Didactics' (or 'disciplinary didactics', as often labelled in other European contexts) is a paraphrase for what is usually thought of differently within many Anglo-Saxon communities, so it is not clear at all what meaning will be associated with that term or whether a common English denominator can (ever) be found and whether or not something like a scientific theory of teaching and learning in different content areas is jointly understood by it. Something similar applies to other notions like 'content', for example, where teachable content is normally derived in a double process of transformation, according to the didactic framework of thinking. Even in dealing with Shulman's notion of 'Pedagogical Content Knowledge' (PCK) there are serious problems of translation. As much as he tries to bring content, pedagogy, and teaching methods together in the mind of a teacher, his model does not capture enough of the interactive nature in the planning, teaching, learning, and evaluation processes along defined goals and areas of knowledge building. There is something important missing here, at least from a subject-didactic point of view: but how to express it in English? (cf. Vollmer and Klette, forthcoming).

It remains to be seen how we can revitalise the 'old' debate between 'Didaktik' versus 'curriculum' from the 1990s and turn it more productively than before (Westbury, 2000), also responding to newer developments in the large field of didactics. Hopmann sketches some of the dramatic changes which have taken place ever since. He argues that "the double game of curricula and testing is far from over" and that there are more theoretical efforts needed on both sides than ever before and even more dialogue in terms of international exchange of experiences, if we do not want "to lose our orientation on this rocky path" (2015, p. 20). Earlier, Siljander, Kivelä and Sutinen (2012) have already done some important philosophical groundwork for a potential meeting of continental European and North American minds, coming from two different cultures and educational backgrounds – at least for one aspect of *Bildung* in connection with the notion of *growth* and personal, individual maturity. The other dimension of Bildung in connection with literacy, with key competences and the needs of a modern society including economy and employability (as used by the OECD), still has to be explained better and integrated in theoretical terms, if the apparent contradictions between a humanistic (idealistic) approach and a social scientific one and thus between inner developments and capabilitiesfor mastering outer life are to be overcome. One of the points of reference should be the debates about PISA and the national as well as international comparative measurement approaches triggered by it (for Germany cf. Klieme et al., 2003, and more specifically Klieme and Hartig, 2007). The authors developed a more differentiated concept of Bildung or competence; they argued that each subject or area of learning must create its own competence model. For them, competence means "the ability of a person to cope with situational requirements" (Klieme and Hartig, 2007, p. 16). What exactly is the transformative power in that definition of competence? And does it still reflect Bildung, even in a functional sense?[14]

Since our discourse seems to be so very European (as didactic thinking is altogether), it is not easy to be properly understood in anglophone academic cultures and vice versa. But with the new tendencies of a globalised education taking place on both sides of the Atlantic, it is worth another try: we should indeed go one step further towards a deeper understanding of each other this time. In any case, the dialogue will be complex, if not complicated.

Notes

1 I gratefully acknowledge the cooperation with my colleagues Ulf Abraham, Horst Bayrhuber, Volker Frederking, Werner Jank, and Martin Rothgangel within our project *General Subject Didactics*, funded by the Association for Fachdidaktik, Germany. My contribution is partly based on our joint discussions and findings.

2 We will distinguish between the notion of 'Didaktik' (relating specifically to the discourse centred around Wolfgang Klafki and his theoretical work on material and formal Bildung or *Allgemeinbildung* respectively) and the English terms 'didactics' and 'subject-matter didactics'. The latter two denote the science and art of teaching and learning in school and beyond in a general sense or in a domain-specific way, as long as teaching is planned, goal-oriented, and systematic. 'Didactics' and 'subject-matter didactics' or 'disciplinary didactics' are now largely being used in Europe for cross-cultural communication and could also become acceptable to native speakers of English. This distinction coincides with the usage indicated in the introduction of Krogh, Qvortrup, and Graf (this volume). Nevertheless, some scholars consider the term 'pedagogy' a possible equivalent for 'didactics' in English (cf. Vollmer, forthcoming).

3 Some critics mock that didactics without subject specificity is like knitting without wool.

4 This development was analysed by M. and H. Meyer in their joint publication of 2007 (p. 155) based on their observation of an increasing absence of the didactics of Wolfgang Klafki within the discourse of subject didactics in its different forms and communities.

5 The term 'pedagogy' as an academic discipline (and not only as an act of teaching) normally covers more scientific ground and addresses more issues of education than 'didactics', which deals more systematically with teaching and learning or instruction in institutional settings in a narrower sense. The latter notion does not exist within the English-speaking world, however, and certainly not in its comprehensive meaning. In any case, pedagogy comprises didactics and also specialised forms of teaching and learning (while many European scholars would rather talk about 'subject-matter didactics' or 'disciplinary didactics').

6 According to Thomas Kuhn (1962), old theories do not only die because they are outdated or cannot be confirmed by empirical data, but because the young, emergent researchers do not turn to them anymore – they turn to new paradigms with more precision and explanatory power. This could happen to general didactics: there seems to be little increase in new knowledge and understanding, instead repetition and new summaries of the old discourse (cf. Porsch, 2016).

7 There is no space here to outline the procedures or results of his study in more detail.

8 It is striking that Scholl used the same theoretical framing and methodology for his re-analysis of some of the important didactic models in Germany and for building his 'Meta-Theory of General Didactics', as did a group of subject didacticians in developing their '(Meta-)Theory of Subject-Matter Didactics', namely by comparing and identifying the differences and commonalities among the existing subject didactic disciplines and by theorising those.

9 Outside of Germany, the term 'disciplinary didactics' instead of 'subject didactics' is also used (in France and in parts of Scandinavia as well) – the problem being that it brings the content or knowledge to be taught at school into too close a relationship with 'academic'

disciplines and their findings (at least in German). If the term 'discipline', however, denotes the subdivisions of content structures or the different areas/domains of knowledge at university and equally so in school (cf. German: *Fach/pl. Fächer, Wissenschaftsfach vs. Schulfach*), both terms describing different specialised fields of teaching and learning content in school are acceptable (Vollmer, forthcoming). In any case, scientific content has to undergo several transformations in order to become teachable and relevant for different groups of learners within school subjects (cf. Schneuwly, this volume).

10 In order to prepare for this, learners have to become active participants within the teaching-learning processes themselves.

11 The notion of 'powerful knowledge' in connection with curriculum studies opens a totally new debate which cannot be dealt with here; but see Young (2008), Young and Muller (2016), and Guile, Lambert and Reiss (2018); see also Vollmer (2021).

12 The contribution of English as L2 for a comprehensive education (Bildung) of learners can be exemplified here. English contributes to intercultural sensitivity, to structuring and transforming thoughts into text, to experience as a system or to analyse (subject) discourse critically and thus to develop also the personalities. But English as a subject also fosters the formation of relevant socio-cultural knowledge by language use: critical capacities and skills, knowing conventions, comparing expressions and language systems, knowing how to learn a language, etc. (Vollmer and Vogt, 2020).

13 The three research groups, ROSE (Research on Subject-specific Education), SSRG (Subject Specialism Research Group), and HuSoEd (Research Community for Humanities and Social Sciences Education), within KOSS focus "on the ways in which knowledge itself is transformed as it is re-contextualized at individual, institutional and societal levels. Our long-term goal is to contribute to meeting the needs of future citizens by producing new knowledge about educational processes; this will have the potential to improve education by supporting the development of powerful subject disciplinary knowledge in schools" (KOSS, 2020; cf. also Gericke et al., 2018; Hudson, 2019).

14 Horlacher rightly points out that the term 'Bildung' has lost "none of its brilliance and public efficacy for both defenders and critics of PISA. Defenders wish to replace *Bildung* with the term competence, thus overcoming its perceived limitations as an ambiguous and yet culturally specific term; critics wish to restore the classical concept of *Bildung*" (2016, pp. 125–126). Both resort to the notion when it comes to discussing normative guidelines and perspectives.

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8

‘Didactiques’ is not (entirely) ‘Didaktik’

The origin and atmosphere of a recent academic field

Bernard Schneuwly

Switzerland, as many know, is a multicultural country where different languages and cultures coexist and meet. And so, also, do the francophone and germanophone cultures of ‘didactique/Didaktik’. At encounters where researchers of both communities interact – and they have to do so in order to develop the academic field of ‘Fachdidaktik/didactique disciplinaire’ on a national level – it is immediately noticeable that their main research interests do not coincide. ‘Competence’ and ‘competence models’, for instance, are at the core of German-speaking colleagues but a topic almost absent on the French-speaking side. Thorough analysis of what happens in ordinary classes with the taught contents is a common topic in the ‘didactique’ of Suisse romande, whereas reform and intervention in order to transform school practice is much more of a preoccupation of the ‘Didaktik’ in the Deutschschweiz.[1] This difference is linked to the fact that both sides refer to their respective francophone and germanophone communities and are also part of two wider scientific cultures.[2] Taking this difference as its point of departure, the present contribution tries to shed a little light on the francophone community and scientific culture in ‘didactique disciplinaire’.

As can be seen, the preceding paragraph and the title of this chapter make use in part of French (and German) expressions: indeed, ‘didactics’, as one knows, is a *plurale tantum* and as such cannot express the fact that there is a scientific field ‘didactique’ which itself contains, for instance, ‘la didactique du français’ (French didactics, in the singular) and many others, too, namely ‘les didactiques disciplinaires’ (disciplinary didactics, in the plural).[3] In addition to this, the word ‘disciplinaire’ refers to ‘school subjects’, that is, to ways of organising knowledge[4] in order to make it teachable. These preliminary remarks show that there are cultural differences in the ways of thinking about school, knowledge, teaching, and learning through teaching[5] that are crystallised in different languages. In a certain sense, the mere fact of writing in English sets limits on the possibility of transmitting what ‘didactiques disciplinaires’ – henceforth the expression ‘disciplinary didactics’ will be used – in francophone countries might mean. The more so as the francophone scientific community working in this domain is quite important and has been producing knowledge for some 50 years and in consequence of numerous different orientations.[6]

Although there is no 'école francophone', no 'French school' in disciplinary didactics, it is nonetheless possible to describe something like an 'atmosphere', a common feeling that allows researchers to communicate across school disciplines and tendencies. This is because common concepts exist to which most of them refer in one way or another. One reason for this is, in turn, that the origins of many francophone disciplinary didactics have something in common. This text begins therefore with some of the characteristics of these origins that allow us to understand some dimensions of the particular atmosphere. In so doing, it contributes to the discussion in the present volume in a specific way. Its central aim is to shed some light on what 'didactique' can mean – on a way of thinking about this domain which differs for historical and cultural reasons from 'Didaktik', one of the two central concepts of the dialogue analysed in the volume. 'Didaktik' is one educational tradition of didactics; 'didactique' is another, with other roots, other cultural references, other histories. Becoming aware of these traditions does indeed give the "chance of becoming aware of ourselves as historical and cultural constructions" (Tröhler, 2014, p. 65). To put it in another way: the dichotomy to which the phrase 'Didaktik and curriculum' points has as its background an antithesis between continental European and Anglo-Saxon traditions. This is the way the discussion has been led up till now; but this dichotomy has to be specified. One way to do this is to integrate 'didactiques disciplinaires' and their specific context, linked also to an educational tradition which differs from (yet at the same time is similar to) the German and, more generally, the north and central European one and its important reference to Bildung. In the first part of my chapter, I will describe some elements that explain how and why 'didactiques disciplinaires' emerged in French-speaking countries, and what is their background. This is a way of contributing to the dialogue between *Didaktik* – in a new and larger sense – and curriculum,[7] which forms the topic of the present volume.

In the second section of my chapter, I will present what I have called 'atmosphere'. What does it mean to describe an 'atmosphere' in a scientific field? Giving answers to questions like the following allow us to characterise an atmosphere in a scientific community, in an 'academic tribe' as Becher (1989) calls it. What kind of questions do researchers ask, mostly? What are the most common interests? Which notions and concepts do they use regularly? What kind of contradictory debates draw people in? In order to give elements of answers to these questions on a more specific level, I have drawn on two journals dedicated to (disciplinary) didactics in general, *Éducation et didactique* and *Recherches en didactique*, the synthetic presentations of particular didactic disciplines mentioned in note 6, descriptions of various didactic domains collected in the collective volume entitled *Les didactiques en questions: état des lieux et perspectives pour la recherché et la formation* (Didactics in question: state of the art and perspectives for research and training; Elalouf et al., 2012) and the *Dictionnaire des concepts fondamentaux des didactiques* (Dictionary of the fundamental concepts of didactics; Reuter et al., 2013).

'Didactiques disciplinaires': origin and background

The driving forces of a new academic field

Two driving forces contributed to the development of disciplinary didactics (see Hofstetter and Schneuwly, 2014). The first one was the tertiarisation of teacher education: on the one hand, the education of primary school teachers was systematically transferred from normal schools to higher education institutions; on the other, the professional dimension of secondary school teacher education was taken over by universities or, if already governed in that institution, greatly strengthened. What does 'higher education' or 'university education' mean? Two elements are essential: the systematic articulation between research and education, and a deeper articulation of education and practice. In the teaching profession, knowledge (in the broad sense defined earlier) that is to be transmitted from one generation to the next is at the heart of its practice. Since the linking of research and education is one specificity of university education, it was necessary to develop a disciplinary field that was centrally concerned with the processes of the dissemination and transmission of knowledge in schools and other institutions, namely disciplinary didactics. In many European countries, this field was indeed developing in direct connection with the construction of teacher education institutions located at the tertiary level. This was the first driving force behind the development of disciplinary didactics.

The second driving force is an indirect effect of what we may term the 'massification of secondary education', which was an essential feature of the transformation of school systems in many countries from the late 1950s onwards (see e.g. Kamens and Benavot, 2007). In accordance with variable rhythms and forms, more and more students – often, all of them – are following so-called secondary studies, with a more marked organisation into disciplines and teachers trained as secondary teachers. This implied, and was accompanied by, a profound reconfiguration of all curricula.

Francophone disciplinary didactics – and this may be a distinctive feature that explains the particularities of the field in the context of the more general educational dimensions that we explain later – have their origin also in this process of transformation: that is, in the analysis of the inadequacy and the partial failure of curricular reforms as an effect of two illusions (Johsua and Dupin, 1993). The first of these, the *lyrical illusion*, arose from the fact that in the reference disciplines of school, new theoretical approaches were developed which explain complex phenomena starting from relatively simple basic assumptions. Precisely because these are relatively simple – although abstract – and because they were regarded as the first, genetically primitive elements of logical developments that can explain complex phenomena, these seemed to be ideal objects for introducing students to, for instance, grammar or mathematics. A pre-established harmony between the construction of scientific knowledge and the ways of its acquisition was postulated. The *romantic illusion*

was Rousseauism, which sees development as a natural process and one that education and training can only accelerate or slow down. According to this approach, knowledge of the child's spontaneous development (which is elaborated by psychology) allows the possibilities and limits of teaching to be determined. Education as such, conveying concrete cultural content to the child, has little influence on development. In this context, didactics called into question the traditional dependence of pedagogy and educational science on psychology. The development of disciplinary didactics was based, among other things, on the postulate that the relationship between teaching and development must become the object of research, with teaching being regarded as an element *determining* development. It is from this point of view that certain questions can be asked about, for instance, the development of formal concepts, or about complex cultural techniques such as reading and writing, which are difficult to address in the paradigms of spontaneous development.

'Didactique': a term for combatting

The attempt to overcome both lyrical and romantic illusions is concretised in didactic research approaches. These differ from discipline to discipline, but common basic assumptions can nevertheless be recorded for most of them (Raisky and Caillot, 1996). It is assumed that the didactic system, with its three poles – *students*, with their knowledge and skills; *content* that is to teach and to be learned (*savoirs*), their history, and their place in the system of the school disciplines; and *teachers*, with their historically grounded practice, ideas, and gestures – is the central object of research. In disciplinary didactics, the *savoirs* – 'knowledges' in the sense defined earlier, the objects of teaching – are of central importance. This is so not in the sense of 'dead' objects taken directly from academic disciplines, nor objects that are appropriated as such by students, but objects that are constantly renegotiated in the interaction between object, student, and teacher. The analysis and criticism of curriculum reform and the transformation of content linked to changes in the school system were thus the starting point for the constitution of disciplinary didactics as academic disciplines. Examples include 'modern mathematics' (Brun, 1996; Margolinas, 2005; Dorier, 2008), the 'communicative turn' in first- (Bronckart, 1985; Chiss, David and Reuter, 1995) and second-language teaching (Coste, 1994), the 'dominance of the humanistic model' in arts education (Gaillot, 1997; Mili and Rickenmann, 2005), and 'sportivisation' in sports education (Amade-Escot and Marsenach, 1995). Here, it is not so much the reforms as such as the limits they encounter, even the failures they suffer, that impose new forms of reflection on contents. To put it in Margolinas' words:

> One of the originalities of the French research paradigm in mathematics didactics [and this is true also for other disciplinary didactics] is that it takes basic research seriously, and not directly the success of students. It is a

> question of seeking conditions that *in theory* allow students' knowledge to evolve and not only that *actually* improve teaching.
>
> (2005, p. 345; my translation)

Disciplinary didactics is a descriptive and explanatory science. The existence of a strong tendency to this kind of approach, besides of course a didactic of intervention tending to promote reforms and innovation, is a central aspect of francophone disciplinary didactics as academic disciplines. And even didactic engineering is very often understood not primarily as a means of changing teaching practice but as a basis for experimental research into the conditions of teaching and learning.[8]

In a certain sense, in francophone countries the word 'didactics' was invested as a term for combatting, as a combat term, exactly as did Rathke and Comenius, the inventors of the Latin 'didactica', who used it in their combat against feudalism through education for all (Schneuwly, 1990). This was possible for at least two reasons. First, the word 'didactique' was not really used in the discourse of educational sciences and could therefore be used freely. Almost absent in France, it was used in the *écoles normales* of Belgium or Switzerland in the context of the education of future teachers in methods of teaching. 'General didactics' did not exist as an elaborated theory as it did in Germany (Schneuwly, 2018a). Scientific approaches to the teaching of subject matters were generally called 'psychopédagogie': the 'psychopédagogie des mathématiques', for instance, heavily involved in the modern mathematics reform mentioned earlier and influenced also by Piaget (Brun, 1996). From a scientific point of view, the term 'didactique' was at disposal: it was clearly different from 'pedagogy' but nonetheless usable in the context of the educational sciences where disciplinary didactics as academic field was often institutionalised. The second reason was that 'didactique' – unlike 'Didaktik' – was not dominated by the reference sciences; it did not develop in the context of – and generally in dependence upon – physics, history, or linguistics. Psychologists and educationalists too could become didacticians: among the most famous didacticians were, for instance, Gérard Vergnaud in mathematics, a psychologist formed by Piaget, or Frank Marchand, primary teacher and later director of an école normale, in French as mother tongue. This also meant that research in didactics included all school levels, without any distinction.

Disciplinary didactics can be seen as the construction of a generation formed after 1968 in the social movements of the 1970s. They were often political militants, teachers in primary and secondary schools involved in school reforms; many of them belonged to the communist party (they quite rapidly quit). They had to find their way between three dominant poles in the educational debate. The 'instrumentalist' pole (Young, 2008) became dominant in the official discourses, but also, in attenuated form and for other purposes, in progressive conceptions of education. Education here was conceived of as being closely linked to everyday knowledge, knowledge of action and experience. Epistemologically,

this conception of knowledge is commonly based on a (socio-)constructivist, even post-modernist vision of knowledge which makes it dependent on action and experience, on the needs and interests of each individual. The possibility of knowing, and therefore the objectivity of knowledge or even its claim to truth, is thus relativised. The instrumentalist vision is sometimes accompanied by a differentialist, even individualistic, vision of the acquisition of knowledge, with each person ultimately constructing knowledge according to his or her own needs and path. The individual thus becomes responsible for his or her own training, for better or for worse. The second, 'neoconservative' pole – its defenders in France often call themselves 'républicains' – under the guise of defending knowledge, supports an immutable and objectively elitist form of it. Here knowledge is conceived of as given once and for all and defined essentially by tradition, insensitive to any change in the social context. Knowing and knowing how to teach are one and the same: the problem of transforming knowledge to make it teachable does not exist; and its 'elementation' is conceived as a simple mechanical procedure that at the same time defines a linear progression in a transmissive teaching that appeals above all to the teacher's charisma. Although the approach is not differentialist, the individual is, again, primarily responsible for his or her learning process. In such a conception, professional knowledge about school, social determinants of learning, about pedagogy is useless. The third pole, close to the first one but acting on the level of the school system, aims to control its output through the concept of competence. In the French-speaking area, 'compétence' was criticised by many researchers in didactics from the very beginning of its use in schools; it is understood as the school's orientation towards the market and economy. Researchers analyse the international triumph of the term as explained by three processes: the marketing of the school, the development of psychometrics, and new types of management.[9] Ultimately, this approach is about the possibility of measuring the output of the school system. This is made possible and strengthened by the concept of competence, but it also includes control of the teacher's actions from outside, and therefore ultimately a weakening of the teaching profession.

These three poles come together in a vision that reifies the knowledge that is to be taught. Everything happens as if this knowledge should represent knowledge as such, both in everyday life and in science and tradition, without the need for didactic transposition: without, that is, the transformation of knowledge for teaching and through teaching, and through learning on the basis of teaching. These questions are at the core of disciplinary didactics: how does knowledge – 'savoirs' – become teachable and learnable through teaching? How is it taught and learned through teaching?

Instruction and the central place of the 'savoirs'

It is most probable that this way of thinking about education is deeply rooted in a deeper layer of educational tradition. This tradition, insisting heavily on what

in French is called 'instruction', is embedded in the thinking about education and the particular relationship to school.[10] Once again, the word 'instruction' has a very different meaning than in English: more generally, 'instruction' in French means the transmission of 'savoirs', knowledge and know-how, the acquisition of which enables the ability of free judgement with regard to all knowledge and also to all laws and constitutions. It is in this way that people can participate in the culture of which knowledge is both expression and motor (Hameline, 1999). The decisive point here is that public education must be limited to 'instruction': that is, to the imparting of knowledge and know-how.

One cannot help but relate this concept of 'instruction' to Humboldt's concept of 'Bildung', elaborated at exactly the same time, in 1791, as Condorcet's 'instruction' (Schneuwly, 2018b). Of course, the concepts have been fundamentally transformed through history (Horlacher, 2016; Hameline, 1999). But they continue to influence the way education is conceived of and to give an insight into fundamental differences. The conceptions of Humboldt and Condorcet pursue similar goals but are fundamentally different. What they have in common is the right for everyone to embrace as much knowledge and ability as possible, and thus make democracy and freedom possible for everyone. But Humboldt's starting point and point of view is the developing person; Condorcet's, the knowledge of the 'citoyen' that is necessary for democracy and society. Humboldt speaks of mind, whereas Condorcet is concerned with 'raison' (reason/understanding). School is rather an 'adjuvant' for the first, the decisive condition for democracy for the second.

In combating for the centrality of knowledge, 'savoirs', in thinking about school, didacticians continue to think in the tradition of Condorcet. But contrary to the concept of diffusing knowledge from top down, which is implicitly Condorcet's approach – a necessity during the French Revolution that he justifies by his theorising of democracy, with its mathematical foundation of voting – the didacticians' grassroots origin let them adopt a bottom-up strategy, with the teaching profession as central lever. One could even say that disciplinary didactics originated as a sort of social movement before it ever acquired the emblems of an academic discipline.

***

But then: how were these academic disciplines – the 'didactiques disciplinaires' – constructed? There is no doubt that mathematics didactics, the first to be institutionalised with a specialised scientific society and an academic journal at the beginning of the 1970s, played the role of forerunner and produced strong, coherent theories whose concepts then spread among other disciplinary didactics. Among these, one was Brousseau's theory of didactic situations, with concepts like (didactic) milieu and didactic contract (2006); another, Chevallard's theory of anthropological didactics (heavily influenced, by the way, by Althusser's theory of ideology), with concepts including the didactic system, the noösphere, meso-, topo- and chronogenesis and, above all, didactic transposition

(Chevallard and Sensevy, 2014). These concepts will be discussed in more detail later in the chapter. In other disciplinary didactics, such concepts as epistemic obstacle (in the natural sciences) or double semiosis (in French first-language didactics) were introduced. All these concepts are generic and can be used in different disciplinary didactics, with specific meanings depending of the specificity of each disciplinary didactics. This is the landscape in which a common didactic atmosphere can coalesce, superseding all essential differences. In order to give an idea of the research done in francophone disciplinary didactics – to give an idea of this 'atmosphere' – two central concepts used by most researchers at one or at another moment, will serve as guides: didactic transposition and didactic system.

The conceptual atmosphere of French disciplinary didactics

Didactic transposition and didactic system

The concept of didactic transposition (Chevallard, 1985) played an essential role in the theoretical constitution of the discipline 'disciplinary didactics' because of its claim of autonomy. Here is one of many definitions:

> The transition from knowledge regarded as a tool to be put to use, to knowledge as something to be taught and learned, is precisely what I have termed the *didactic transposition* of knowledge.
>
> (Chevallard, 1989, p. 58)

Useful knowledge – knowledge that is to be used in various situations of research and of action – constitutes a point of reference, a starting point for the knowledge to be taught. This latter includes scientific knowledge in the context of its use in research practice but also expert knowledge in various social practices such as writing, music, or technology, for example. In institutions which specialise in education and teaching, this scholarly or expert knowledge first becomes knowledge to be taught and learned, then becomes taught and, hopefully, learned knowledge. Through this change in institutional location, its meaning changes deeply: from knowledge to be used in various contexts, it becomes objects to be taught and learned. This 'transposition' transforms it fundamentally, necessarily, irremediably – not at all in the sense of a simplification (a spontaneous, habitual conception of this transformation adopted by many researchers) but in the sense of a reconstruction, a rebuilding of knowledge[11] in order to achieve other goals: to allow its appropriation by students, which has as its aim the deep change of the ways in which individuals think, speak, and act. The process of didactic transposition can be represented by a small diagram (see Figure 8.1).

As stated already, it is not just scientific knowledge that is transposed but also social practices of reference (Martinand, 1986). Education systems mediate and

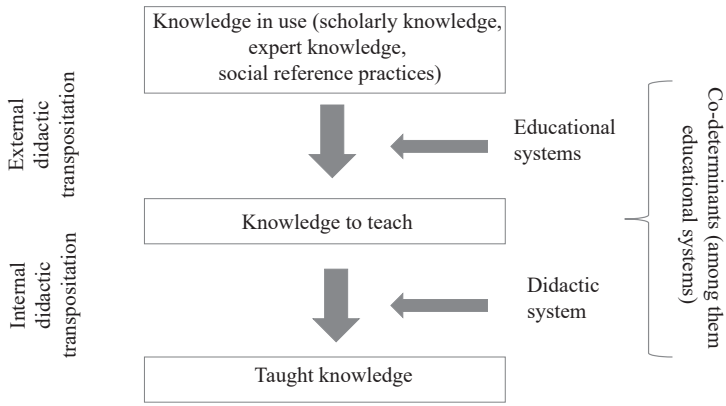

Figure 8.1 Schema of didactic transposition

transform knowledge through the intervention of multiple actors – teachers, pedagogues, didacticians, educationalists, members of the administration, representatives of the political sphere – generally speaking, what Chevallard calls, somewhat ironically, the 'noösphere', the sphere that thinks. These actors have divergent, sometimes contradictory interests. For the school discipline 'economics', for instance, some of these actors wish to define knowledge so as to build good consumers, whereas others wish to train critical citizens for whom some possibility of distance from consumption is possible (see Beitone et al., 2013). The construction of knowledge to be taught constitutes the first level of the didactic transposition: the external transposition.

What happens with the knowledge in this external didactic transposition? Three processes are particularly important, theorised in numerous studies in different disciplines (for instance natural sciences in Marty, 2019; earth sciences in Roubaud and Dupin, 2003; French as first language in Bronckart and Plazaola Giger, 1998; sports education in Lenzen and Cordoba, 2016; social and economic sciences in Beitone et al., 2013; visual arts in Fabre, 2015):

- Desyncretisation: knowledge is cut off from its original use, and this transforms its meaning for students and teachers.
- Programmability: objects of teaching are 'elementarised', cut into significant elementary units and organised in a progressive sequence; they are 'didactically modelled', fundamentally reconfigured to become teachable.
- Publicity: the objects of teaching are made explicit and public, and become a contract between teacher and learner.

The second level of didactic transposition is internal. It is the process through which the objects to be taught – which are the product of the external

transposition that materialises in 'programmes d'études' (study programmes, *Lehrpläne*), in textbooks, but also in the professional journals and the discourses of the teaching profession – enter the classroom and become the object taught through the interaction of the three poles of the didactic system: knowledge and know-how, students, teachers. This is another constitutive concept of disciplinary didactics:

> To posit the existence of a ternary didactic system, as opposed to the dual model of pedagogy and educational psychology, seems to me to be one of the founding acts of disciplinary didactics.
>
> (Schubauer-Leoni, 1998, p. 274, my translation)

In the didactic system, the objects of teaching are continually negotiated as teaching and learning progresses: teachers propose an object to be learned, students resist it, do not immediately understand it, interpret it, often add unexpected dimensions. All this has the effect that the object to be taught evolves: it becomes the object *really taught* in a classroom, a progressively changing one. And it is this process whose theorisation, description, and explanation constitutes a central object of research in francophone didactic, as we will see.

As Figure 8.1 also shows, the didactic transposition, mediatised at the external level by the educational systems and at the internal level by the didactic system, is moreover subject to multiple co-determinations: by the school discipline, by pedagogical theories, by the given society as a whole.

The (historical) analysis of the objects to be taught as products of multiple determinations (external didactic transposition)

An important object of francophone didactics is indeed the (historical) analysis of the objects to be taught as products of multiple determinations: that is, of the external didactic transposition.

A small example of analysis can illustrate the ways of thinking in the context of the theory of external didactic transposition. A well-known text by Voltaire, originally entitled "De l'horrible danger de la lecture" (On the Horrible Danger of Reading), in the textbook became "Le palais de la stupidité" (The Palace of Stupidity): an astonishing transformation, one has to understand. The page includes a series of typical textbook features. The numbering of lines, for example, is used to interpret and explain texts in class by referring to specific passages. At the top of the page, there is a general title, "Arguing with Irony": obviously, this gives both page and text a general orientation. One could continue the analysis of the characteristics of this external didactic transposition, that is, the passage of a reference text that is a great classic and plays an important role in literary studies and in literary criticism, perhaps even in everyday practice, to an object to teach in a textbook (for more details, see Aeby Daghé

and Schneuwly, 2012). The analysis of the external transposition can be done on three levels (a common approach in didactics): at the micro-level (for example, numbering and its rationale), at the meso-level (for example, the place of the page within a textbook, its function in the teaching of literature, and the uses that can be made of it in the didactic system), and on the macro-level of the meaning of the page according to the co-determinants (the discipline, the social purposes of literature, the place of literature in society). Figure 8.2 is a schematic representation of such an analysis.

It can be shown that this text is the result of the superimposition of two opposite teaching paradigms: two different historical paradigms of teaching literature appear in one and the same book, on the same page. On the one hand, one finds the teaching of hermeneutic reading called 'explication de texte', with which all French-speakers who have studied in the lycée in France or in the gymnase in Switzerland are familiar. On the other hand, another paradigm of teaching is superimposed, namely communicative reading oriented towards argumentative processes. A pursuit of the macro analysis in detail could demonstrate that the hermeneutic reading is part of the struggle against the dominance of rhetoric in the nineteenth century. It is an essential aspect of the emergence of literature as a social field in the course of the nineteenth century, as Bourdieu (1992), for example, shows. The other teaching paradigm can be interpreted as the reappearance of rhetoric as part of the transformation of the school discipline French in the 1970s: the dominance of communicative approaches. But the appearance of a new paradigm, as always in human practices, does not make a clean sweep of the other: it superimposes itself upon it. Practices are thus the product of sedimentation processes (Ronveaux and Schneuwly, 2018), new layers being added

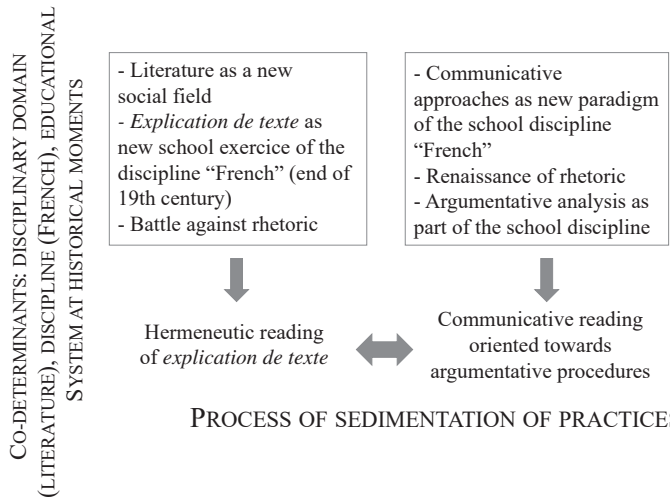

Figure 8.2 Analysis of the didactic transposition: a text by Voltaire and its co-determinants

on top of old ones while mixing with them in a thousand ways. The analysis of the external transposition of Voltaire's text is an example of the presence of different historical layers of teaching practices in the same synchronic moment.

The analysis of the functioning of the didactic system: one of the central tasks of didactics (internal didactic transposition)

The analysis and modelling of the actual functioning of didactic systems is another central area of francophone disciplinary didactics: bits of lessons, a whole lesson, sequences of lessons, but also lessons by teachers over a whole year are observed, described, and analysed. The approaches are essentially comparative in nature: different school levels, contrasting teaching objects, varied school disciplines, different countries and/or cultures, and so on are subject to the analysis. Before offering some examples, here by way of illustration in a list of a series of concepts used to analyse the functioning of the didactic system from the point of view of the three poles that make it up (see Figure 8.3). It is of course not possible to explain all these concepts here: the *Dictionnaire des concepts fondamentaux des didactiques* (Cohen-Azria et al., 2007) can provide an overview, albeit limited.

It is important to stress that in fact each concept always implies all three poles. But one can – albeit artificially – determine a major point of view that each concept privileges, the didactic contract being the central linking element. During a session whose purpose is to teach students a specific content knowledge (a didactic situation), the student interprets the situation presented to him/her. The didactic contract is the rule for decoding the didactic activity

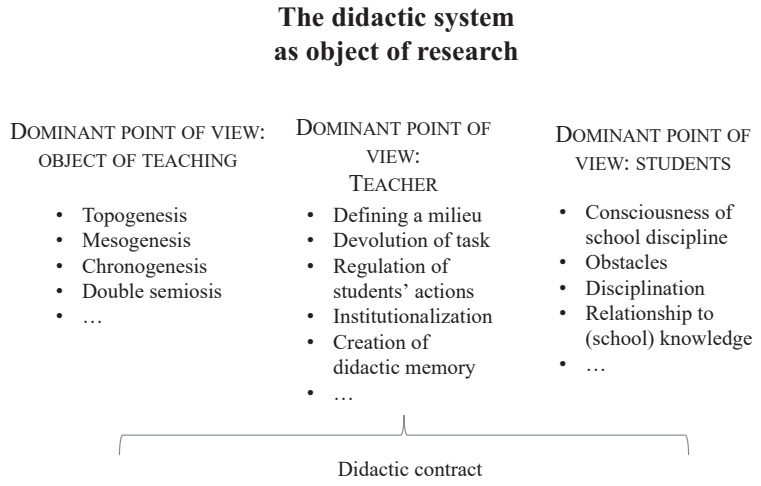

Figure 8.3 Concepts for analysing the functioning of the didactic system

through which school learning takes place. The usual and specific uses of the objects present in the task – the didactic contract – guide the students' interpretation of what is to be done in the situation. The didactic contract is an evolving interpretative framework that allows for the negotiation of the meaning of objects of teaching by students and teacher.

From the point of view of the object of teaching, the concept of double semiosis defines the object of teaching: it sheds light, on the one hand, on how the teacher introduces an object as being the one of the common work to come, how she/he makes it present, 'presentifies' it – a semiotic act; and on the other, it elucidates how she/he comments, describes, stresses one or another aspect of the object for the students – another semiotic act. The three geneses allow understanding of how the object of teaching evolves in function of time, milieu, and the relationship between students and teacher. From the point of view of the teacher, the researcher's attention can be oriented towards the didactic milieu in which the teacher places the students to act, or to the modes of regulation of their action, or to the fact that the teacher gives the students the responsibility for learning (devolution), that she/he institutionalises knowledge and creates memory about it. From the point of view of the students, we can, for example, analyse how they are 'disciplined', that is, how they can appropriate the disciplinary tools (concepts, ways of speaking, diagrams, maps, etc.) in order to learn to act, speak, and think according to the modalities of the school discipline into which they are gradually introduced; but we can also look at the epistemic obstacles of the objects of teaching, or the students' consciousness of the school discipline in which they are involved, something that heavily influences their relationship to the disciplinary knowledge.

In order to give a more concrete sense of the work that can be done with these concepts, I draw on their definition and global use in three doctoral theses to shed some light on the atmosphere of didactic working. The theses were chosen in order to illustrate each point of view through one concept and through the analysis of contrasted disciplines.

The first thesis illustrates chrono-, topo-, and mesogenesis as a productive triplet. How do teachers teach the reception of musical oeuvres, for instance Smetana's *Moldau*, with ten-year-old students (Maizières, 2016)? The knowledge 'to be taught' – the oeuvre to be studied – is chosen and presented by the teacher, but the 'taught' and 'learned' knowledge is co-constructed during didactic interactions. However, on the students' side, we can only observe the signs they show, notably the words they express about the work; this expression is guided in a milieu strongly organised by the teacher. Thus, the analysis of verbal interactions will focus more particularly on the three geneses: the milieu ('mesogenesis' – mesos = milieu), the didactic time ('chronogenesis'), and the places and responsibilities of each person ('topogenesis'). In the didactic process, the objects of teaching and their organisation form a milieu. The mesogenesis describes the process by which the teacher and students organise or reorganise the milieu through the changing knowledge itself. The didactic process is characterised by

constantly evolving knowledge. Chronogenesis refers to the temporal advancement of knowledge in the didactic system. The didactic process involves actors whose positions are not equivalent. Topogenesis makes it possible to consider the distribution of epistemic responsibilities between teacher and students in didactic transactions. There is a close relationship between these three dynamics, which 'evolve together' in the didactic situation. The analysis of these geneses makes it possible to answer the question of who is supposed to participate and when and how in the construction of the knowledge of the work being studied. This has to do with the programme, its organisation, and the characteristic elements relating to the musical theme and the parameters of the sound (duration, pitch, intensity, timbre), basing the analysis mainly on the images evoked by the music through the contrasts of nuance, orchestration, and tempo. The analysis also enables the description and understanding of the place of each of the actors in the emergence and co-construction of the knowledge related to this work.

The second thesis analyses the creation of didactic memory in showing that it makes contents institutionally visible. How do teachers create a didactic memory when they teach mathematics in secondary school (Araya-Chacón, 2008)? Didactic memory is the collective memory of the knowledge that has been constructed and is common to the group; it is to a large degree controlled by the teacher in order to progress in the construction of new knowledge. Recall, the explicit evocation of a 'didactic memory', is a particularly important form of creation of didactic memory. It is the teacher who embodies the didactic memory and who asks students to explicitly call upon their memory of certain events of formerly mobilised knowledge in order to study a new problem, these events being part of the official memory of the class. Recall is an essential modality ensuring 'institutional visibility'. When knowledge is recalled, its institutional visibility is increased. The main form of didactic memory is ostensive memory, deliberately constructed by appropriate means by an institution or individual. In her thesis, Araya-Chacón distinguishes several types of gestures that ensure didactic memory and its management. Some are oriented towards the recall of technical contents and notions; others are intended to move students into previous positions in the course of the teaching sequence by allowing them to remember ways of doing something they already know; yet others have the function, in the course of the teaching sequence, of placing an object of knowledge on other levels and in other perspectives of what has been learned. Didactic memory plays an essential role in distinguishing between what is worth remembering and what can be forgotten, or simply ignored. In this respect, it fits in perfectly with Halbwachs' anthropological conception (quoted by Araya-Chacón), which consists in approaching the capacity for individual memorisation by reintegrating it into a collective point of view, here constructed in the classroom, itself manifesting the school institution's valuation of knowledge worthy of being memorised.

The third thesis studies the relationship of student to school knowledge, an essential dimension for teaching and learning. The circulation system of the

blood is quite commonly taught in primary school: how does the relationship of students towards knowledge, more particularly towards the knowledge of the 'vivid', influence teaching and how is it transformed by it (Pautal, 2012, 2015)? Every individual has a certain (dominant) relationship with knowledge (i.e. with the very question of knowing) and may have different relationships with different types of knowledge. This perspective is essential for didacticians whose preoccupations are centred on the transmission of disciplinary knowledge. Learning knowledge relating to the circulation system can, for instance, be strongly influenced by the relationship with knowledge of the lived experience of the students concerned. Can the way in which knowledge progresses as activities take place in the classroom (chronogenesis), the way in which the actors take hold of this knowledge in order to make it progress (topogenesis), the possible transformation of the environment of shared meaning (mesogenesis) be better understood by being observed and analysed from the angle of the relationship to knowledge? Applying such concepts to the analysis, the type of relationship that students have with the knowledge in life science, for instance to that relating in particular to the circulation system, makes it possible to explain how they seek to take over and exploit the didactic milieu according to their concerns, and in turn why the advancement of knowledge in the classroom progresses – or not.

Conclusion

The main aim of the present chapter was to elucidate the dichotomy between Didaktik and curriculum. Didactics as an academic discipline is indeed a continental European phenomenon; professorial chairs in the curriculum are, as Tröhler (2014) states, very rare. This probably has to do with the conjunction of many factors – including the status of teachers, teacher education, the governance of schools and their relationship to the state, the way *Lehrpläne* or 'plans d'études' are elaborated and validated, and many others. But the feature they have in common – namely that didactics is the main reference science (with educational sciences) in the professional part of teacher education in the whole of continental Europe – should not hide the fact that what is apparently the same name, 'Didaktik/didactique', does not designate the same reality. As I have shown, the origin, the *raison d'être*, the positioning of francophone disciplinary didactics is quite specific (and, by the way, besides many Latin countries in Europe, also influences Quebec and Latin America). It can be described as the result of a constant combat[12] against the lyric and romantic illusions that still dominate in curriculum reform. It has itself resulted in a critical attitude towards the notions of competence and individualistic approaches to teaching and learning and towards dominant poles in the educational discourse, including constructivist education, neoconservative elitism, and neoliberal control of output. The background of this orientation is the political origin of the pioneers of disciplinary didactics, and a general educational background that can probably be traced back to the concept of 'instruction' in Condorcet.

This does not at all lead to a homogenous school of thinking in francophone disciplinary didactics, to a united scientific community. On the contrary, different theoretical approaches are competing with each other, here as in any disciplinary field. But one can nonetheless distinguish some features that are common and characterise francophone didactics compared to others, in the sense that there is an attraction to ways of doing research, asking questions, using concepts that are oriented towards how the didactic system functions more than towards how it can be transformed. An original theoretical apparatus is under construction that transcends the single disciplinary didactics and makes possible the development of original empirical research guided by conceptual tools. Didactics as scientific research, as science, develops first of all as a multitude of didactics, from and around school disciplines. This construction of plural didactics, and also the fact that these are mainly based on teacher education and their institutions, calls, by their very movement and by the reflection that accompanies it, timidly, and with difficulty, in various forms for a more general science whose purpose is to analyse, describe, and understand the dissemination of knowledge in institutions specialised for this purpose: disciplinary didactics as an academic field. The constitution of this science requires, as does any science, a general reflection by each researcher on the generality of his conceptual and methodological tools. There is a need, in other words, for what could be called 'general (disciplinary) didactics'.[13]

Notes

1 An analysis of the bilingual special issues on didactics of the *Schweizerische Zeitschrift für Bildungswissenschaften/Revue suisse des sciences de l'éducation* [Swiss Journal of Educational Sciences] confirms these tendencies (see for instance no. 12, 1990; no. 13, 1991; no. 27, 2005; no. 38, 2016; see also the analysis of all papers on didactics between 2000 and 2020: Aeby Daghé and Schneuwly, in press).

2 Keiner and Schriewer (2000) show similar differences between educational sciences: 'sciences de l'éducation' on one side and 'Erziehungswissenschaft' on the other; more generally, Charle, Schriewer and Wagner (2004).

3 On the dialectic between the 'didactique', singular, as an academic field in construction and the construction of several 'didactiques' for different school subjects leading to a more or less unified scientific field, see Dorier, Leutenegger and Schneuwly (2013), where one can also find a general history of francophone 'didactiques disciplinaires'. A contradictory debate on this question is documented in Ligozat, Coquidé and Sensevy (2014).

4 'Knowledge' in the large sense of what Comenius termed *scire*, which includes, in his own words, 'Wissen' [knowledge] and 'Können' [knowhow] (1648/2005, p. 159).

5 Teaching and learning through teaching is, by the way, the double meaning of the ancient Greek word διδάσκειν [didáskein], which is the root of 'didactics'.

6 There are at least ten different francophone research associations in disciplinary didactics and about 15 journals; the first one in 'didactique des mathématiques' was founded in 1973, two others in 'didactique du français' about at the same time. Hundreds of books and theses were produced. Some syntheses exist, for example, for natural sciences (Astolfi and Develay, 2005), French (Simard et al., 2019), social and economic sciences (Legardez, 2001), and life and earth sciences (Orange-Ravachol, 2012).

7 In francophone countries, the concept 'curriculum' is almost absent, in the same way as Horlacher (2018) shows for German-speaking countries: 'plans d'études', the equivalent of *Lehrpläne*, define what has to be learned. 'Curriculume' is however quite widely used, since the 1980s, in the sociology of education (Mangez and Liénard, 2008).
8 The autobiographies of two important participants at the 'birth' of mathematics didactics (Mercier, 1999) and French first-language didactics (Bronckart, 2016) show this evolution from the point of view of actors.
9 One of the best critiques of the ideology of the OECD discourse in PISA is by two didacticians: Bart and Daunay (2016).
10 This is also true for Switzerland, for instance. It is noteworthy that in French-speaking Switzerland, the ministries in charge of schools – each of the 26 Swiss cantons has such a ministry – are called 'départements d'instruction publique,' whereas in the German-speaking Switzerland one finds 'Bildungsdepartement'.
11 This process of rebuilding and reconstruction, and even of building of school knowledge of its own, is theorised by the concept of 'scolarisation' (Denizot, 2013) of knowledge: the construction of a 'school culture' (Chervel, 1998) of its own. The relationship between didactic transposition and scolarisation is discussed in Denizot and Ronveaux (2019).
12 As one knows, Comenius himself, and Rathke before him, introduced the Latin word '*didactica*' in the combat for education for all.
13 A systematic comparison with the approach presented by Vollmer (in this volume) could show, in still another way, differences and commonalities between 'Didaktik' and 'didactique'.

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Non-affirmative school didactics and life-world phenomenology

Conceptualising missing links

Michael Uljens and Tina Kullenberg

Introduction

In principle, the importance of recognising students' experiences and learning holds a central position in all teaching theory; but this central assumption about how we should acknowledge and explain the relation between teaching and learning raises a number of complicated issues. For example, the vital role of the student's views and experiences in learning is in tension with the fact that teachers' work is directed by pre-given educational goals set by the teacher/school/state. More precisely, not only curriculum theory and didactics (Didaktik) but also life-world phenomenology, need to explain how to balance and span the gap between the regime of imposed curricula (that is, educational values and means predefined from the perspective of society) and the more open-ended, student-centred idea of freedom in schooling. A second and closely related dilemma is the pedagogical paradox of freedom. This paradox states that in order for education to be possible, the individual must be considered undetermined, that is, free, even though education seems at the same time to be a precondition for the individual to reach practical cultural freedom. Here we encounter Kant's famous question: how to cultivate freedom by external influence. Furthermore, as learning seems to require the learner's own intentional activity, we need to explain how education is expected to promote such activity.

Historically, we can identify discussions of these kinds going back at least to Plato's *Meno*, where Socrates carries out an instructional dialogue on a geometrical problem. Ever since the Bildung-centred theory of education was first established two centuries ago, the question how teachers might draw on and expand the student's life-world experiences in order to organise activities around selected cultural teaching contents has continued to occupy a central position. Compared to earlier didactics, the Bildung tradition argued for a new moral legitimation on the part of the school and teacher. In its acceptance of a non-teleological cosmology, that is, in viewing the future as radically open, European Bildung-centred didactics emphasised that the aim of education was now to support the learner's personal growth and freedom – and, much later, political autonomy. Since then, the core focus in the disciplines of didactics

and curriculum research has been how societally institutionalised schooling at different levels is to engage with selecting and treating cultural contents (Klafki, 2007; Deng, 2020) in order to support the student's growth as a unique and autonomous cultural and political subject, yet sharing the world with others.

In didactics, two familiar triangles are often used to visualise the dilemma. The first of these is a triangle depicting the three questions of what, how, and why; the second is a triangle depicting the teacher, the student, and the contents (Künzli, 2000). Common to both are the contents and the learner's experiences of it. Classical proponents of the Bildung-centred tradition as explicated in Humboldt's theory of Bildung, Herbart's view of 'educative teaching', and Schleiermacher's hermeneutic pedagogy share the idea that education is about an intervention in the learner's life-world. In this tradition, teaching focuses on changes in how learners relate to themselves, the world, and other humans, but these changes are themselves mediated by a treatment of the selected cultural contents of teaching (Benner, 2015b). Educative teaching is then about an intervention in the subject's relation to herself (I/Me), to others (I/You, I/We, We/You), and to the world (I/It) by artificially working on selected cultural contents. Sometimes this is said to occur through the 'freeing' of the educative qualities (*Bildungsgehalt*) of the selected contents (*Bildungsinhalt*). Such *educative teaching* (*Erziehende Unterricht*) aims at human growth. Teaching contents are always secondary to this aim. Educative teaching is thus to invite and lead learners to engage in questions to which existing knowledge (i.e. selected teaching contents) is an answer. Educative teaching thus implies the idea of supporting the learners in critically dwelling upon similarities and differences between the values and knowledge claims in the contents, on the one hand, and their own previous experiences and understanding on the other, in order to establish the validity of these experiences and understandings, and possibly move beyond them.

In our argument for the value of exploring teaching, studying, and learning from a phenomenological perspective, we want to call attention to the hermeneutic vantage point. Hermeneutics has a double role, both theoretical and methodological, in phenomenologically oriented research on teaching, studying, and learning. First, on the theoretical level, teachers operate by interpreting the world, the contents, and the student. In such interpretative activity they participate in an ongoing deliberation around the aim, meaning, contents, and methods of teaching. They mediate between the students and the world by creating pedagogical spaces for critical reflection and action. If we take such contextual and deliberative dimensions as our point of departure, they then require attention when developing theory within didactics and curriculum studies has to take them into account. Second, from the preceding it follows that when we want to make sense of the empirical findings of teachers' and students' experiences of the teaching contents, we need to acknowledge the broader institutional, political, and cultural context. A deliberative and hermeneutically oriented life-world approach to research on teaching would then

expand the questions posed by the traditional didactic triangles (c.f. Uljens, 1997). In teaching there is always:

- somebody (who?) is presenting/pointing/showing at
- something (what contents? Bildungs*inhalt*)
- *as* something (what meaning? Potential Bildungs*gehalt*)
- in some ways (how?)
- to somebody else (who?)
- to reach towards aims (which?)
- for some reason (why?)
- with some justification/obligation (which?)
- somewhere (where?)
- in relation to different societal interests (which?)

Understanding teaching in context

In order to train our focus on students' life-world experiences in pedagogical settings, we need to consider *teaching in its context*. Paradoxically, as organised teaching and related learning opportunities are now so widespread both in working life and on social media – once learning is all over, so to speak – schools have gradually lost their unique character as 'temples of learning'. This may have contributed to a crisis of general didactics as it does not seem valid for teaching and learning outside schools. On the other hand, the fact that we have moved into a 'learning society' has led to renewed exploration of what kind of pedagogical knowledge is indeed required for understanding teaching, studying, and learning in schools – something that is obviously very different from experiential real-life learning (Lave and Wenger, 1991). Schools stand out as very specific contexts for teaching and learning in their own right. They were established when participation in everyday practice was no longer adequate to reveal necessary insights. Indeed, as research on real-life learning cannot replace research on learning in schools, we welcome an ongoing rediscovery of teaching in schools as a problem of its own in didactics and curriculum research (Biesta, 2017). Yet, in principle, subject didactic research claims validity for both inside and outside school settings. In this light, *school didactics* might be a more fruitful and accurate delineation of *subject didactics*. However, research in the separate field of subject didactics, almost without exception, locates its object of study *within* schools. In this respect, subject didactics is, practically taken, school didactics. This also means that school didactics as a field of research always includes a subject didactic dimension – teaching, studying, and learning is always teaching, studying, and learning something (see the preceding list). Conceptualising subject didactics for school settings is thus different from subject didactics aimed for understanding teaching, studying, and learning outside school settings. A solution to these dilemmas was sought by introducing *school didactics* as a field of research in the 1990s (Uljens, 1997). In Germany, this

field is identified as (or sometimes included in) '*Schulpädagogik*' (Meyer, 1997; Rothland and Lüders, 2018).

Lee Schulman's definition of pedagogical content knowledge in the 1980s, framing professional teachers' competence, would also fall within what is referred to as school didactics. In Finland, professorial chairs in pedagogical content knowledge or subject didactics, as they were called, were established on a large scale in 1974 when primary school teacher education moved to the universities and was developed into a five-year master's of education degree. School didactics as a field of research does not bear the burden of general didactics in attempting to explain teaching, studying, and learning irrespective of context. Acknowledging school didactics may also help to avoid the risk we see in the rapid differentiation of the field of subject didactics. Indeed, we see representatives of subject didactics today striving towards more general approaches, such as general pedagogical content knowledge or generalised subject didactics (Vollmer, 2014).

From a phenomenological life-world perspective, too, the contents of teaching, as well as social life in and outside school, are central. In school didactics, the *contents* of teaching are located at the very centre of the teaching/studying/learning process, maintaining a distinction between the content as intended, as practised, as experienced, and as evaluated. The teaching content is the medium through which the individual comes to share the world with others (socialisation), and at the same time discovers their own self and their own uniqueness (personalisation). Realising that the contents are both the medium of the process of individuation (Bildung) and also the medium for aiming beyond the given contents themselves, we identify similarities with Bill Pinar's approach to curriculum studies (Pinar, 2011). Perhaps in contrast to Pinar's approach, school didactics as a field of research is also interested in how pedagogical activity operates to expand the learner's life-world (Uljens and Ylimaki, 2017). In fact, this is one of the classical questions in both didactics and curriculum studies (English, 2013; Wahlström, 2020), expressed already by Kant in his questions of how it is possible to support the development of individual autonomy using external influence (Benner, 2015b). Furthermore, in emphasising as a research field that curriculum work, pedagogical practice, and evaluation at different levels are reciprocally related core issues, school didactics is a field of research that has the potential to span general didactics and subject didactics. A multi-level approach to curriculum work, leadership, and teaching (Gundem, 1997) has increasingly gained support in curriculum studies, building upon discursive institutionalism (e.g. Nordin and Sundberg, 2014) and on curriculum studies doing transnational policy transfer research (e.g. Steiner-Khamsi and Waldow, 2012). And lately, educational leadership as curriculum work has come to be seen as an important but neglected field of knowledge for understanding curriculum reform and school development (Uljens, 2015; Uljens and Ylimaki, 2017).

Understanding research on teaching in context

Earlier in the chapter we argued for a contextual awareness, both regarding theorising teaching and in doing research on teaching. One aspect of such contextual awareness with relevance also for life-world-oriented curriculum research and didactics has to do with how various approaches conceptually respond to policy developments in education (for example), as Englund (1986) convincingly demonstrated. The answer depends partly on whether a conceptual position in didactics is considered a theory or a doctrine. To the extent that didactics is considered a doctrine, it typically aims to present normative alternatives to existing curricular ideologies or prescriptive instructions informing teaching methods. When didactics is considered as a theory, as in this chapter, the aim is to refine concepts as analytical tools which allow us to talk about education more precisely (Uljens, 1997, p. 112f.; Uljens and Ylimaki, 2017, p. 10ff.).

There is also an epistemological reason for asking how contemporary developments in didactics and curriculum studies relate to a broader policy context. As pointed out already by Schleiermacher (1998), we do not claim that educational theories are universal over time and culture. Educational theories need to be analysed in context. Limiting our attention to only the past few decades, we would argue that the increased focus on subject didactics since the 1980s and the parallel movement towards an output-centred curriculum policy are in part expressions of similar societal movements. Both are responses, though very different ones, to a performative, instrumental, back-to-basics movement. One argument for such an interpretation would be that the neoconservative 'cultural canon' movement in curriculum policy is used to define core features of what it is to be an educated or a qualified member of a society or nation (Young, 2008). This reflects the traditional 'material' approach to subject didactics. In addition, what we call the 'competency canon' policy movement supports an instrumental or performative view of knowledge by promoting practice-relevant sets of competencies. The focus on tasks or generic competencies within wider contexts reflect a 'formal' theory of Bildung. Further, while the cultural canon draws on an experienced deficit in societal and cultural coherence, the competency canon is based on ambitions of serving the needs of working life and economy. The fundamental dilemma for both approaches is not their respective valuing of cultural knowledge or useful competencies but the fact that while both emphasise contents in an output-centred policy, both are at risk of ending up with instrumental teaching and learning because the expected competences tend to be set in advance. A related dilemma is that they do not see contents or competencies as interrelated vehicles for inviting students to engage in contents intended to develop personality, cultural identity, and citizenship – Bildung, in other words.

Adopting a critical hermeneutical view of curriculum formation and teaching as mediating activities within fields of contrasting interests and power structures

and hermeneutic epistemology, our argument in this chapter is that phenomenological life-world research also makes sense as a part of the research field of school didactics. A life-world approach that does not take account of curriculum as a field of social, political, institutional, and professional struggles risks going wrong. Although we come to didactics from a hermeneutic Bildung-centred tradition of theorising education, we support Englund's idea of deliberative curriculum research:

> This view of curriculum content and school subjects implies that we see them as contingent moral and political constructions that are constantly reshaped, without definite limits, capable of being interpreted and realised in different ways, politically contested at all levels, and in an ever-changing situation in relation to the struggle between different social forces.
>
> (2015, p. 51)

Our approach is closer to a transactional view of realist epistemology in curriculum research than a transcendental approach (Wahlström, 2020).

Sharing the worries expressed by Wheelahan (2010) that theoretical knowledge is increasingly marginalised in favour of competency-based training, we wish to reassert that theoretical knowledge in schools not only creates critical distance to practice, but may also educate beyond the knowledge itself. By turning learners' attention to those questions that theoretical knowledge aim at answering, promotes awareness to pose these very questions differently.

A challenge for didactics and for phenomenological learning research

The theory of, and research in, didactics typically values the intention to grasp the learner's experiences in the pedagogical process. These experiences are often discussed in terms of the learner's understanding and experience of the *contents* and, naturally, changes in this understanding. Life-world phenomenology again emphasises the notion of a *shared world*. This shared world may be a starting point, but it is also the result of a pedagogical process. A challenge for both didactics and life-world phenomenology is to what extent they contain conceptually satisfying answers to the question of how teaching is seen as related to learning: in other words, how they explain pedagogical interaction as a movement from one 'shared world' to another. What kind of concepts do we need to make sense of how we as individuals come to share an understanding of the world? How do we explain in theoretical terms what kind of activities or processes are in operation when this occurs? How, then, does teaching influence the individual's move *into* and *beyond* a given life-world?

The question of how human beings can share a view of the world is certainly not for only education or didactics to deal with. In the philosophy of mind and in social philosophy, these questions are analysed in terms of how subjectivity

relates to intersubjectivity. The debate of how to relate subjectivity and intersubjectivity was originally initiated by J. G. Fichte in his critique of Kant. The debate, far from losing its significance, has been a recurring topic. In fact, in the last two decades there has been internationally increasing awareness that this debate has value in the theorising of teaching. A recent tendency in European social philosophy has been to emphasise the importance of intersubjectivity (Varga and Gallagher, 2012). As Brinkman and Friesen (2018) recognise, the reason phenomenological philosophy is pregnant with significant potentials for the educational field is that it addresses crucial issues that concern precisely the experiential and intersubjective dimensions of pedagogy. We may therefore ask if life-world phenomenology contains a language that is sufficient for explaining learning. Or, perhaps it is the other way around – that educational theory indeed provides us with the conceptual tools to help us understand what it means to come to share the world and to move beyond our previous understanding. We argue, though, that it is not only life-world research that could be supported by elaborating the theory of education. For all the didactic triangles, we note that many contemporary positions in didactics and in curriculum theory are in fact underdeveloped when it comes to explaining the core issues of the field itself: that is, how teaching influences studying that in turn may result in learning.

The more general dilemma regarding subjectivity and intersubjectivity – important in didactics, curriculum, and education theory perspectives – is the long-standing debate over what 'comes first', subjectivity or intersubjectivity. The question is whether either of these two can be considered more fundamental than the other. Do we have to assume some form of subjectivity in order for intersubjectivity to be established? Or does some kind of intersubjectivity always have to be assumed in order for anything like subjectivity to be established? As the task of education typically is about supporting both the establishment of the subject's individuality and her cultural belonging, we see how crucial this question is in didactics. What kind of subjectivity does education aim at, and what kind of subjectivity does education presuppose? Should a theory of education take its point of departure in some version of intersubjectivity instead, for example in a phenomenological life-world? On the other hand, if we, in theorising education, assume that the individual already *shares* a cultural life-world, then, obviously, the individual has already become a part of a life-world. How did that happen?

Versions of subject-centred and intersubjectivity-centred positions

In philosophy, there are various ways to understand subject-centred and intersubjectivity-based conceptions of subjectivity. In phenomenology, too, different positions exist regarding intersubjectivity. In contrast to Husserl's subject-centred philosophy, Merleau-Ponty, Buber, Bakhtin, Mead, Levinas, Taylor, and Rançière

have all challenged the subject-centred, individualistic, rationalistic approach. In this chapter, we limit ourselves to Merleau-Ponty as representative of a phenomenology that emphasises intersubjectivity as a core concept. But we wish to reassert that the tradition of modern education theory as originally developed between 1760 and 1840 did give an account of the relation between subjectivity and intersubjectivity. That tradition argues that subjectivity and intersubjectivity are not mutually exclusive. Our argument is that there is a need for different versions of both subjectivity and intersubjectivity. In addition, in modern education, the dynamics between these versions of subjectivity and intersubjectivity are explained by pedagogical concepts: 'recognition', *Bildsamkeit*, 'summoning to self-activity'. We will discuss this tradition in terms of the non-affirmative theory of education (Benner, 2015a).

In the philosophy of mind, we can historically identify two different but complementary subject-philosophical positions. According to a so-called *egological* conception, 'the Other' is constituted by the experience of the subject. This is the traditional subject-philosophical position: the encapsulated subject is at the centre of the world and experiences the external and outside world exclusively from this position (Crossley, 1996). Husserl's philosophical epistemology represents such a position. Knowledge of the outside world is thought to be achievable, but that knowledge is based on the fact that the outside world is something subjectively experienced. Thus, the meaning of the world is subordinated to the experience of the self, and thus reducible to subjectivity rather than intersubjectivity. Descartes' "I am thinking, therefore I exist" also expresses such an egological view, and Kant's separation between the phenomenal world and the thing-in-itself (*Ding an sich*) also reflects a subject-centred position.

A kind of reversed position, though still subject-centred, is the recognition-oriented philosophy of mind, as represented by Hegel. Here the self as recognised by the other is of primordial significance. The other's recognition of the self subordinates the subject's coming into being to the other, so that the self is partly constituted by the other's experience. If we transpose this to the sphere of child-rearing and early education, the adult, by the act of loving, invites the child to the most basic form of self-esteem (see e.g. Heidegren, 2009; Honneth, 1996).

Intersubjectivity-based life-world phenomenology

In the course of the twentieth century, the phenomenological research tradition came to regard intersubjectivity as a necessary point of departure, thus replacing Kantian and Husserlian epistemologically oriented transcendental idealism. Kant had explained that knowledge of the thing-in-itself was not possible, only of the thing-as-experienced. Husserl had accepted the Kantian assumption in his phenomenological epistemology, developing a position in which the life-world in all its richness was accepted as a fundamental point of departure, but insisting that true knowledge claims had their origin in phenomenological reflection on the world as experienced. The life-world had to be bracketed.

Later, Husserlian epistemological phenomenology, based as it was on the primacy of the subject, was transformed by Merleau-Ponty into an ontological/existential phenomenology based on intersubjectivity.

In the deep-rooted thought tradition of philosophical idealism – transcendental idealism – the subject is more or less understood as self-constitutive (Bengtsson, 1991; Merleau-Ponty, 1962/1989; Winch, 1998). The transcendental approach to phenomenology defended an individualistic knowledge theory. An individualistic philosophy means one that reduces everything to the individual, who is consistently understood as an autonomous being.

For Husserl, personal, life-world-based experiences had to be transcended in order to reach true knowledge. What made such a project possible was, first, the assumption of a pure, transcendental ego. Second, given that Husserl's phenomenology is a theory of knowledge, he advocated an abstraction method in his persistent search for pure (i.e. absolute) experiences: that is, insight undistorted by the experiencing subject's own life history. Husserl intended this abstraction method to do full justice to subjectively experienced phenomena. As the position was developed as a general epistemology, not as a theory of teaching and learning, Husserl's interest is therefore of lesser value. Rather, theorising education needs to start from the concrete life-world, where people of flesh and blood meet, where they share and link empirically based life experiences with each other. This is precisely the starting point of Schleiermacher's hermeneutics.

For Husserl, there existed two versions of intersubjectivity. The first was the taken-as-given everyday world where we operate and where we are in a 'natural attitude'. In this life-world, the other is co-present with the subject. The second version of intersubjectivity is what can be called a transcendental intersubjectivity, that is, general, shared, and true knowledge. This is no longer a question of embodied, shared everyday experience but general conceptual knowledge that unites (Bengtsson, 1991, 2001; Merleau-Ponty, 1962/1989). It is indeed common to understand conceptual knowledge in this way, but in Husserl's phenomenology this transcendental sphere implies that all influence from social, cultural, and historical conditions is put in parenthesis and thus 'purified' of empirical relativity (Uljens, 1992). Consequently, the life-world is here significantly reduced to the decontexualised experience of the individual beyond embodied intersubjectivity, that is, withdrawn from its worldly empirical basis (Bengtsson, 2001; Kullenberg, 2015; Merleau-Ponty, 1962/1989).

These subject-centred positions, the first starting from the primacy of the self, the second from the primacy of the other, can be contrasted with a philosophy that assumes intersubjectivity as its first principle. Crossley conceptualises this as radical intersubjectivity. He sees in Merleau-Ponty's philosophy the radical concept of intersubjective perception:

> By defining perception as an opening to another that functions on a pre-reflexive, pre-objective and pre-egological level, the solipsist idea is challenged about private perceptual worlds.
>
> (1996, p. 29)

Here the focus turns to the common sphere – an intermediate world – where these perceptual worlds are conceived as both overlapping and interlaced. Given this, it follows that human consciousness can be defined as a radically interpersonal opening to alterity, that is, the genuine other (and all that is different from oneself), as opposed to the egological view of reduction of the other to the self's experience. This also indicates that intersubjectivity is no longer regarded merely as a function or result of an acting subject but rather as an independent dimension – existential, linguistic, or practical – that reflects lived experience. Such intersubjectivism thus assumes that the subject's subjectivity follows from something that can already be considered shared.

As we have seen, for early transcendental phenomenology only the absolute and unconditional ego, beyond empirical and worldly grounding, remains significant. By contrast, Merleau-Ponty (1962/1989) belongs to a group of phenomenologists who seek an alternative. Could a genuinely interpersonal understanding that builds upon reciprocity help us to move beyond the framework of a narrow Husserlian interpretation of intersubjective premises? Merleau-Ponty (1962/1989) elaborates on the difficulty of being a subject who gains an in-depth knowledge of himself through inward-looking reflection (introspection). This may seem like a paradox, because in a well-known sense we stand closest to ourselves. Our instantly given life-world and our natural, embodied orientation to it is a basic premise for this natural point of view: in what we want, feel, think, and in what we do, our life-world is insurmountable in the sense that we are always conditionally bound to our lived bodies (Bengtsson, 2001).

However, bodily experiences are not limited to a specific type of biological phenomenon in the phenomenological sense (for instance, not limited exclusively to the brain's neurological cognitions). Instead, bodily being should be understood on the basis of existential dimensions. Moreover, the lived body cannot be considered free from social, historical, and cultural premises. Through personal reflection, cultural experiences are an inseparable part of life-world conditions, a part of being able to navigate in life, to find communities, and, above all, to find meaningful development. The significance of existential reflection is thus emphasised.

Educational challenges for life-world phenomenology

As already discussed, Fichte was the first theorist of teaching to criticise the transcendental philosophical idealism represented by Kant (although this insight into the evolution of European educational theory has now been forgotten). The relational tradition of thought, which emphasises the importance of the empirical other, began with Fichte's work and was further developed by Hegel, then by Vygotsky, Mead, Dewey, and Habermas, while the subject-centred Cartesian–Kantian tradition was furthered by Husserl and Piaget. The so-called linguistic turn within philosophy, with its critique of the problematic

idea of the primacy of the transcendental and individualist subject, achieved widespread acceptance. As the early theorists of education, including Schleiermacher, acknowledged the importance of concrete experience in becoming and being human, many phenomenologists also underlined the significance of such an experience-based, intersubjective approach to education. But while accepting a life-world-based phenomenology brings with it clear benefits and strengths over a subject-centred transcendental phenomenology, it also brings its own pedagogical dilemma. The most crucial of these is that as long as the concept of life-world refers to already encultured subjects, that is, subjects who already live together and more or less unreflectively share an everyday concrete world comprising language and practice, there is a risk that the truly educational issue escapes us deceptively. To the extent subjects share the world, education cannot be about subjects coming to share the world. Such a position is not either well equipped for explaining what it means to move beyond this shared world. Let us explain.

As we pointed out in our discussion of recognition, a premise in all education is that learners and teachers already share the world. At the same time teaching aims at moving beyond existing ways of knowing and coming to share the world in new ways, beyond what is the case. Education thus paradoxically argues that we both do share the world and do not yet share the world. It is also crucial that every teacher see the person in question as the unique subject she/he is, in parallel with the student being a fellow among others (recognition). A premise for an individual's further development in educational matters is that the pedagogue can and will interpret, through dialogue, the learned experience of the learner. Among other phenomenologists, Bengtsson (1997) subscribed to the form of pedagogical action described here – an education based on recognition of the potential of the learners based on a practical intersubjectivity. But how is the change from one form of intersubjectivity to another explained? And what is the role of the pedagogue as we move in and beyond such a person-oriented world, for instance, from home to school or from school to work, developing new understandings as we transcend the old? In our opinion, pedagogical action is guided by the ambition to "bridge between students' different regional worlds and in meetings with people outside the school's regional world, such as home but also hospitals, habilitation and social authorities" (Bengtsson and Berndtsson, 2015, p. 19, our translation). The pedagogue would then guide that learning through the intricate relationships and contexts of life by raising awareness and helping to interpret the student's experience-based reality.

One more aspect of note needs to be mentioned when considering the pedagogical implications of life-world phenomenology. This perspective, owing to its knowledge-theoretical recognition of people's unique and experience-based life-worlds, ultimately endorses an *existential* take on being, learning, and teaching: even in the learning of cognitive content, the whole existence is involved, not just the reason; without the involvement of existence, we cannot

speak of learning. Existence is thus very important for learning (Bengtsson and Berndtsson, 2015, p. 25f.).

It is important to add that life-world phenomenologists highlight various kinds of action rather than exclusively intellectual ones. For Merleau-Ponty, *all* kinds of skills are viewed as both body-based and experience-based in the widest sense, beyond the realm of pure cognition and mental reasoning. Bengtsson advocated an education that explores what it means to live in a human world with other people:

> how we can be influenced by other people in their capacity of being other subjects and not just things, that is, how upbringing is possible, which is about relationships between people as subjects, and not between human beings and things or things and things.
>
> (1997, p. 13)

Subjectivity and intersubjectivity in a non-affirmative theory of education

Having demonstrated that we may identify different ways of understanding subjectivity and intersubjectivity in phenomenology, in what follows we point out how these are discussed in non-affirmative education theory. Rather than taking either subjectivity or intersubjectivity as its point of departure, non-affirmative theory argues in favour of an educational approach that distinguishes between several forms of subjectivity and intersubjectivity at play (Uljens, 2001; Uljens and Ylimaki, 2017).

In non-affirmative theory it is argued that, in his or her summons of the learner to engage in a learning process, the pedagogue cannot exclusively assume a shared life-world or some form of mutuality (symmetry) between self and other. Symmetry – or rather the negation of *a*symmetry in the form of the establishment of a shared life-world – is sought through the pedagogical process. But the opposite is also true. In his or her summons or invitation of the learner into an activity aimed at learning, the pedagogue cannot rely solely on a radical and total difference (asymmetry) between self and other, because an asymmetry is part of the objective of the pedagogical process. A 'sought-for asymmetry', in other words, refers to the aim of the pedagogical process: namely, that the individual develops uniqueness in a cultural sense, a uniqueness that did not originally exist.

We see that neither a symmetrical intersubjectivity nor an asymmetrical subjectivity can suffice as either the point of departure or the end point of education. To express this differently, at the beginning of the educational process we share the world to some extent, but not totally. Perhaps we speak the same language, but we are not the same. At the end of the educational process, again, we find ourselves as subjects that differ from others, but also as subjects that share the world in new ways. At the beginning of the educational process we

are the same, yet we are also different from each other. But at the same time, it is true that through the process of education we *become* the same, yet we also become different from each other. Didactics is thus the science of being and becoming both the same (intersubjectivity) and different (subjectivity). The paradox of didactics is that we are what we become, and that we become what we are – the same and different. This presents us with two problems. First, what do *same* and *different* mean? Second, what concepts do we need for talking about this dynamic process?

The relationship between the different forms of subjectivity and intersubjectivity can be explained using the relational pedagogical concepts of *Bildsamkeit* and summoning to self-activity. We want to demonstrate that we can draw on these classical concepts when speaking about phenomenological dimensions of pedagogy (Benner, 2005; von Oettingen, 2001; Uljens, 2001).

Bildsamkeit refers both to the human capacity to learn allowing of influencing the other by educational means and to the learner's activity aiming at learning. In the present context, the principle of *Bildsamkeit* refers to the individual's engaging in learning activity, in pedagogical situations. In such situations, the learner has accepted a pedagogical invitation or provocation and, in a way, is open to becoming engaged in and by an activity, having been summoned to this by the pedagogue. The principle of *Bildsamkeit* means that the learner is recognised as a subject with a *potentiality* of self-activity. This potentiality is made real through the subject's own actions in an educational space. An educational space refers to a common world established between teacher and learner through the summoning of the learner to self-activity (or self-initiated activity). *Bildsamkeit* thus refers to the individual's reflection on enacted experiences, his or her relationship to the world (Benner, 2015a; Uljens, 2001). How this educational dynamic takes place in each case is by definition impossible to predict. Through educational actions from the teacher's side, with the learning subject, a space of education is established. This pedagogical space is a temporary construction, a space that depends on the engagement of the subjects involved. The experiential or virtual space is a space in which the learner does not feel alone but experiences being seen and recognised, experiences being accepted but also challenged, experiences being involved in working on a topic. The space offers the subject a learning opportunity to exceed herself.

Insofar as it summons the learner to self-activity – that is, calling the other to self-promotion – educational activity entails (1) recognising the subject's potential and ability to engage in self-promoted learning (hence the potential for reaching empirical or cultural freedom is a guiding assumption), but also, importantly, (2) being attentive to the concrete life situation of the other, their phenomenological or experiential reality and personal life history (Goodson and Sykes, 2001). Such cultural awareness and knowledge is important. How the learner appears to perceive herself and the world is crucial, and it points to the phenomenological sphere of interest. It is important for a learner to experience the teacher as somebody who cares for her and somebody who is

present for the other in the educational situation, *meeting* and *seeing* the student as they appear as an existential subject to the teacher (Nordström-Lytz, 2013). A further dimension of recognition is related to the educator's actions supporting the individual's development of a reflected own will. This aspect is linked to the goal of the process, that is, to acknowledging the other's potential independence or autonomy as a goal of education. Finally, if the establishment of the individual's self-image is dependent on social interaction with others, and if the ability to discern and critical, autonomous thinking are regarded as individual rights, then pedagogical activity can be seen as a response to the moral demand that arises from recognising these particular rights (Fichte, 2000). The concept of self-promotion can then be seen as a lived enactment of our moral responsibility for the other.

The teacher's recognition consists in truly seeing the other as a unique person, assuming both that the individual's development is not determined by something totally pre-given and that the growing persons are entitled to find themselves and their 'voice' through their own activities. Pedagogical encouragement thus points to the need to consciously observe the ways in which a child responds to the call for self-promotion, without assuming (as in conventional affirmative pedagogy) that they should end up at a predetermined form of perception. One important implication for educators is therefore that non-affirmative education is emphatically critical of educational ideas, ideologies, and curricular policies that overemphasise either socialisation to existing norms in society or the fostering of values that form a predetermined future. Both these perspectives, in our view, exemplify normative/prescriptive educational thinking. One example of such future-oriented normative education is emancipatory pedagogy, also known as critical education. Here, what the student is to be liberated to and for, and all the normative values embedded in the process, are already known in advance. The goal is thus already outlined, and the teacher's task is consequently, with the help of methodology, to guide the student to the beginning of the course. Our critical point here is that normative socialising pedagogy, like societal transformational education, can easily overshadow the student's own development, preferences, and life experiences and therefore become a kind of educational indoctrination (Uljens and Ylimaki, 2017; Matusov and Lemke, 2015).

By contrast, a non-affirmative call for self-promotion insists that the learning process should be guided also by the student's own voice. The teacher's use of communicative provocations as an educational action should deliberately refrain from unproblematically confirming both current social interests and ideal future states (cf. von Oettingen, 2016; Kullenberg and Eksath, 2017). Such a conscious pedagogical judgement can create space for a process of learning that acknowledges the student's right to exercise conscious initiatives and actions within the educational dialogue. Such a position is also value-driven, yet reveals a careful approach to the act of teaching and leadership, especially in relation to the young. Leaders and teachers in democratic public school

systems are, by law, expected to follow the spirit of a curriculum and respect such interests. At the same time, teachers are expected to adopt teaching to the unique needs, interests, and circumstances at hand. Non-affirmative theory solves this tension by arguing that while teachers must recognise curricular aims and contents, they must not simply affirm these aims and contents. To do so would mean failing to problematise these aims and contents for and with students, thereby reducing education to transmitting given values and contents.

The non-affirmative approach also has to deal with a pedagogical paradox, but now in a new version. This version of the paradox states that the individual has to be treated as if she/he were already capable of what she/he is being encouraged to do and already capable of realising her freedom through her own activity (Benner, 2015a). As Benner puts it, pedagogical action involves treating the other as if the learner were already capable of what they are called to and what the other through its own activities may conquer. An example is when a child is learning to stand on her/his own feet and is asked to take a few steps across the floor to a waiting adult who will embrace her/him. Here the child is treated as if it can already walk, even if it is through responding to the parent's call through their own activity that they learn to take their first steps in life. But it is an open question whether this happens or not: time will tell, but we do not know for sure in advance. When Herbart refers to the concept of *pedagogical tact*, his intention is to show that the call not only falls back upon recognition of the freedom of others in itself, but that it must, in order to function, be experienced as reasonable by the other person in the dialogue. In such tactful action, the pedagogue shows awareness of the empirical reality, life situation, and identity of others, even as this may appear in the eyes of the other.

A final word

We have demonstrated, and problematised, the relation between life-world phenomenology and a theory of pedagogical activity based on non-affirmative education theory and structured within the research field of school didactics. Both life-world phenomenology and hermeneutic phenomenology offer us a fruitful language for talking about the individual's formation (the theory of Bildung). The phenomenological theory of Bildung typically views the life-world as open, intersubjective, and changeable in its ongoing complexity. This acknowledgement of openness and radical intersubjectivity, accommodating existential dialogues, has intriguing educational implications. In contemporary phenomenology, we find a language of education and human learning that in some respects reflects the concepts used in non-affirmative education theory. For example, Van Manen (1991) clearly takes such an interpretative, guiding approach in his *The Tact of Teaching*: *The Meaning of Pedagogical Thoughtfulness*. In fact, he even suggests subtle *non-action* as an important pedagogical act, a tactful 'holding back' when teaching children (p. 78). 'Holding back' includes a recognising dimension. It prepares a space for the other, but it also has a

summoning dimension. Being silent in front of the learner in the context of a structured educational situation both invites and challenges the learner to involve herself. On the question of mediating between worlds, Van Manen also emphasises children's everyday world as a crucial influence alongside the influence of those who are pedagogically responsible for them. Interestingly, in contrast with more conventionally authoritarian educational regimes, he sees the role of teaching as somewhat discreet, due to the normative idea that the pedagogue should try to avoid directly influencing the child as much as possible. He takes seriously the risk of imposing too many values and guidelines on young learners in this life-world-oriented approach to teaching. As he puts it: "To teach is to influence the influences. The teacher uses the influence of the world pedagogically as a resource for tactfully influencing the child" (p. 80).

Meyer-Drawe (1984) also developed an educational theory of intersubjectivity based on Merleau-Ponty's existential principles. She argues that self-perception and other kinds of experience are dialectically intertwined and form a 'middle embodiment' (*Zwischenleiblichkeit*) in which the intersubjective dynamics of seeing and being seen can be realised in a way that has educational relevance. We cannot become human beings without the other's response, she suggests, thereby defending the dialogue-oriented foundation for knowledge-building developed by our earliest teaching theorists. Truly dialogic intersubjectivity between teacher and student not only legitimates the student's own voice and needs but also accepts a portion of unexpected dialogue and, consequently, a knowledge development beyond the pre-given and ready-made. The strength of phenomenology is, obviously, that it recognises the educational significance of lived experience. In the practice of teaching as well as educational research, it implies interpreting that is open-minded and other-oriented, understanding the learner's lived experience in its current life-world context.

Despite the strengths, we argue that life-world phenomenology does not adequately explain how the learning individual may really transcend her life-world-based socialisation – or, more precisely, what role the pedagogical act may be assigned in that process. A second dilemma with life-world phenomenology is limited analytical attention to how power structures and policies operate in directing teachers and students' work. Despite fruitful attempts, life-world phenomenology does not seem to provide elaborate conceptual or analytical tools that can explain how politically agreed curricula direct initiation and transgression that occur in educational practices like schools. Life-world phenomenology tends to limit its focus to the student's perspective, thus disregarding the very specific contextual factors in school teaching. After all, strongly directing decisions of aims and contents are made before and beyond the classroom.

In our view, the non-affirmative pedagogical theory incorporates much of the ideas developed within life-world phenomenology but challenges phenomenological learning theory by providing a conceptual language for the explication of human learning and the role of teaching in this learning. The

non-affirmative approach to education promotes a liberal, person-oriented path of learning, focusing the individual's space of lived experience as related to selected cultural contents didactically treated within an institutionalised school (Benner, 2015b; Uljens and Ylimaki, 2017). On the part of the teacher, teaching in schools is an interpretative and mediational activity between the students' life-worlds and culture, mediated by the contents of the curriculum. In a non-affirmative school didactics these contents offer the medium by which the subject is summoned to reflection on her relation to herself, others, and the world in order to transcend her present state by her own activity. Non-affirmative school didactics makes visible that to the extent to which teachers are entitled not to affirm, that is, to question and problematise existing curricula, their degrees of freedom increase to create space for students' interests and life-worlds. This position also reminds that the task for the teacher is not limited to recognising the learners' life-worlds but to challenge them to work on their experiences. In this sense, we are arguing for a critical discussion of the idea of standardised and detailed curricula, defined without the student's own ideas and established as a guiding tool that leaves only limited space for open-ended or unexpected knowledge created in and through pedagogical dialogues. Consequently, we advocate further research exploring the theory of pedagogical action in life-world phenomenology – and vice versa.

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Part III

How to construe the thematics of Didaktik and curriculum

10

The dialogue between Didaktik and curriculum studies within mainland China

Bangping Ding and Xun Su

Introduction

International and intercultural dialogues in education science between the advocates of Didaktik (didactics) and of curriculum studies are a frequent occurrence all over the world (Hopmann, 2015; Lee and Kennedy, 2017; Westbury, Hopmann and Riquarts, 2000). In mainland China, however, these encounters have taken place within one country (Ding, 2011, 2015; Ding and Wang, 2017). Modern Western schooling systems were adopted in China early in the twentieth century to replace traditional systems and meet the pressing demand for trained schoolteachers. By turns, first the German Didaktik approach and then, within 20 years, the Anglo-American discipline of curriculum studies were adopted, with few modifications, as pedagogical theories. After the period of the Cultural Revolution, where influences came from the Soviet Republic, Anglo-American curriculum studies began to be reintroduced in the Chinese educational landscape; and with the turn of the millennium, calls for the re-establishment of educational science (or simply pedagogics) have been in the air in mainland China, and reflective discourses on the rebuilding of Chinese didactics have come to the fore (Ding, 2009; Xu, 2019). Hence, the situation today is, as in the Nordic countries, that didactics and curriculum studies go hand in hand as pedagogical approaches in the educational landscape of mainland China, reflecting the fact that both systems took root there (Deng, 2013, 2015; Ding, 2015; Zhang, 2017). Retrospectively, we find that the dialogue between didactics and curriculum studies in this country may perhaps have tended towards the simplistic, rather than exhibiting the depth and complexity called for by Pinar (Pinar, 2011, 2014). As a result, a number of misreadings and misunderstandings of both disciplines have arisen among Chinese educators and educational researchers, even including didacticians. This has had a significant impact on the policy formation and implementation of recent curriculum reforms: curriculum studies are currently predominant in the realm of theory, with many Chinese educational policymakers and curriculum theorists considering didactical theories to be outdated or even anachronistic.

For this reason, we argue that it is of the first importance that didactics should be conducted as an independent university subject with the full range and

depth of academic reflection in the context of mainland China. Our objective here is not just the rediscovery of the true quintessence of didactics in a form that can complement Anglo-American curriculum studies, but for the essential elements of both disciplines to be integrated with traditional educational culture and/or wisdoms. To this end, this chapter will review in some depth the historical trajectories by which first didactics and then curriculum studies were introduced and localised in mainland China. This historical process was not only long and complicated but also fraught with selections and options that resulted from cultural misunderstandings as well as educational needs.

In the following sections, we will first introduce the historical background against which models and theories from German Didaktik and from Anglo-American curriculum studies were introduced in China at different points in the twentieth century. We will then present the research method for the study: that is, qualitative content analysis of didactics and subject didactics textbooks. The results of the study will then be presented. Next, issues arising from the research questions and the analyses will be discussed, with the aim of shedding light on current and future issues in the conceptualisation and re-establishment of the new, mixed, and integrated pedagogical discipline, Curriculum and Didactics. It is hoped that this integrated discipline, based on the analysis and re-conceptualisation of modern didactics and curriculum theories and on a reflection on Chinese didactics, will embody the true Chinese spirit of pedagogical and educational theorising. Finally, some concluding remarks will be presented.

Historical background and context

As has been described elsewhere (Deng, 2015; Ding and Wang, 2017; Zhang, 2017), German Didaktik was originally introduced to China by way of Japan when Western school systems were transplanted in China in the first decade of the twentieth century. What was called didactics (and/or pedagogics) at the time was part of the teacher preparation programme so badly needed for the newly established schools and colleges of teacher education (the so-called normal schools). After the May Fourth Movement of 1919, China broke with Japan politically, ideologically, and educationally, and in 1922 the 6-3-3-4 school system of was adopted from the United States (six years of primary school, three years of junior high school, three years of senior high school, and four years of college/university undergraduate study), drawing on the work of John Dewey and progressive educational ideas. For the next three decades, until 1949, American educational influence was predominant in China, finding its theoretical expression in the emerging field of educational study that was Anglo-American curriculum studies. In these circumstances, the theory of Didaktik/didactics adopted in the first two decades of the century receded into the background of Chinese educational theory and practice and Anglo-American curriculum theory became the major influence on educational developments in mainland China.

The first half of the twentieth century, therefore, saw the encounter between didactics and curriculum studies in the Chinese educational landscape, and a resultant 'dialogue' between them. It is necessary and indispensable to explore the traces and/or tendencies of this encounter, because the educational ideas and theories that are influential in a country during a given period are not isolated, nor are they without influence on wider social and historical movements and ideas. In our reflection on, and reconstruction of, didactics and curriculum studies for contemporary teacher education in mainland China today, we have to draw upon the historical experience of earlier generations of Chinese educationalists. These scholars, as we saw in our preliminary study of didacticians and curriculum scholars in the first part of the twentieth century (Ding, 2009, 2015; Ding and Wang, 2017), not only introduced European Didaktik and Anglo-American curriculum theories, but tried with varying degrees of success to combine them with Chinese national needs in educational practice; they even tried to formulate their own theories of didactics and curriculum. In this sense, the Sinicisation of Didaktik/didactics and curriculum studies now has been ongoing for more than a century in China.

Next, our study moves to the second half of the twentieth century and the resurfacing of didactics in Chinese educational discourses, this time introduced from the Soviet Union. With the shift of political regime in China, during the three decades from 1949 to 1979 curriculum studies was abandoned as a field of study. In train with mainland China's alignment with the Soviet Union, Soviet didactics and pedagogics were now embraced as the correct educational disciplines for the teacher education programme, replacing Dewey's theory of education and progressive educational theory in general (including curriculum studies). As the German Didaktik of the Herbartian school had been supplanted by Anglo-American educational theories, Soviet/Russian didactics (in the form of Kairov's *Pedagogy* textbook) was now influential for just one decade between 1950 and 1960. Following the Sino-Soviet political and ideological rift, however, it was severely criticised during the Cultural Revolution of 1966–1976. But with the opening and reform of China in 1978, Kairov's *Pedagogy* was re-evaluated in academic circles, and the subsequent three decades from 1979 to 2009 witnessed the flowering of Chinese didactics and subject didactics as pedagogical subdisciplines for a teacher education knowledge base, now impacted once again both by contemporary German Didaktik and by Soviet didactics (Xu, 2019).

Meanwhile, following the resumption of diplomatic relations with the United States in 1979, curriculum studies re-emerged after 30 years of proscription as a pedagogical field of study in mainland China during the 1980s and 1990s. Curriculum textbooks published during the nationalist period before 1949 were now reissued, and a new generation of curriculum scholars grew to maturity and formed research groups in teacher education colleges/universities. In the 1990s they founded the Association for Curriculum Studies of China (Zhang, 2017). Although many of these scholars had first studied in the didactics camp,

at this time their academic interests turned to curriculum studies and they found themselves among curriculum scholars. By the same token, some of the didacticians found themselves attracted by the curriculum discourses translated from the US curriculum literature and went on to incorporate curriculum theories into their own work on didactics (e.g. C. S. Wang, 1985).

Thus, a confluence emerged in the 1980s in Chinese educational thinking between German Didaktik (including Martin Wagenschein's exemplary teaching methods and Wolfgang Klafki's critical categorical didactics) and Anglo-American curriculum theories (including Tyler's theory of curriculum, Pinar's theory of reconstructionist curriculum, Doll's post-modern curriculum theory, just to name a few). At this confluence, a blended field of pedagogical study was thus created in mainland China, called Curriculum and Didactics. This new field of Curriculum and Didactics, together with subject curriculum and didactics for various school subjects (physics didactics, chemistry didactics, biology didactics, mathematics didactics, and Chinese language didactics), became a new subdiscipline among the educational sciences as a university discipline in its own right – although curriculum studies and didactics still continued to be researched separately by some educationalists.

The aims of the present study are to reflect on the nature of the dialogue between Didaktik/didactics and curriculum studies in mainland China over the past four decades, and to address the question of how this dialogue has become problematic through misreadings and misunderstandings by influential researchers in didactics and curriculum. This question has not received much attention within educational circles in mainland China, because most Chinese researchers in both camps seem to argue that the two fields of study originally adopted from the West, although distinct, are interrelated, as if they did not exemplify profound cultural or national differences.

In view of these aims, the specific research questions of the study are as follows:

1 What were the traces and/or tendencies in Chinese didactics and curriculum studies?
2 How did didactics and curriculum studies encounter one another and interact in the academic field of education in mainland China?

Methodological considerations

The method used to address these questions is qualitative content analysis, which reveals some traces and/or tendencies in the encounter between Didaktik/didactics and curriculum studies in the Chinese landscape of education. "Content analysis involves reading and judgment", as Cohen, Manion and Morrison state in their *Research Methods in Education* (2000, p. 284). Because space is limited, we have confined ourselves to the content analysis of selected textbooks as exemplars among those published over the past four decades in the

fields of general didactics and subject didactics. Two major didactics textbooks, one on general didactics and one on subject didactics, were chosen to identify the traces and/or tendencies in order to show how Chinese didacticians have dealt with issues of teaching/learning and curriculum in their works on general didactics and subject didactics.

Content analysis of Chinese didactics textbooks

Chinese general didactics textbooks

The first selection of textbooks from general didactics comprises two works: *A Seminar Notes on Didactics* (*Jiaoxuelun Gao*, 教学论稿) by Professor Ce-san Wang (1928–2017) of Beijing Normal University, first published in 1985 and running into several later editions, and *Didactics* (*Jiaoxuelun*, 教学论) by Professor Bing-de Li (1912–2005) of Northwest Normal University, first published in 1991 and the most-used university textbook of its kind. For space reasons, in the present chapter, our content analysis will be limited to the first of these two works, Wang's textbook.

Wang has been teaching without interruption since the early 1950s at the Faculty of Education at Beijing Normal University, one of the top research universities training future educational researchers as well as schoolteachers (and other professionals). His textbook is based on his lecture notes, prepared as an elective course in 1979 and eventually published in textbook form. The author describes his book as featuring "a discussion and exploration of theoretical issues and problems in didactical research" (C. S. Wang, 1985, p. 1, authors' translation). As a textbook of general didactics, *A Seminar Notes on Didactics* is highly regarded by students of education studies in mainland China, as it represents a breakthrough in numerous respects.

In the first place, rather than merely presenting teaching/learning methods for students of education and/or prospective teachers, the book stands out for its theoretical exploration. In that sense, it is the most significant work in Chinese didactics to have been published in mainland China. Although Johann Amos Comenius' *Didactica Magna* (Great Didactic) had been published in Chinese translation in the 1930s and the Chinese version of Johann Friedrich Herbart's *General Pedagogy* (1806) had also been familiar to teachers and educationists in China in the first half of the twentieth century, the predominant influence among foreign pedagogical works stemmed from the United States, especially after the visits by John Dewey and his progressive followers (such as William H. Kilpatrick) to China in 1919 and the 1920s respectively. In the field of pedagogical studies, therefore, Anglo-American curriculum studies and general methods of teaching or instruction were more influential than German Didaktik had been, even if Herbart's formal steps of instruction became rooted in the practice of classroom teaching in China at the beginning of the twentieth century.

During the 1950s, however, owing to the shift in political regime, it was Soviet pedagogy that abruptly superseded the influence of Anglo-American educational science (and especially curriculum studies). Soviet official pedagogics were very popular among educational researchers and schoolteachers; Kairov's *Pedagogy* (1953) and his didactics in that work were regarded as the most 'scientific' theory of all. That popularity was short-lived, however. From 1957, China started to explore its own way of building a socialist country, as distinct from the Soviet model, while resisting the overwhelming influence from the Soviet Union. That exploration, however, was in turn cut short by the Cultural Revolution of 1966–1976, which prohibited Chinese educational researchers in general and didacticians in particular from developing Chinese didactics of any kind. Against this background, it can be said that Ce-san Wang's textbook was by some margin the first ever comprehensive and influential work of its kind in mainland China. It differed markedly from, for example, Chinese works on teaching/learning methods that were written on the basis of Anglo-American works published during the 1930s and 1940s on teaching/instruction theories and methods. A further difference from translated works on didactics from the Soviet Union was that it was partly based on the Chinese culture of education and Chinese traditions of wisdom (Zhang, 2017).

A second remarkable feature is that while Wang's textbook tries to create a systematic structure for Chinese didactics as an academic subdiscipline with Chinese educational culture in mind, it is still redolent of the influence of Kairov's *Pedagogy* (1953). For one thing, the textbook acknowledges that a Marxist didactics was established in the Soviet Union and other Eastern Bloc countries, and Wang is ready to follow in the steps of this Marxist tradition in didactical research. For another, Wang had structured his textbook of didactics along a similar model to Soviet didactics, that is, dealing with such topics as basic concepts in didactics (Chapter 4); the process of teaching/learning (Chapter 5); principles of teaching/learning, methods of teaching/learning (Chapter 10); modes of teaching/learning (Chapter 11); forms of organisation in teaching/learning (Chapter 12); and assessment criteria for student assignments (Chapter 13). These discourses in Chinese didactics reflect their origin in Russian didactics, and implicitly, therefore, in continental European Didaktik/didactics. There were however changes in and additions to the content of Wang's textbook: American curriculum theory – a different Western educational culture to that of European Didaktik or Soviet/Russian didactical culture – was also subordinated to Chinese didactics. For this reason, Wang's Chinese didactics is regarded as a model of 'large didactics' by other educational researchers in China (e.g. Ding, 2009; Ding and Wang, 2017).

Third, Wang made a significant contribution to integrating Chinese pedagogical culture into Chinese didactics. For instance, in defining the concept of teaching/learning (*jiaoxue*, 教学), one of the foundational concepts in didactics, Wang contended that although there are many different definitions of it in the literature, "*teaching/learning* is always an integrating activity of teaching and

learning" (C. S. Wang, 1985, p. 89, authors' translation). He further criticised the dichotomy between teaching and learning as follows:

> [I]n didactical (i.e. teaching-learning) activities, it is plain, of course, that there is either separate teaching or separate learning, and that one cannot take place without the other; but on this special occasion teaching cannot be detached from learning, and so teaching-learning is always a common activity involving one another, rather than simply teaching plus learning. Teaching and learning are two sides of the same coin, and so they are dialectical and integrating, so to speak.
>
> (p. 89, authors' translation)

In defending this idea of the inseparability of teaching and learning, Wang cites Fu-zhi Wang (1619–1692), a philosopher of the Ming dynasty (AD 1368–1644), who remarked:

> [L]earning is to learn what the teacher imparts, so learning is not to teach; whereas teaching is to teach students to learn what is taught by the teacher, so teaching is not to learn, of course.
>
> (quoted in C. S. Wang, 1985, p. 90, authors' translation)

Wang illustrates this principle by saying:

> When students are self-studying in the classroom in the absence of the teacher, or when students are doing assignments at home, is their 'learning' considered to be separated from 'teaching'? No! Take another example, when a teacher is marking students' compositions in the staffroom with no students around, is this kind of 'teaching' detached from his/her students' 'learning'? No!
>
> (p. 90, authors' translation)

Following this analysis, Wang defined the concept of teaching/learning as follows:

> By teaching-learning is meant an activity integrating teaching given by the teacher with learning on the part of the students; in this shared activity, students master a certain body of knowledge and skills, meanwhile they also gain development of body and mind and develop moral character.
>
> (pp. 88–89, authors' translation)

Fourth, Wang was the first Chinese didactician to draw on curriculum theory to enrich Chinese didactics research. The table of contents indicates that three of the chapters (Chapters 7, 8, and 9) deal with curriculum issues in a way

that subordinates curriculum studies to Chinese didactics. In Chapter 7, for example, Wang contends that:

> We hold that curriculum can be looked upon as the arrangement of instructional content, and that didactics without instructional content is empty, and curriculum is in fact subjected to the law of instructional process.
>
> (pp. 165–66)

In his own research on didactics, therefore, Wang did not distinguish either between didactics and curriculum or between didacticians and curriculum theorists. In Chapter 2, for example, Wang places the American psychologist and curriculum reformer Jerome Bruner (1915–2016) side by side with Russian didacticians such as I. V. Zankov (1901–1977), asserting that "Bruner's didactical thought [*sic*] lies in his curriculum theory" (p. 26). On the other hand, although curriculum study did not constitute an independent field of research in Soviet pedagogical sciences at the time, the significant Russian idea of *obrazovanie* (образование, similar to the German idea of Bildung) concerning the content of instruction in Soviet didactics is nearly absent from Wang's work (or any other works by Chinese didacticians, for that matter). The pre-1949 nationalist era saw few, if any, attempts to establish Chinese didactics other than by introducing the Anglo-American curriculum theories and their methods of instruction. This meant that once the time was appropriate for Chinese didacticians like Wang to build a didactics as a theoretical subdiscipline within pedagogics or the educational sciences, they found it necessary to make use of Anglo-American curriculum theories as an element in their attempts to found Chinese didactics. But because the two approaches originated in two distinct and separate Western pedagogical and educational cultures, these attempts led to frequent misunderstandings of both Didaktik/didactics and curriculum studies (Ding, 2009; Ding and Wang, 2017).

A fifth remarkable feature is that one can readily see in Wang's didactics that he tried to establish Chinese didactics on the foundation of Marxist philosophy: that is, on dialectical and historical materialism, which was regarded as the guiding rationale for all research in human and social sciences, including didactical study. Wang states:

> The main characteristics of Marxist didactics rest in the recognition that dialectical and historical materialism – most of all dialectical materialist epistemology of reflection – is the foundation of methodology.
>
> (1985, p. 9)

Here Wang is acknowledging that Marxist didactics was originally founded in the Soviet Union and his wish to continue this tradition of Marxist didactics in mainland China. A few years later, Wang and colleagues published a monograph entitled *Theory of Knowing in Teaching/Learning* (教学认识论)

(C. S. Wang, 1988/2002), which systematically expounds the theoretical foundation of Chinese didactics from a Marxist epistemological point of view.

A sixth and final remarkable feature is that Wang's textbook lays the groundwork for Chinese didactics. He makes great efforts to construct a version of Chinese didactics by integrating Soviet didactics, American curriculum theories, and the rich Chinese educational culture and wisdom traditions. In particular, he emphasises the value of teaching/learning, an important idea that permeates Confucian works on education. Such teaching/learning notions as 'Teaching is half of learning' (*jiaoxue ban*, 教学半), 'Teaching and learning will enhance each other' (*jiaoxue xiangzhang*, 教学相长), and 'Teaching students by using the elicitation method and helping them infer from examples' (*qifashi jiaoxue*, 启发式教学) are reactivated and transformed in Wang's textbook of didactics. Most important of all, he insists that Chinese didactics should be a theoretical pedagogical discipline. He thus distinguishes between general didactics (*jiaoxuelun*, 教学论) and methods of teaching/learning (*jiaoxuefa*, 教学法) (Ding, 2015).

Chinese subject didactics textbooks

The past four decades have also seen considerable growth in subject didactics in the colleges and universities that train primary and secondary school teachers in mainland China. Like their counterparts in continental European countries, however, researchers in subject didactics (*Fachdidaktik*) are located within their respective academic departments rather than as an independent discipline. A certain tension thus exists between researchers in general didactics and subject didactics, based on the somewhat different training and competences of the two groups (Strømnes, Rørvik and Eilertsen, 1997).

Like their colleagues in general didactics, researchers in subject didactics (including chemistry didactics, physics didactics, biology didactics, mathematics didactics, and Chinese language didactics) in mainland China since the 1980s have to an extent misread and misunderstood subject didactics and curriculum studies. Rather than recognising curriculum studies as an independent discipline, they have sought to integrate ideas gleaned from Anglo-American curriculum studies with subject didactics. This can be seen in the textbooks edited by subject didactics researchers for teacher education programmes. While the titles of these textbooks use the term 'didactics' rather than 'curriculum', their content is replete with discourses originating in Anglo-American curriculum studies, blended with some content of curriculum studies as well. One typical example is a widely used textbook entitled *Didactics of Chemistry*, edited by Professor Zhixin Liu (b. 1928) (Wei, 2012), a famous specialist in the field of Didactics of Chemistry in China, now a retired professor in the College of Chemistry, Beijing Normal University.

Published in 1990, the first edition of this textbook is pervaded by discourses from the field of didactics, including teaching syllabus, teaching plans,

and teaching content. Although the word 'curriculum' is used in Chapter 1, entitled "The Setup and Content of the Chemistry Curriculum", the reference here is to the curriculum of required courses in secondary schools, rather than to the sense used in curriculum studies, which is of a much richer connotation (Liu, 1990). In addition, this textbook is visibly deeply influenced by the Soviet-led chemistry didactics of an earlier era. In the earliest, pre-publication manuscript of the text in 1957, the structure and organisation of the book were mainly borrowed from similar textbooks translated and published in the former Soviet Union during the 1950s honeymoon period between the two countries (Wei, 2012). Four chapters (Chapters 3, 10, 11, and 12) of the 1900 textbook edition elaborate on the chemistry teaching skills and chemical knowledge that a chemistry teacher should master, while one chapter (Chapter 4) introduces teaching about dialectical materialism and patriotism into the teaching of chemistry (Liu, 1990). Interestingly, however, the Russian concept of *obrazovanie*, fundamental *to* Soviet didactics and subject didactics, cannot be found in the first edition of *Didactics of Chemistry*.

By contrast, in the most recent edition of the *Didactics of Chemistry*, published in 2018, discernible differences and changes have been introduced in the intervening decades since first publication. There are several notable differences. First, the 2018 edition has been very heavily influenced by Anglo-American curriculum studies in discourse. The discourses of didactics that informed the first edition – teaching plans, teaching syllabus, teaching content, and teaching assessment – have disappeared, and instead the salient discourses are taken from curriculum studies: for example, curriculum development, curriculum reform, and curriculum standard. Second, the new edition has also been considerably influenced by Anglo-American curriculum studies in terms of substance. Methods of subject teaching and learning – including teaching methods (Chapter 4), teaching skills (Chapter 5), chemistry experiments teaching (Chapter 6), and the inquiry-based teaching of chemistry (Chapter 7) – have been added. Additionally, some content has been incorporated from Anglo-American curriculum studies (Chapters 2 and 3): Chapter 2 refers to the compilation and renovation of the chemistry curriculum, and Chapter 3 to the design and content construction of chemistry textbooks (Liu, 2018). Third, the renovation of the chemistry curriculum discussed in Chapter 2 is clearly influenced by the recent Chinese curriculum reforms during the period 2001 to 2016. Fourth, a chapter on theories of chemistry learning (Chapter 8) has been added, an obvious influence from Anglo-American learning theories, which centre on the general principles of learning. Fifth, knowledge of the content of chemistry, measurement and evaluation of chemistry teaching, and teaching of chemistry exercises and revision, all of which appeared in the first edition, have been expunged from the fifth edition (Liu, 1990, 2018). This too may be due to the influence of Anglo-American teaching theory, which concentrates on effective teaching methods rather than the teaching of content and practical classroom teaching (Ding, 2015). Finally, the integration of information

technology with the chemistry curriculum (Chapter 9) and the professional development of chemistry teachers (Chapter 10) are also newly introduced in the fifth edition.

In conclusion, it is reasonable to say that the fifth edition of the textbook has moved decisively towards the Anglo-American discipline of curriculum studies and its theories of learning and teaching, leaving the older, Soviet-style chemistry didactics behind. The resulting work, however, turns out to be something of a mixture: that is, the 'Curriculum *and* Didactics' of chemistry (or physics, biology, mathematics, or the Chinese language), as the discipline is known today. This simplistic blending of content and discourses from subject didactics and curriculum studies indicates that a thoroughgoing and cross-cultural dialogue between curriculum and didactics has yet to take place in the field of subject didactics in mainland China today.

Back to the research questions

We turn back to our research questions. The first question asks, what are the traces and/or tendencies about Chinese didactics and curriculum studies?

In contrast to Germany, where Didaktik originated and where curriculum studies was in vogue only for a short time in the 1970s, and in contrast also to the United States, where curriculum studies came into being from an indigenous culture of pragmatism, in China both didactics and curriculum studies were adopted children, gradually indigenised from the early twentieth century as part of the Chinese modernisation programme. Politics played a huge role in the indigenisation of these disciplines, especially in the latter half of the century, when shared beliefs in communism in both countries led to the didactics (and pedagogics) of the former Soviet Union being chosen as the dominant pedagogical and educational theory, severing the earlier-established traditions of German Didaktik and Anglo-American educational science in general and curriculum studies in particular. It is also important to bear in mind that continual political disruption from the 1950s up to 1976 – in the correction movement of intellectuals, the Great Leap Forward, and the Cultural Revolution – largely prevented researchers and university teachers from doing any research in their fields, let alone publishing work that might be socially valuable or creative.

Over the past four decades, however, the political environment for academic work in mainland China has very much improved for Chinese researchers and academics, characterised as it has been by reform and by opening up. International academic exchanges and cooperation have taken place, and Chinese researchers and academics have been able to visit other countries, with their international counterparts frequently invited to their home universities in return. It is in this period of Chinese modern history that Chinese didactics and curriculum studies have made great progress in research and with the completion of many PhD projects in the field. According to the didactician

Professor Ji-cun Xu (2019) of Shandong Normal University, there were only 80 graduates with a master's degree in the programme of Curriculum and Didactics and five PhDs in 1997, but by 2005 these numbers had increased to 500 and 38 respectively. Between 2006 and 2010, there were more than 3,500 graduates with a master's degree in the programme of Curriculum and Didactics and nearly 300 with a PhD, and more than half of the latter were graduates in a subject curriculum and didactics (such as the Chinese language, mathematics, foreign languages, biology, chemistry, or physics).

Now we turn to the second research question: how did Chinese didactics and curriculum studies encounter one another and interact in the academic field of education in mainland China?

Chinese didactics gradually evolved as a field of study from the mother discipline of pedagogics into its independent form (C. S. Wang, 1985), including various subdisciplines such as curriculum studies and subject didactics, and finally converging over the last 40 years in a comprehensive discipline called Curriculum and Didactics (Xu, 2019). The 1980s and 1990s witnessed the rapid development of didactics as an independent subdiscipline among educational sciences in mainland China. In 1985, Chinese didacticians organised themselves into the National Association of Didactics within the Chinese Society of Education, thereby promoting the rapid development of the discipline. In 1997, a group of curriculum researchers networked and went on to establish the National Association of Curriculum Studies, also within the Chinese Society of Education, claiming independent identity of curriculum studies as a subdiscipline of educational sciences in mainland China. However, also in 1997, the Council of the State Commission of Academic Degrees and the Ministry of Education determined that didactics and curriculum studies were to be merged in the combined subdiscipline of Curriculum and Didactics. A new generation of master's and PhD students have now graduated within the new Curriculum and Didactics graduate education programme in colleges and universities.

In spite of their official merging, however, there have been operational difficulties in the harmonious combination and integration of the two fields of study, stemming as they do from two very different educational cultures. For one thing, Chinese specialists in both schools tend to use their own distinct discourses. When they find themselves in different linguistic contexts, they consequently tend to talk past each other. For example, in didactics, the following expressions are used: teaching/learning (rather than instruction or learning), teaching plans, assessment/evaluation of teaching/learning, reform in teaching/learning, process of teaching/learning, principles of teaching/learning, and methods of teaching/learning. In curriculum studies, on the other hand, a parallel but different set of expressions is used: curriculum standards, curricular implementation, curriculum assessment/evaluation, and curriculum reform. This dichotomy between terminologies creates difficulties not only for practising teachers in their communications with academics but also for didacticians and their curriculum counterparts when they compare notes on professional occasions. Given this situation, the construction of a harmonious and blended

discipline of Curriculum and Didactics is proving a difficult task for Chinese educational scholars. In this respect we would welcome learning from our international and intercultural dialogues, and particularly from our colleagues in the Nordic countries.

Conclusion

The development of the new discipline of Curriculum and Didactics in mainland China is of course rooted in reforms of teaching, learning, and schooling. As a result, many pedagogical problems and issues have arisen in the reform process. For example, as part of the current reform of science education in schools, inquiry-based teaching and learning has been promoted since the turn of the millennium as the curricular content of school science and as a better mode of pedagogy. In spite of this policy, however, a phenomenon that has been termed *pseudo-inquiry* (Jiang, 2015) has surfaced in many science classrooms across the country in recent years, whereby science lessons in the classroom have frequently been characterised by seemingly hands-on and cooperative learning. How are researchers in the field of Curriculum and Didactics in mainland China to conceptualise such challenges and deviations from the objectives of the science curriculum reforms? So far, neither Chinese didactics nor curriculum studies in their existing form have proved capable of resolving such challenges in a satisfying way. One possibility is that international and intercultural scholarly dialogue may help to facilitate the emergence of the new Curriculum and Didactics discipline in such a way that these problems can be resolved in a practical way.

Another aspect importantly requiring study is the need to build a Chinese culture of education, with the new and blended discipline of Curriculum and Didactics as an integral part. By the Chinese culture of education, we refer to the traditional culture related to teaching, learning, and schooling, and especially to Confucianism in terms of the way of thinking as regards education. For example, the concept of 'Chinese harmonism'[1] (Z-H. Wang, 2012) is one of the most important philosophical cornerstones of this tradition. In our view, this concept could be extremely useful as a tool in constructing and developing the new blended discipline of Curriculum and Didactics (Ding and Wang, 2017). As Ding and Wang put it:

> As an epistemological way of knowing, the concept *Chinese harmonism* does not try to treat reality as the same; rather, it teaches people to discriminate between the differences.
>
> (p. 133)

And again:

> [I]t recognises, first, the differences of the ideas, and then takes advantage of the differences to innovate and make something new and valuable, just

like the chemical change that takes place in different elements when they happen to encounter each other.

(p. 133)

Note

1 'Harmonism' is a new word, which is meant to indicate the ancient Chinese idea expressed in the phrase 'he er bu tong' (和而不同), which was put forward by Confucius. In Chinese, 'he' (和) is meant to be harmony, while 'tong' (同) is just the opposite; the former is an epistemological way of creative knowing, trying to absorb various elements from different things to create something new and valuable, whereas the latter cannot do so. (See more of the idea 'Chinese harmonism' in Z-H. Wang, 2012.)

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11

Teacher responsibility over intended, taught, and tested curriculum, and its association with students' science performance in PISA 2015 across Didaktik and curriculum countries

Armend Tahirsylaj

Introduction

Various foci of curricula affect modern-day schooling. Educational authorities design formal curricula to structure educational experiences for students. However, students are not exposed only to formal curricula within bounded school settings but also to other unofficial curricula that shape what students learn in and out of schools. Schubert (2008) elucidated eight formats of curricula that influence schooling directly and/or indirectly, namely, (1) intended – which means the specific education goals as defined by the formal schooling institutions – most often by a central or local government; (2) taught – which means the actual curriculum that teachers cover in their day-to-day teaching in classroom settings; (3) experienced – which implies thoughts, meanings, and feelings of students as they encounter the curriculum delivered to them by teachers; (4) embodied – primarily meaning the curriculum that students 'take with them' beyond what is measured by grades and test scores; (5) hidden – capturing the education that is conveyed to students by school structures that are not part of the official/formal/intended curriculum. The sources for the hidden curriculum might include race, class, gender, culture, ethnicity, language, religion, and so on; (6) tested – which captures what gets tested in the school settings and why, and who benefits from testing; (7) null – which is referred to as the curriculum that does not get tested and is not usually represented in tests, such as capacities for art, philosophy, psychology, imagination, and lifelong learning to name a few; and (8) outside curriculum – which covers the out-of-school curricula that students are exposed to through their contexts of culture, community, language, families, mass media, the internet, and so on.

Teachers, meanwhile, from the triangle of teachers, students, and content in the Didaktik tradition, facilitate students' access to specific subject content/

curriculum. This chapter explores the extent to which teachers are responsible for three of the eight curricula aspects, namely *intended*, *taught*, and *tested* curriculum. Regarding *teacher responsibility*, the study relies on the definition provided in OECD's (2009) assessment framework, where teacher responsibility was taken to mean responsibility over decisions pertaining to school management, financial issues, and instructional issues. Further, the study utilises the definition of Corcoran (1995) on *teacher responsibility* as teachers' capacity to make curriculum- and assessment-related decisions. As conceived here, teacher responsibility is different from *teacher autonomy*, which has been defined along professional, faculty/staff, and individual dimensions (Frostenson, 2012), or as having an institutional dimension, implying collective autonomy of the teaching profession, and a service dimension, concerning individual teacher autonomy at classroom level and school level practices more broadly (Wermke and Höstfält, 2014).

To achieve its goals, the study uses Programme for International Student Assessment (PISA) data to examine variation of teacher responsibility over intended, taught, and tested curriculum in different contexts, and also to explore whether teacher responsibility over these three curriculum foci matters for student science performance in PISA 2015. The study addresses two main research questions: (1) do teachers have a say on intended, taught, and tested curriculum across Didaktik and curriculum countries? and (2) what is the association of teacher responsibility over intended, taught, and test curriculum with student science performance in PISA 2015 across six Didaktik (Denmark, Finland, Norway, Sweden, Austria, and Germany) and six curriculum (Australia, Canada, Ireland, New Zealand, United Kingdom, and the United States) countries? The purpose of the study is first to empirically test claims made about teachers' responsibility across Didaktik and curriculum traditions, and second to further contribute to the field of comparative curriculum studies employing education frameworks and quantitative approaches, as a new method to address curriculum/Didaktik issues in the twenty-first century. The study builds on author's prior work (Tahirsylaj, 2019) to expand the range of data used to test theoretical claims put forth over similarities and differences between curriculum and Didaktik traditions.

Theoretical framework

Curriculum and Didaktik serve as two main education traditions in the Western world that shape to a large extent, for example, what education policies are implemented in school systems (Hopmann, 2015; Tahirsylaj, Niebert and Duschl, 2015) and how teachers are educated and trained (Tahirsylaj, Brezicha and Ikoma, 2015). Curriculum and Didaktik frameworks claim, amongst else, that there is a higher level of teacher responsibility among teachers working in Didaktik than those in curriculum countries (Westbury, 2000). While there

are four competing ideologies that constitute the field of curriculum studies, including scholar academic, social efficiency, learner centred, and social reconstruction (Schiro, 2013), the social efficiency model was dominant throughout the twentieth century up the present day (Tahirsylaj, 2017; Deng and Luke, 2008; Kliebard, 2004; Westbury, 2000). Didaktik, on the other hand, developed as a theory of teaching and learning in continental Europe, dealing with issues of order, sequence, and choice (Hopmann, 2007) and a tradition "as a relation between teachers and learners (the who), subject matter (the what) and instructional methods (the how)" (Klette, 2007, p. 147). While both traditions have experienced revisions and modifications as a result of global education trends since the early 2000s, they still operate under their own original assumptions, meaning Didaktik is still more teacher oriented and content focused, while curriculum is methods oriented and assessment intensive (Tahirsylaj, Niebert and Duschl, 2015).

The study follows a logic of rationale where the constructs of interest pertaining to intended, taught, and tested curricula are thought to be mediated by the instructional system in place in corresponding countries representing curriculum and Didaktik traditions, which in turn affect the student's test score in PISA assessment, while controlling for a number of student- and school-level variables. In this vein and in line with the first research question and curriculum/Didaktik framework, the hypothesis is that teachers in Didaktik traditions have stronger say regarding their responsibility over intended, taught, and tested curriculum than their counterparts in curriculum traditions. The second research question is exploratory in nature, however based on prior work (Tahirsylaj, 2019) it can be hypothesised that the three variables of interest used as proxies for intended, taught, and tested curricula will not show strong associations with students' science performance in PISA 2015 across both curriculum and Didaktik tradition countries in the sample.

Methodology

This study employs an innovative quantitative approach to address the two main research question. It utilises PISA 2015 data made available by the Organisation for Economic Cooperation and Development (OECD). The PISA test has been administered every three years since 2000. PISA tests 15-year students' skills in three cognitive domains, including mathematics, science, and reading. To address the first research question, the study employs descriptive analysis to examine variation in teacher responsibility on intended, taught, and tested curriculum across Didaktik and curriculum countries. Two-sample difference of proportion test for teacher responsibility over intended, taught, and tested curriculum is used, while case-wise deletion is applied to address missing data. To address the second research question, a hierarchical linear modelling (HLM)

procedure will be used to explore the association of teacher responsibility measures over three foci of curricula on students' science performance in PISA 2015, while controlling for a number of student-level (socio-economic status (SES), gender, age, grade, and immigration status) and school-level (school type – public vs. private) variables. Mean substitution and dummy adjustment are applied as methods to address missing data.

HLM is a useful method for this study considering that PISA datasets have a nested structure of data with students nested in schools and schools nested in regions and/or countries, which arguably provides more precise estimates given that data structure (Raudenbush and Bryk, 2002). HLM is preferred over simple ordinary least square (OLS) method, since the latter assumes independence of observations which is rather misleading in nested data where variance within group tends to remain dependent.

To develop the HLM models, first an unconditional model was run for each country using the dependent variable. Here is the specified equation for science achievement.

$$science_{ij} = \beta_{0j} + e_{ij} \tag{1}$$

Each school's intercept, β_{0j}, is then set equal to a grand mean, $\gamma_{00,}$ and a random error u_{0j},

$$\beta_{0j} = g_{00} + u_{0j} \tag{2}$$

where j represents schools and i represents students with a given country.

Substituting (2) into (1) produces

$$science_{ij} = g_{00} + u_{0j} + e_{ij} \tag{3}$$

where:

β_{0j} = mean science achievement for school j
g_{00} = grand mean for science achievement
Var (e_{ij}) = θ = within school variance in science achievement
Var (u_{0j}) = t_{00} = between school variance in science achievement

This model explains whether there is variation in student's standardised science scores across j schools for the given country. From here, a linear random-intercept model with covariates was set up. This model is an example of a linear mixed effects model that splits the total residual or error into two error components. It starts with a multiple-regression model, as follows:

$$Science\ scores_{ij} = \beta_1 + \beta_{2j}\, x_{2ij} + \ldots + \beta_p\, x_{pij} + \xi_{ij} \tag{4}$$

Here β_1 is the constant for the model, while $\beta_{2j}\, x_{2ij}$ to $\beta_p\, x_{pij}$ represent covariates included in the given model. ξ_{ij} is the total residual that is split into two error components:

$$\xi_{ij} \equiv u_j + e_{ij} \tag{5}$$

where u_j is a school-specific error component representing the combined effects of omitted school characteristics or unobserved heterogeneity. It is a random intercept or the level 2 residual that remains constant across students, while level 1 residual e_{ij} is a student-specific error component which varies across students i as well as schools j. Substituting ξ_{ij} into the multiple-linear regression model (4), we obtain the linear random-intercept model with covariates

$$\textit{Science scores}_{ij} = \beta_1 + \beta_{2j}\, x_{2ij} + \ldots + \beta_p\, x_{pij} + u_j + e_{ij} \tag{6}$$

Again, $\beta_{2j}\, x_{2ij}$ to $\beta_p\, x_{pij}$ represent the covariates included in the model, and they vary depending on how many covariates are included in a specific model. The final model focuses on three level 2 covariates representing teacher responsibility items – whether teachers were responsible for course content, choosing which textbooks are used, and establishing student assessment policies – and it also includes one school-level covariate of school type (public vs. private) and a number of student level 1 covariates, including SES, age, grade, immigration status (native vs. first generation vs. second generation), test language (native vs. another), and a dummy variable for gender, where female = 1 and male = 0, and controlling for dummy missing variables. The same full model is then run for each of the 12 countries in the study.

Teacher responsibility (TR) over intended, taught, and tested curriculum is measured in PISA 2015 by a question that asks school principals "Regarding your school, who has a considerable responsibility for the following tasks?" where principals had to select whether principals, teachers, school board, regional education authority, or national education authority decided about the following (coded 1 if teachers made the decision and 0 otherwise):

1 Deciding course content (a proxy for TR over intended curriculum)
2 Choosing which textbooks are used (a proxy for TR over taught curriculum, assuming textbooks extensively guide what teachers teach)
3 Establishing student assessment policies (a proxy for TR over tested curriculum, especially in terms of how the tested curriculum gets tested)

While it is acknowledged that school principals might be biased towards over-reporting teachers' responsibilities that bias cannot be tested here because PISA 2015 collected data on these three variables from school principals only. The possibility that school principals might understand concepts related to the three

variables differently constitutes another noise in the data that should serve as a caution in results' interpretation.

Four criteria – historical, cultural, empirical, and practical – as developed by Tahirsylaj (2019) are used to designate the 12 countries into respective Didaktik and curriculum groupings. In brief, *the historical criterion* relates to historical initiation and development of Didaktik tradition within German-speaking contexts in continental Europe, which then spread to the rest of continental and northern Europe, while curriculum tradition emerged in the UK and then spread to the rest of the English-speaking countries. *The cultural aspect* is borrowed from prior studies on world cultures, and more specifically Global Leadership and Organizational Behaviour Effectiveness Research Project (GLOBE), which grouped world countries into ten cultural clusters based on data from the surveys aimed at understanding organisational behaviour in respective societies (House et al., 2004). For example, the GLOBE project distinguishes between Anglo cluster, Germanic cluster, and Nordic cluster that are represented in the sample of the present study. *The empirical criterion* relies on empirical evidence from educational studies that examined whether the ten culture clusters could explain differences in students' performance in respective clusters (Zhang, Khan and Tahirsylaj, 2015). *The practical element* pertains to the first Didaktik-curriculum dialogue that took place during the 1990s, when two groups of scholars were involved – scholars and researchers representing Didaktik that included both German and Nordic scholars and, on the other hand, curriculum experts that included scholars mainly from the UK and US (Gundem and Hopmann, 1998).

Results and findings

Prior research exploring teacher responsibility across curriculum and Didaktik countries with PISA 2009 data (Tahirsylaj, 2019) showed that teachers across all 12 respective curriculum and Didaktik countries were reported to be highly responsible for issues related to course content, textbooks, and assessment policies. This study extends and expands prior work by examining the more recent dataset of PISA 2015. Results pertaining to the first research question on variation across Didaktik and curriculum countries over intended, taught, and tested curricula are presented in Figures 11.1 through 11.3. Figures are colour-coded and the black bar shows OECD average. The light grey bars show proportions for curriculum countries, while dark grey bars show results for Didaktik countries. Across the countries, there is a wide variation, and countries are spread over a continuum, while the two-sample difference of proportion test showed in all three measures that proportions were higher and statistically significant in Didaktik than in the curriculum sample overall.

Figure 11.1 shows the proportions of schools where teachers are reported to be responsible for course content in respective countries. As per curriculum-Didaktik framework, the hypothesis was that more schools report teachers to

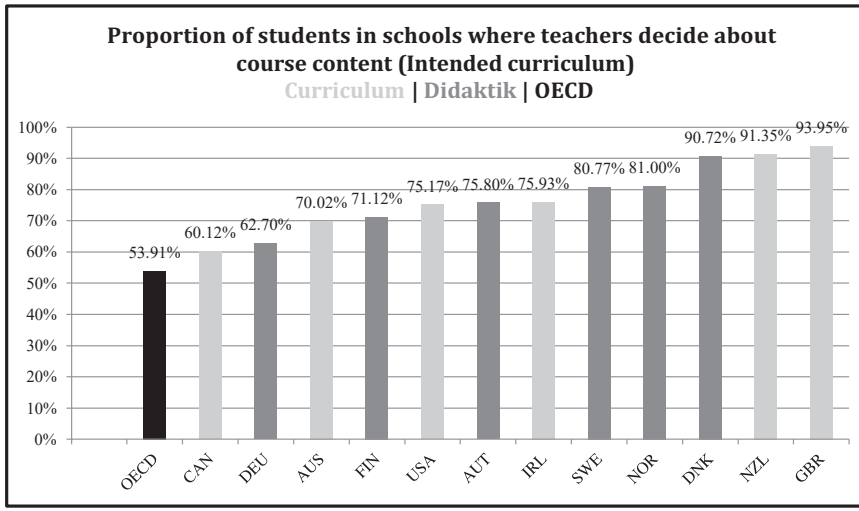

Figure 11.1 Intended curriculum (teacher responsibility over course content)

Source: OECD PISA 2015 Datasets

be responsible in Didaktik than in curriculum countries. The graph shows that United Kingdom (93.95 per cent) and New Zealand (91.35 per cent) have the highest proportion of schools where teachers are responsible for course content. Canada has the lowest proportion of schools that have teachers who are responsible for course content, as reported by school principals, with 60.12 per cent. All countries in the sample are above the OECD average of 53.91 per cent. No clear separation is observed between curriculum and Didaktik countries. A difference-of-proportion test between Didaktik and curriculum countries produced a z statistic was $z = 4.02$, $p < 0.001$, indicating that the difference between the two groups was statistically significant, and the mean was higher for Didaktik than curriculum countries.

Figure 11.2 shows the proportion of schools with teachers reported to be responsible for deciding about textbooks used in their respective countries. Overall, the proportions are quite high and above 70 per cent for all countries, and all countries are above the OECD average of 65.56 per cent. In Finland, the United Kingdom, and Sweden, close to 100 per cent of schools are reported to have teachers who decide about textbooks to be used. The proportion-of-differences test showed that the mean was higher for Didaktik than curriculum countries, and z statistic $z = 6.33$, $p > 0.001$ indicated that the difference in proportions between the two groups was statistically significant. The results are in line with the original hypothesis that teacher responsibility is higher in schools in Didaktik than curriculum countries.

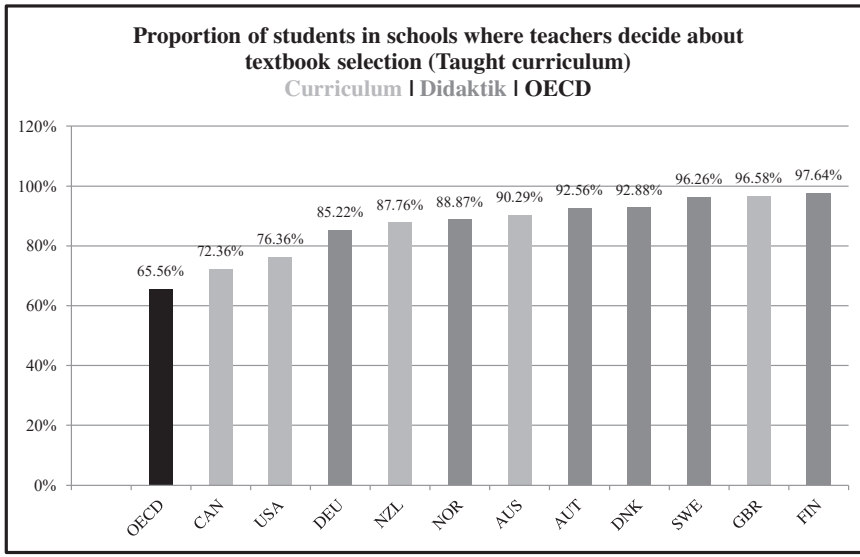

Figure 11.2 Taught curriculum (teacher responsibility over textbook selection)

Source: OECD PISA 2015 Datasets

Figure 11.3 shows the proportions of schools where teachers are reported to be responsible for making decisions about student assessment policies in respective countries. As per curriculum-Didaktik framework, the hypothesis was that more schools report teachers to be responsible in Didaktik than in curriculum countries. The graph shows that Germany (83.63 per cent) and Ireland (83.36 per cent) have the highest proportion of schools where teachers are responsible for assessment policies. Denmark has the lowest proportion of schools that have teachers who are responsible for assessment policies, as reported by school principals, with 50.70 per cent. All countries but Denmark and Canada are above the OECD average. A difference-of-proportion test showed that Didaktik countries together had a higher mean than curriculum countries with z statistic $z = 3.49$, $p < 0.001$ indicating that the difference between the two groups was statistically significant.

Tables 11.1 and 11.2 show the results related to the second research question on associations of teacher responsibility items to students' science performance in PISA 2015 in curriculum and Didaktik countries. Only significant results are shown in the two given tables. Among curriculum countries, only *Intended* measure was significant and positive in the US. Only *Taught* (negative) and *Tested* (positive) items were significant in Finland only among Didaktik countries. Even though the proxies for Intended, Taught, and Tested curriculum

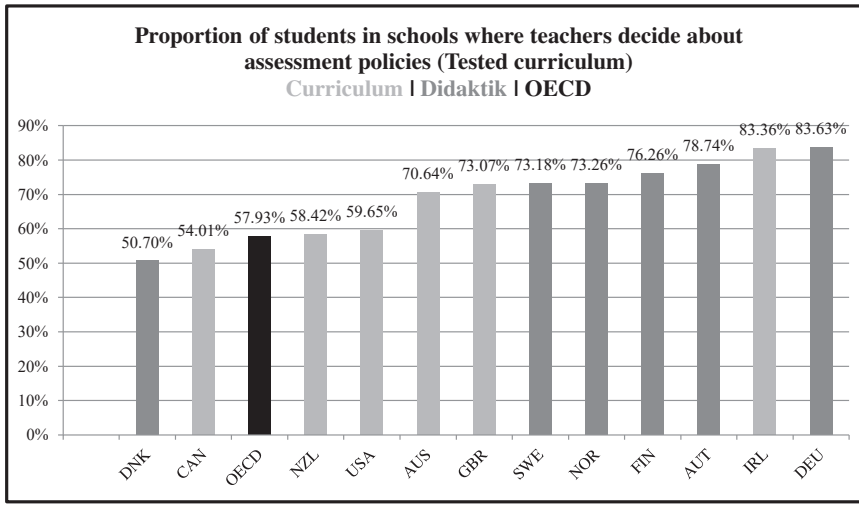

Figure 11.3 Tested curriculum (teacher responsibility over assessment policies)

Source: OECD PISA 2015 Datasets

Table 11.1 Associations of teacher responsibility items and control variables to PISA 2015 science performance (curriculum-full model)

	Australia	*Canada*	*United Kingdom*	*Ireland*	*New Zealand*	*United States*
Intended	/	/	/	/	/	33.33
Taught	/	/	/	/	/	/
Tested	/	/	/	/	/	/
SES	28.81	24.33	22.21	31.31	33.25	16.37
Girl	−6.25	−5.21	/	−11.05	−8.86	−11.77
Age	−8.41	/	/	/	/	−19.68
Grade	28.65	39.58	30.11	8.87	27.52	39.28
First immigration	/	/	−23.21	/	−11.29	−17.68
Second immigration	/	/	/	/	/	/
Public school	−32.71	−28.21	−41.36	−21.24	−60.21	/

Note: Only results significant at $p < 0.05$, $p < 0.01$, and $p < 0.001$ shown. If bold, significant at $p < 0.001$.

were significant only in three cases, the coefficient was large, indicating that when these factors matter, they do matter significantly in students' science performance in PISA assessment.

The results for control variables across curriculum and Didaktik countries show interesting results, particularly with the negative impact of public school

Table 11.2 Associations of teacher responsibility items and control variables to PISA 2015 science performance (Didaktik-full model)

	Austria	*Germany*	*Denmark*	*Finland*	*Norway*	*Sweden*
Intended	/	/	/	/	/	/
Taught	/	/	/	−57.28	/	/
Tested	/	/	/	38.18	/	/
SES	9.11	9.96	23.19	29.93	29.33	28.67
Girl	−24.54	−24.09	−11.56	14.93	/	/
Age	/	−18.57	/	/	17.44	/
Grade	40.29	38.81	44.77	39.02	44.60	67.79
First immigration	−35.01	−37.99	−49.25	−72.01	−38.81	−51.84
Second immigration	−37.04	−31.97	−46.78	−61.09	−33.08	−33.75
Public school	/	−56.88	/	/	/	/

Note: Only results significant at $p < 0.05$, $p < 0.01$, and $p < 0.001$ shown. If bold, significant at $p < 0.001$.

among curriculum countries, and the negative role of immigration status on science performance among Didaktik countries. This means that students in public schools in curriculum countries have lower performance in science compared to students in private schools, while students of immigrant background perform lower than native students in Didaktik countries. Further, as expected and shown from prior studies, the SES is strongly and positively associated with students' science performance in all countries in the sample, meaning that students that come from more affluent families perform higher than those that come from less affluent families. The results also show that students who are in a higher grade at the time of PISA test perform better than students who are in a lower grade. The gender variable also shows interesting patterns across countries by being strong and negative in almost all countries but Finland where it is strong and positive. This means that girls score lower than boys in PISA science test in all countries in the sample where the variable is statistically significant, with the exception of Finland, where girls outperform boys. Lastly, students' age does not seem to be strongly associated with students' science performance in the given statistical models and controlling for the listed variables.

Overall, the results of HLM models are in line with prior work and hypothesis that teacher responsibility proxies are statistically significant only in a few cases.

Discussion and conclusions

The results of the study point towards a Didaktik-curriculum continuum, rather than a strict dichotomy as suggested by the theory, however the countries tend to stick together within either Didaktik or curriculum grouping. Because all the countries in the sample have a relatively high number of students in schools where teachers are responsible for all three variables of interest, a practical

convergence is observed that seems to go against the clear theoretical divide between curriculum and Didaktik as theorised in the literature. Still, the findings from the first research question point to statistically significant differences in variation between Didaktik and curriculum in Teacher Responsibility over Intended, Taught, and Tested curriculum – in all three cases, teacher responsibility is higher among teachers in schools in Didaktik than in curriculum sample. On average, teacher responsibility among all countries in the sample is higher than the OECD average, with a few exceptions, indicating that overall teachers in schools in both educational traditions have high responsibility, as reported by the school principals through the PISA study.

Regarding the second research question, which tested whether teacher responsibility items make a difference in students' science performance as measured in PISA 2015, the results are discouraging overall, as significant associations were identified in three cases in two countries only – in the US and Finland. The lack of significant results may be an effect of the global education reform movement in the Western world, primarily that has made education policy and practices more uniform across countries, a phenomenon labelled as institutional isomorphism (Baker and LeTendre, 2005). Nevertheless, the evidence for continued variation pertaining to the first research question indicates that divisions between Didaktik and curriculum traditions still persist and that traditions on which education systems are built upon continue to affect educational practices within countries. Further research could potentially focus on how teacher responsibility is shared with other stakeholders such as school leaders and parent communities within the school context, where usually a broad array of interests and responsibilities have to be negotiated, shared, and executed to create and maintain learning environments that enhance students' performance and achievement in and out of schools.

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12

Education as language and communication (L&C)

A blindness in didactics and curriculum theory?

Sigmund Ongstad

Introduction

Language awareness?

Language awareness appears at life's many crossroads. Can the new-born make sounds? What is the child's first word? Should pupils start school with the letter A? What is pupils' text competence at the end of schooling? What should teachers do with students' misconception of disciplinary genres? L&C – here spelt *languageandcommunication* – seems omnipresent but is not always at the mind's forefront. In fact, it is mostly tacit, implied, taken for granted, silenced, forgotten, or ignored. In one word, it is about blindness, except when it is focused. Blindness of focusing means that what is won in focused clarity could be lost in obscured context. Languageandcommunication in one word looks like a mistake, but it is a deliberate construction. Although there are historical reasons for arguing that language is one thing and communication something else, and that they should therefore be kept separate, there are just as good reasons for handling them as one, as a whole. A clash creates epistemological turmoil, as will be seen.

This mini-introduction illustrates and implicitly initiates a first problematising of two main aspects of this chapter's two sub-theses – the 'separable inseparability' of L&C as a whole with parts, and an assumed general blindness to L&C's crucial role in constructing knowledge ('disciplining'). The main hypothesis, reflected in the title, is that such a blindness, somewhat surprisingly, may concern two major 'worldwide' well-established educational and academic fields – didactics and curriculum theory – which seemingly refrain from see education *as* L&C.

I am not the first to claim the omnipresence of L&C. In his seminal book *Education and Democracy*, Dewey writes: "Not only is social life identical with communication, but all communication (and hence all genuine social life) is educative" (1916, p. 6). Further, he holds that, in an advanced culture, which necessarily moves from life as education to education as formal schooling, "much of that which has to be learned is stored in symbols" (p. 10). While

Dewey, in this book, just sketches communication and semiotics but elaborates deeply on education, Habermas (1987), by contrast, theorises communication in-depth and just sketches its systemic connection to institutionalised knowledge and thus to education at large (Murphy and Fleming, 2010). However, his theories of how communicational acts relate to institutionalised knowledge can be combined with the work of theorists such as Bakhtin, Bühler, and Halliday to form an overarching framework that can help in discussing the language and/as communication paradox, as well as recognising the principle connections between knowledge forms and communicational acts (see Figure 12.1). This 'bringing-together' is the key issue addressed in this chapter.

Structuring the chapter

These views have several implications for the structuring of the chapter. A first is to increase the likelihood of there being little concern about the issue in the fields mentioned. A second is to show in what sense education *is* L&C, which, as a third, calls for an explanation of why L&C should be seen as a whole. Finally, the context of the chapter is a book comparing two educational fields and aiming for a dialogue between them. Hence, the fourth implication should be to look for inherited issues in other contributions.

In order to support these assumptions and hypotheses, the chapter is structured as follows. It first focuses on adequate fields and subfields within education, inspected by means of simple content analyses of how these selected data sources have handled L&C. Further, some 'neighbouring fields' with seemingly growing awareness are highlighted to serve as a contrast. Some key trends regarding L&C awareness are then briefly summarised. Further, main elements of an overall framework based on utterance/genre theory are outlined. Elements are used as simple analytic tools and categories for communicational positioning, applied to didactic challenges related to L&C blindness. Positioning here implies perspectives on three levels. First, it can reveal backgrounding of certain communicational aspects in teaching and learning (educational practice). Second, it can help describing ideological positions in educational studies. Third, it can, on a meta-level, be used as a self-/critical methodological tool in educational sciences.

The chapter deals with various fields. At this stage, a common-sense, everyday understanding of language and of communication could be that language is a whole, a system, combining grammar (syntax) and vocabulary (semantics). Communication is hence language used in context (pragmatics). This view separates them. There are disturbingly many variations, though, of both. Beaugrande (1982) found more than 80 kinds of grammar, and Wikipedia (2020) lists close to 100 types, fields, and theories of communication. Yet, utterly simplified, both can basically be reduced to complex interplays of different versions of syntax, semantics, and pragmatics (Morris, 1946).

Further on the matter of fields: although I have mentioned Dewey's broad conception of education, this chapter confines itself to institutionalised education. What is meant by *didactics* and *curriculum theory*, including disciplinary didactics, I leave to this volume's introduction and other chapters where these fields are clarified (Krogh, Qvortrup and Graf, this volume; Vollmer, this volume; Schneuwly, this volume). These fields are now often termed educational sciences. In addition, I touch upon particular school subjects where awareness of L&C has been studied. In the Anglo-Saxon world, curriculum studies and curriculum theory are more prominent (Pinar et al., 1995; Pinar, 2013). However, Gundem (1995, 2011) has shown that Norwegian and European didactics received strong impulses from curriculum theory, which implies that they may be blurred. In the following section, though, I keep them separate.

Finally, it should be made clear that even if the chapter begins with empirical text studies, it is mainly theoretical, focusing on how L&C is amalgamated and how aspects of this 'whole' can be seen as elements in disciplinarities of school subjects and academic fields and disciplines.

Inspected sources

Out of the vast field of curriculum studies and theories, only two texts have been inspected, first 39 contributions in the *International Handbook of Curricular Research* (IHCR) (Pinar, 2013), and second the entry 'Curriculum Theory' in Wikipedia (2020). A Swedish contribution in IHCR does mention topics such as frame factor theory (used by Bernstein and Lundgren), the notion of the linguistic turn, different studies of language in classrooms, and poststructuralist critique of educational texts. Wikipedia does not mention communication: 'language' is mentioned twice but is not an issue. The outcome of the inspection is clear – neither language nor communication is an issue in these sources.

Googling the Danish term *didaktik* and the Norwegian term *didaktikk* on Wikipedia (2020), and *didaktikk* in SNL (2020), there is no mention of L&C. From the didactic field, Imsen (2016) and Imsen (2014) have been chosen. These two textbook volumes are of course not 'representative'. Both books are re-edited, based on earlier versions, the first stemming from the 1980s. They are chosen as 'Norwegian' examples of influential textbooks read by generations of student teachers.

Imsen's *Lærerens verden* (The Teacher's World; 2016) was simplistically content checked. The following topics associated with L&C were found (my translations): "the frame factor theory" (pp. 170–179), "language in curricula" (pp. 291–293), "situated learning" (p. 366), and "knowledge and codes" (pp. 375–377). To conclude, this much-used textbook does touch upon some few aspects, but L&C as such and how L&C might relate to education and didactics is not an issue.

In Imsen's 2014 book, *Elevens verden* (The Student's World), Chapter 6 describes the 'constructivist theory of learning' (pp. 145–182), Chapter 7

"socio-cultural perspectives of learning" (pp. 183–214), and Chapter 8 "language, thinking, and communication" (pp. 217–240). Since the book is within the field of pedagogical psychology, it does mention the traditional discussion of different theories of thinking, such as Piaget versus Vygotsky, which contains L&C topics. Nevertheless, an overall conclusion is that, although language and communication are topics, there is no problematisation of education *as* C&L.

Roger Säljö's *Læring i praksis* (Learning in Practice; 2001) could be placed within the realm of pedagogy and didactics, as learning is the key issue. Although it too focuses on the inevitable issue of Piaget versus Vygotsky, it extends the horizon by adding important topics such as communication situatedness (context), de- and re-contextualisations, written language as a tool, and learning in new communicative practices. Yet, even this book does not question how pedagogy or didactics as fields and disciplines may be formed by L&C.

Didaktikk for grunnskolen (Didactics for Primary School/Education; Halvorsen, 2008) is a textbook for teacher education combining didactics and disciplinary didactics. Neither language nor communication are keywords in the register. The didactic models presented incorporate neither language, semiotics, nor communication. The book *Språk, kommunikasjon og didaktikk* (Language, Communication, and Didactics; Ongstad, 2004a) appears in the references, but not in the text. A key text by Mellin-Olsen (Mellin-Olsen, 1989) is mentioned, but not his radical claim for new discourse for disciplinary didactics (Mellin-Olsen, 1989, p. 4). A conclusion is that issues of L&C have not had a significant impact either on the editor's article on didactics or on articles covering school subjects.

Taken together, these text inspections in three interrelated fields indicate that discussions of relationships between education and L&C are scarce or non-existent. Even within disciplinary didactics, problematisation seems unusual, although there exist early scattered signs of dealing with the issue, such as Mellin-Olsen, mentioned earlier (1989) and Ongstad (2004a). With some exceptions, there is hardly any mention of L&C as posing challenges in the study of curriculum and didactics, or of how L&C is part of their disciplinarity. L&C seems taken for granted. To conclude – L&C awareness in educational sciences is low.

Signs of awareness of education as L&C in other texts

Taken as a whole, the chapter's main assumption seems to hold, at least regarding the texts inspected, albeit they are admittedly not the newest. A search in neighbouring fields reveals a growing concern with the role of language, for teaching, for learning, and for shaping knowledge. An interesting case of awareness is a rearrangement found in Svein Sjøberg's model of science studies. In a much-used textbook in science studies, *Naturfag som allmenndannelse* (Natural Science as General Education), a flowchart model of science studies places

education in the middle, with various elements of science to the left and elements of pedagogy to the right (Sjøberg, 1998, p. 31). The elements are drawn as 'boxes' connected by lines, and the 'divide' is kept rather strict. However, in a research article published three years later, a minor box/element entitled "language theory, rhetoric, and semiotics" has been added. This points directly to science studies and is not related to science or pedagogy (Sjøberg, 2001, p. 14). The crucial L&C issue is brought to the fore, but not further problematised. However, it did represent a possible shift in the air.

A field of increased importance both for didactics and for curriculum theory is the implementation of curricular reforms. A second case stems from the Council of Europe project, Language(s) of Schooling, which investigated the role of language in European curricula for school subjects (CoE, 2009; Beacco et al., 2016). This comprehensive project documented that different school subjects were constructed rather differently linguistically and that such differences mostly were not addressed. Silencing has made possible decades of increased curricular homogenisations and thus a convenient simplification of curriculum challenges, turning school subjects to plain content (Sivesind, 2013; Ongstad, 2010b, 2014b). National curricula in Europe treat school subjects as compatible and equal entities, repressing the importance of disciplinary difference and a need for differentiation. The role of L&C in constructing school subjects has mainly remained inherent.

A third example is the Norwegian reform Knowledge Promotion, launched in 2006 (UF, 2006). All school subjects for years 1–13 in this radical reform had to clarify, within each written curriculum, what role the five basic competencies – oral skills, reading, writing, numeracy, and digital skills – should have for learning in each school subject. Of these five, the first three clearly concern L&C. All school-subject teachers are expected to integrate the skills. This somewhat invasive grip by the ministry has made the role of three language modes explicit. Language as disciplinarity has at least become an implicit issue. Yet, still there is no mention in national, written curricula of how a school subject or a scientific discipline may work *as* communication, or of how disciplinarities may be constituted by L&C (Ongstad, 2010b).

Hence, there is a growing concern among researchers in some fields about low awareness. More recently, the intimate and complex relationship between disciplinarity and discursivity, for example, has been problematised (Kelly, Luke and Green, 2008; Krogh, 2015; Langer, 2011; Ongstad, 2014b; Vollmer, 2006; Beacco et al., 2016). So, there are, in various fields, signs of change. Initiatives mainly stem from L&C fields, often L1 research.

First, in communicational theory one can, from time to time, register claims that disciplinarity cannot exist outside communication (Habermas, 1987; Ongstad, 2014a; Vollmer, 2007; Christie and Maton, 2011). Key elements of communication such as utterances, texts, genres, and discourses are in these works

seen as key aspects of constructing disciplinarities. As hinted, a key pattern is to see communication as a meeting between syntax, semantics, and pragmatics (Morris, 1946). This triadic view of both language and on communication as well as semiotics makes possible a necessary first clarification of what is 'language' and what is 'communication', and hence how they are related and can form a whole. So far, traditional views have kept them apart simply by defining language as a quite closed system. Consequently, communication is perceived as language *in use*, much in line with Saussure's discrimination between *la langue* and *la parole* (Saussure, 1916/1974). There are reasons to believe that this divide has inhibited L&C awareness within education, supported by national school grammars which cement this perception and by influential Chomskyan perceptions of language as a (closed) system (Chomsky, 1965).

Second, disciplinarity in school and curricula is questioned, both in curriculum studies (Pinar, 2013; Deng and Luke, 2007; Kelly, Luke and Green, 2008) and in communication theory and literacy studies (Ongstad, 2007a; CoE, 2009; Christie and Maton, 2011; Langer, 2011; Krogh, Christensen and Jakobsen, 2015). Third, since 2006, disciplinarity in Norwegian school has, as we have seen, been 'invaded' by three components traditionally significant for L1: reading, writing, and 'oral'. They are given a role as disciplinary means, or modes, by which a school subject expresses itself and develops. The new 2020 reform continues to insist on this idea (Ongstad, 2020). Fourth, as shown in Table 12.1, didactic triads, for instance teacher–content–learner, could be seen as versions of communicational triads: in an utterance someone will utter something to someone. By uttering, one combines form, content, and use *at once* in context (Smidt, 2007).

Uttering in contexts = communication

Classical triads in didactics and L&C

A challenge when coming to terms with L&C awareness in education is how to position L&C relative to, for instance, disciplinary and general didactics. Strangely enough, there is a rather low awareness of similarities between particular historical triadic sets, both of didactic concepts and of values on the one hand and L&C concepts on the other. Through history, several sets have occurred. They are 'inherited' by lines that can be drawn horizontally and vertically between various key concepts.

The double systemness arises mainly from a combination of two basic views, first education *as* communication (Dewey, 1916), and second utterance as basic for communication (Bakhtin, 1986; Ongstad, 2004b). Sentence is language, utterance communication. Applying a framework described as communicative positioning (Ongstad, 2007b), which builds on the triadic nature of utterances shown in Table 12.1, enables some general didactic priorities to be analysed as

Table 12.1 Overview over epistemologically related triads in different fields and disciplinaries

L&C Key Aspects	*Form*	*Content*	*Act*
Rhetoric::	pathos	logos	ethos
Classical Bildung:	beauty	truth	goodness
Pedagogical philosophy:	aesthetics	epistemology	ethics
Pestalozzi's metaphors:	heart	head	hand
Common didactic concerns:	feelings	thought	will
Didactics:	teacher	subject	student
Linguistics and semiotics:	syntax	semantics	pragmatics
Utterances:	structure	reference	act
Communication:	utterer	content	receiver

communication. A major question is, at the next step, *where* in a triad a focus may be placed or positioned – on students/learning, content/disciplines, or teacher/teaching (see Friesen, this volume).

If triadic aspects in the work of Bühler (1934/1965), Bakhtin (1986), Halliday (1994), Habermas (1987), Martin (1997), and many others are combined, positioning(s) can be given both broad and more specific analytic functions. The framework is seen as semiotic and hence multimodal (Kress, 2010) and is not restricted to verbal language (Morris, 1946). Methodologically, this may work as a tool for operationalising various methods, approaches, and designs. Finally, it is a crucial tool for validation of research (Ongstad, 2015).

All kinds of research will have to deal with the question of essence, a challenge closely related to shifts of paradigms and battles over dominance in scientific fields over time. Posner (1984) claimed that in the 1930s many theorists turned away from essentialisms. Against atomism and mechanism, they developed a holistic approach; against formalism, they investigated sign function; against psychologism, they showed the possibility of an intersubjective analysis of meaning; against biographism and historicism, they favoured synchronic studies; against academic conservatism, they introduced criteria for the criticism of sign behaviour; against the self-isolation of the academic disciplines, they practised interdisciplinarity. Later studies of knowledge regimes through history have switched between a search for generalisations and for differentiations. Without ending in grand theory, it seems necessary to generalise, searching for possible kinds of L&C wholeness.

Utterances and genres as disciplinarities

Utterance is the key to L&C seen as a whole. It moves the perception from a dyadic sign, defined by Saussure (1916/1974) as opposition between and

integration of signifier and signified, over to a triadic understanding. Utterance, as defined by Bakhtin (1986), is seen as opposition between and integration of structure, reference, and action, and implies a shift of perspective from language to communication by incorporating language (Ongstad, 2004b). Utterances in, for example, teaching, school subjects, and learning can be studied as simultaneous form, content, and action (and thus as aesthetics, epistemology, and ethics). Triadic theories tend to forget that utterances are both produced and perceived in contextual time and space, sometimes termed chronotope (Ongstad, 2014a). These two inseparable aspects are both incorporated *in* utterances and exist *as* context.

Therefore, it seems adequate to extend the key set of components from three to five (see Figure 12.1) to reach a more holistic view, keeping in mind that to clarify how the three and the two are integrated has proved to be a demanding intellectual task (Ongstad, 2014c).

The five basic aspects can be integrated and further related to different academic fields and school subjects. Somewhat stereotypically modelled, form is at the forefront in art, reference in science, action in communicational studies, time in history, and place/space in geography. To this double set of fives can be added five key fields of knowledge: aesthetics, epistemology, ethics, chronology, and topology. Just to make the point clear – all aspects are found in all utterances, and thus in all school subjects and academic disciplines. The result of these coincidences can be pinpointed as *disciplinarity as discursivity* (or in German, *Fachlichkeit als Sprachlichkeit* (Vollmer, 2006). A special case of this systemness then is education *as* C&L.

However, utterance as such is insufficient to explain educational disciplinarities. There are kinds of utterance, and thus kinds of educational, didactic, professional, and disciplinary genre (see Figure 12.2).

A consequence of seeing utterances as dialogical with genres, marked by arrows pointing both ways, is that even genres should be defined by their balance and the priority of the five basic aspects. This further implies that genres will play a crucial role in establishing specific disciplinarities within different fields of knowledge. Finally, disciplinary genres and research genres are crucial for methodologies and validation (Ongstad, 2014c).

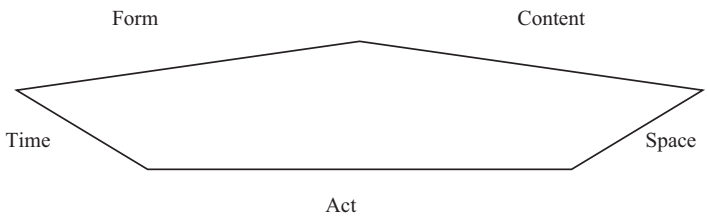

Figure 12.1 Utterance in context as a combination of five constituents

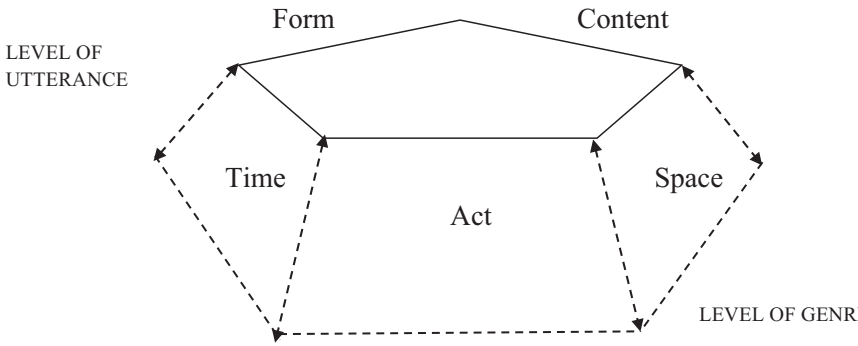

Figure 12.2 Five basic aspects constituting utterance as communication. Utterance and genre are modelled as a shortened or cut pentagonal pyramid with utterance as a concrete surface plane and genre as an underlying abstract part, marked by dotted lines. The pentagonal relationship between the five basic aspects applies for both levels. The double-headed arrows between the two planes symbolise the dynamic, dialogical, reciprocal relationship between of utterance and genre. These processes work both in the moment of uttering and of interpreting (seen synchronically) and over time through communicational development of utterers/interpreters (seen diachronically).

Source: © The Author

Positioning L&C in educational texts

This section of the chapter exemplifies the different roles that key aspects can be given in educational texts and contexts. The first of four concerns a national L1 curriculum, and the second some national curricula in mathematics education. The third and fourth cases exemplify what could be called critical positioning of discourses in didactics and education. Examples of other studies of different fields based on versions of the framework, are Ongstad (2014a, 2014b) and Smidt (2007, 2008).

The national curriculum for Norwegian (as L1) in Norway from 1997 structured its introduction in a significant way (see Table 12.2). The first six sections describe the essence of Norwegian as a school subject, each ending with a slogan-like conclusion (the Norwegian originals are put in brackets). The ministry later published a translation in English.

Based on this clarity and precision about just what school-subject Norwegian (L1) should be, one could claim that the L1 curriculum in the L97 curriculum had a high disciplinary (self-)consciousness. However, there is an interesting hidden connection between these descriptions of key elements of the school-subject Norwegian. Given some rewriting and paraphrasing of these six text elements, or slogans, the subject Norwegian could first be said to be about identity and experience, foregrounding form, and structure, connected

Table 12.2 The national curriculum for Norwegian (as L1)

The official English of the curriculum	*The official, original version in Norwegian*
The subject Norwegian, then, is about identity	[Norsk er eit identitetsfag]
The subject Norwegian, then, is about experience	[Norsk er eit opplevingsfag]
The subject Norwegian, then, is about becoming educated	[Norsk er eit danningsfag]
The subject Norwegian, then, is about culture	[Norsk er eit kulturfag]
The subject Norwegian, then, is about skills	[Norsk er eit dugleiksfag]
The subject Norwegian, then, is about communication	[Norsk er eit kommunikasjonsfag]

Source: To the left KUF (1999, pp. 121–123), to the right KUF (1996)

to the learning self or person. Second, it could be about Bildung (becoming educated) and culture, foregrounding content and knowledge connected to the world as subject matter. Third, it could be said to be skills and communication, foregrounding act, use, and function, connecting to others as society. As a whole, these aspects are what Habermas terms *life-world* (Habermas, 1987; Ongstad, 2010a).

The notion *foregrounding* is used deliberately to make explicit that *all* discursive key aspects would be involved in the disciplinary key elements/curricular goals mentioned (along with time and space), not just the focused ones. L1, as responsible for much explicit L&C knowledge in school, is the school subject above all that one could expect to have developed a meta-understanding. Yet the systemic discursive and disciplinary coincidences that actually do exist in this L1 curriculum are still not seen. These striking coincidences have (therefore?) silently vanished from later L1 curricula (MER, 2010; NDFT, 2013).

A second example can be found in Ongstad (2020), which studies the disciplinarities of all national L1 curricula since 1939. The last, in use from 2020, is characterised by long rows of bullet points, mostly one-liners with a particular mix of epistemological verbs and disciplinary nouns. These one-liners are hidden speech acts, establishing a regime for the assessment of student disciplinarity termed 'competence'. The pattern is global and international – the structure of each point is dominated by a certain verb–noun connection. Verbs are expected to have performative character, being doings (competences). Nouns are disciplinary content sub-elements or knowings. Together they form (expected) competences. Within the set of competences or bullet-point lists, there lurks a potential tug of war between different forms or aspects of disciplinarities. What is L&C and what is education is hard to say.

Further, a similar and extensive study was, as mentioned, undertaken by the CoE in 2007 (CoE, 2009). Researchers studied the role of language in national school-subject curricula in Europe. Examples can be given from a comparative study of some national curricula in mathematics (Ongstad, 2007a). Taking the

point of departure in form prioritises aesthetics. The Swedish curriculum, for example, stressed the importance of mathematics as aesthetics (Hudson and Nyström, 2007). Since aesthetics was valued and prioritised, form, structure, and syntax were foregrounded. Taking the point of departure in knowledge prioritises epistemology. Singer (2007) pointed to less weight being given in the new Romanian curricula to memorising and reproducing mathematical terminology (formal content and knowledge elements). This represented a conscious shift within semantic and epistemological aspects of the school subject. Departing from action prioritises ethics. Pepin (2007) showed how newer UK curricula in mathematics repeatedly underlined the importance of interpreting, discussing, and synthesising, almost at every course level. The weight placed on such processes represented a strengthening of the pragmatic action aspects of mathematical language.

An overall conclusion after studying these written curricula was that mathematics education had not yet really taken on the challenge of clarifying intimate relationships between the school subject's disciplinarity and discursivity (*Fachlichkeit und Sprachlichkeit*; Vollmer, 2006; Ongstad, 2007a). One reason might be that language is still being objectified as a closed system, rather than seeing L&C as semiotic, relational, and contextual (Ongstad, 2006, 2007b). Another reason could be that linguistic scholars, pointing out the patterns, may not yet have enough disciplinary insight to be able to achieve a fruitful dialogue with educators in other disciplines. (In Ongstad (2006) *Mathematics and Mathematics Education: Language and/or Communication*? a framework is outlined and exemplified in detail.)

Schools of thought, ideologies in disciplines, trends in understanding knowledge, and differing research designs often encounter critique from other directions. Such criticisms may find the theoretical bases for projects and theories too focused or too narrow. Taking the point of departure in the main aspects of the utterance, one can do critical positioning of fields, research, and projects within education. One can search for possible imbalances between said and unsaid, and further try to make explicit communicational patterns in disciplinary utterances and genres that are characteristic of certain didactic discourses. To illustrate rather simplistically: if the utterer's or the text's perspective or personal style is exaggerated, the approach can be criticised of subjectivism, expressivism, or formalism. If exact content seems excessively stressed or exaggerated, theories can be criticised of objectivism, positivism, or essentialism. Overstressing use aspects can lead to criticisms such as activism, functionalism, or pragmatism. As can be seen, such characterisations parallel communicational triads, echoing some of the shifts in trends in the 1930s that Posner (1984) pointed to.

As stated earlier, a restricted theory of utterance is insufficient to explain disciplinarities and concurrences between education and L&C. The level of genre, hence context, is needed (Ongstad, 2010b, 2013). According to Bakhtin (1986), there exists a dialogical relationship between utterances and genres.

Different kinds of utterances can be perceived as (different) sub-genres. Hence, different speech-act verbs will play an important role for establishing research discourses, for instance in academic texts: document, argue, present, compare, comment, evaluate, claim, refer, admit, hypothesise, discuss, suggest, define, problematise, operationalise, exemplify, focus, deduce, indicate, exclude, illustrate, show, . . . and so on (Ongstad, 2014b). These speech acts, verbs, and functions may, when repeated, structured, and formalised, function as research (sub-)genres and (sub-)discourses.

I end this section by stressing that what has been outlined is a framework, not a method. The main line of argument has been to make likely, describe, and exemplify close connections between L&C on the one hand and education and educational sciences on the other by means of key concepts from the framework.

Educational sciences and the L&C challenge

Points of tangency

It has not been within the scope of this chapter to analyse possible similarities and differences between didactics and curriculum theory, or their disciplinarities and methodologies, in the light of L&C. However, there are possible contact points with relevant issues in other contributions in this volume. There are threads to the triadic triangle presented by Friesen, to Krogh and Qvortrup's meta-reflective didactics and to didactic ethos, to Vollmer's outline of disciplinary didactics in Germany and his advocacy for a general disciplinary didactics, to Schneuwly's concept of didactic transposition(s) developed in a French context, to Friesen's and Deng's concerns for content, and finally to Kullenberg and Uljens' life-world phenomenology (in a possible dialogue with a Habermasian life-world perception). Of these, I have chosen to expand further on the didactic triad (just briefly), disciplinary didactic as didactisation (at length), and disciplinary didactic ethos and content (both briefly). At the very end, I round up self-critically and suggest a future disciplinary place for the framework.

The didactic triad

First, if didactics is seen as triadic L&C, each of the aspects in the didactic triad (Friesen, this volume) can be further differentiated, discursively. In the most reduced version of the triad, focusing utterances, a teacher expresses, refers, and acts, as does a subject's written curriculum, and a student receives what is expressed, referred, and done. As a thought example of mis-/communication, a teacher might prioritise the expressive aspect (stressing emotionality) and aesthetics, while a subject's content in fact has prioritised essence and thus epistemology, while in turn a student might prioritise effect and thus ethics, or simply choose to be entertained rather than educated. This overdose of *Es* is

of course a cheap aesthetic trick to get across this chapter's epistemological key point to enhance its effect on readers.

Yet the preceding reasoning follows a too-simplistic logic of single-chained utterances, one after the other. In reality, all teaching, 'knowledging', and learning happen in inevitable discourses/genres (systemic contexts) – you cannot *not* use genres. In the context of education, one can speak of a multitude of disciplinary genres, of didactic genres, and of research genres. For instance, the Norwegian 1997 L1 curriculum contained more than 100 genres. Further, all methods in research and teaching can be seen as genres. Finally, genres generally appear in a mix, unless they are focused and taught meta-discursively to reduce blindness and increase genre awareness. Dealing with didactic issues based on L&C theories in the future will encounter increased complexity.

On didactisation

Didactisation brings us back to Mellin-Olsen's wish in 1989:

> If the disciplinary didacticians can free themselves from the original [pedagogical, SO's remark] discourse, the didactic alphabet can be replaced with statements like: Which consequences will it have for communication of knowledge if the germ and the preconditions for knowledge lie in language, in activity, in dialogue about validity, in experience, in the human construction of the world?
>
> (Mellin-Olsen, 1989, pp. 3–4)

His *if* actually did happen, eventually. Over the next 30 years, and mostly isolated from pedagogy and general didactics, teachers and teacher educators in Norway and Scandinavia began didacticising their school subjects and disciplines (Krogh and Qvortrup, this volume; Ongstad, 2017). L&C and subject didactics were brought much closer by examining how their disciplinarities were constructed (Vollmer, 2006, this volume; Krogh, 2015; Krogh, Christensen and Jakobsen, 2015; Green, 2018; Ongstad, 2014a, 2014b, 2020; Beacco et al., 2016).

I find Vollmer's description of the development of subject didactics as scientific disciplines (in Germany) to be quite close to the history of disciplinary didactics in Norway (Vollmer, this volume; Ongstad, 2017). An important similarity in the light of comparison and dialogue is the claim that this growth has, to a high degree, happened independently of pedagogy and general didactics. Using the framework to position the two fields communicationally, a main difference could be that general didactics is to a higher degree a given field and has a relatively more stable disciplinary content, while disciplinary didactics are relatively new fields, in search of new content, on the move, characterised by processes in progress.

I find Krogh and Qvortrup's contribution, taking one point of departure (among others) in the concept of didactisation and working their way further,

adequate and stimulating. Yet, in the particular context of this volume, I would like to hint at yet another possible direction for future research. In the 1970s Schwab was concerned by a deep split between languages for theory and for practice (Schwab, 2013). A common perception has been to see teaching and learning primarily as *doing*, and didactics and curriculum theory mainly as *thinking*. This contrast mostly goes hand in hand with keeping a traditional split between practice and theory. A counter-thought might be that practice represents just as much thinking as theory, and theory just as much doing as practice. Both could be seen as both/and, but they differ in the weight they put on different L&C aspects.

Encouraged by a comment from an anonymous reviewer, I would like to develop on the idea that L&C might be connected to the splitting of theory from practice. Twenty years ago, I saw didactisation as a discursive, semiotic, or textual process that weaves a subject or field of knowledge closer together with meta-knowledge of the subject knowledge in new contexts, under pressure from a changing society. Hence, didactisation can be seen as driven by the 'languaging' of experiences and discoveries. It therefore adds to, develops, and changes subjects and disciplines. To pinpoint and exemplify – after a year-long international debate over the school subject English as L1, Elbow (1990) famously asked, "What is English?" He answered, radically, "The question is the answer." Questioning educational subjects is didactisation. Challenging, enhancing, criticising practice (including one's own) means reflecting over and languaging experience. Such knowledge is new, heterodox, subjective, not yet validated, still marked by knowledging as non-finished processes. It seeks out for dialogues with practices. Its L&C priority is within the realm of pragmatics. Referring to the outlined framework, it relates to doing. Didactics, by contrast, is more of a given (established), doxic, intersubjective ('objective'), validated field. It seeks dialogues with (other) theories. Its L&C priority is within the realm of semantics. Referring to the framework, it relates to thinking.

To keep the two too separate might contribute to increased practicism and theorism. So how could L&C be a bridge over such troubled waters? Because L&C is inevitable for both production and dissemination of knowledge. Because the building blocks of conscious understanding consist of concepts made explicit with words. Because utterances create coherence between them, and thus further lead to enhanced and growing recognition. Because kinds of knowledge presuppose kinds of genres (both disciplinary and didactic ones). Because meta-language helps to distance a too-narrow teaching, knowledging, and learning.

An advanced meta-language that is at hand, along with L&C, is philosophy, which seeks to comprehend the dynamics of aesthetics, epistemology, and ethics, echoing both Aristotelian and classical triadic values for education (as shown in Table 12.1). My own description of these systemic connections is mainly (meta-)thinking. However, there is no direct, given route from this

abstract thinking to concrete doing, from an *is* to an *ought*. A future fate of advanced disciplinary didactics, comparative disciplinary didactics, general disciplinary didactics, general didactics, and advanced curriculum theory could ironically be that all go academic, seeking an ever 'researchable' *is* and resisting a normative *ought*. In striving to become accepted members of academia as part of professions, educational sciences risk their ethos. Again, the solution is not either/or, but both/and. Researchers need to recognise, in and by L&C, what their discursive paths from their own discourse are – not 'down' to, but 'over to' practitioners. Likewise, teachers should be educated and experienced enough to see connections between their own didactic practice (and discourses) and what researchers are up to.

Further, there is a challenge regarding power and powerlessness for didactics and curriculum theory. In one sense, these two fields have a significant influence on education as major contributors to and critics of curricula all over the world. By the same token, in leaving didactisation to teachers and disciplinary didacticians, they seem almost powerless to suggest, describe, differentiate, and evaluate school content. Here the two differ. Curriculum theory has historically paid less attention to content, while didactics has traditionally focused content, though often as a mere box for anything and everything. As a contrast, ever more self-conscious disciplinary didactics has, through discursive self-reflection with language as explicit means, improved its understanding of subject differences and of the role L&C can play in this recognition.

Disciplinary didactic ethos

In Norway, disciplinary didactics has established itself in teacher education. It obtained its power partly by gradually squeezing out the traditional field methods (common up till the late 1980s) and partly even pedagogy (and thus didactics) owing to a certain reluctance to deal with specificities of educational knowledge (Ongstad, 2017). Yet, advanced disciplinary didactics now seems to be in a similar position to general didactics earlier. Both fields have fled into thinking ('reflection' and 'theory'). Both have become academic fields by distancing themselves from doing (practice as acting). Professionalisation of traditional professions has contributed to a split between research and teaching, both in schools and in teacher education. Within research, theoretical orientation has got the upper hand over a more practical orientation.

In the Introduction, Krogh et al. raise the issue of the ethos of didactics. They point to two risks among several hinted at by Hopmann. First, there is a danger of letting down the teachers and their students to whom didacticians are accountable in the first place. Second, Hopmann appeals to scholars to look for options for acting in a didactically responsible manner. To initiate dialogues between didactics and curriculum theory risks ending on the highest abstract level and may challenge such expectations. An ethical solution could therefore be to help researchers finding paths back to practice. Krogh and Qvortrup

(this volume), partly inspired by Foucault, suggest there is a need to develop a disciplinary didactic ethos. They see the core of that ethos as an inseparable duality of acting and reflection. However, as they make clear, different communicational theories such as 'systems theory' and 'theory of communicative disciplinary didactics' offer different perspectives, and in the next round, different didactics, for instance for acting and thinking (Krogh and Qvortrup, this volume).

Content: and thus, knowledge and Bildung

If pedagogy, general didactics, and curriculum theory could make the effort to look over the fence into disciplinary didactics all over Western Europe, they might find that content has been a key issue for 30 years. It is rather within these three fields that a differentiated understanding of content has been missing and missed (Friesen, this volume; Deng, this volume). What pedagogy, general didactics, curriculum theory, disciplinary didactics, comparative disciplinary didactics, and general disciplinary didactics all mostly seem to miss is not to describe, criticise, or suggest content or content elements. It is to get into dialogue with subject didactics about what particular school-subject content does (or does not). In such an enterprise L&C is needed, but a sufficient awareness of L&C is still not in place. A bridge is shared concepts. At a minimum, the fairly idealistic idea of Bildung cannot be achieved without knowing what impact different kinds of content have on students (if any), especially in the long run. Further, as underlined, content does not come as a stream of separate utterances. Content will always be discoursed by certain kinds of communication, by genres. The discursive set of disciplinary genres defines the disciplinarity of school subjects and of academic disciplines. A field that only knows its own discursive set has blinkers on, and in that sense is still blind. Hence, in the educational sciences, each should be aware of the others' fields. Such insight is only available through L&C. Yet L&C is itself blind without a dialogue with subjects and disciplines.

Although this chapter is critical of the low awareness of L&C in educational sciences, and therefore has a somewhat different scope than most of the other chapters, it nevertheless has aimed to connect to the overall project. It should be admitted that many of the initiatives for increased understanding of the role of L&C in education and research stem from scholars in L&C – for example, as mentioned, Christie, Green, Gundem, Krogh, Langer, Martin, Smidt, Vollmer, and myself. In the Scandinavian context, this 'movement' has spread from L1 to disciplinary didactics. It has also slowly established scattered contact points with scholars of didactics and pedagogy, as demonstrated in this volume's introduction.

From (self-)critical L&C towards integration of L&C in educational sciences?

The key issue in this chapter has been concurrences claimed between L&C and education, in most extreme form claiming that education *is* communication.

Hence, if educational disciplinarity and L&C (discursivity), partly paradoxically, are seen as both amalgamated and separable, future research could investigate whether they mainly differ or mainly coincide in different fields. Such contrasting could in turn lead to more principled, self-critical questions: to what degree can L&C theories really describe school subjects? Is it helpful to describe disciplines/school subjects from a purely discursive perspective? What is a necessary knowledge of L&C for teachers and educational researchers? Should L&C be kept separate from, or be integrated in, school subjects and disciplines?

Such questions cannot be answered in the context of this chapter. In my case, they are rather (self-)critical outcomes of more than three decades of problematising how disciplinary knowledge can be constructed semiotically: in other words, how signs, utterances, genres, and communicational ideologies can be seen as crucial parts of different disciplinarities. Many contributions are collected in the volume Ongstad (2014a), *Disciplinarity and/as Communication: Discursive and Semiotic Perspectives on Education*.

Nevertheless, this present chapter concludes that questions and critique based on L&C should, in the spirit of Morris (1946), Bakhtin (1986), and Habermas (1987), be part of the sub-study in master's and doctoral studies within the educational sciences that is called general theory of knowledge ('Wissenchaftstheorie'). Such integration of L&C in educational studies could establish fora for further dialogues, both between theory and practice and between the educational sciences.

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