

5 Didaktik analysis as the core of the preparation of instruction

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The following chapter was first published in the journal Die Deutsche Schule in 1958¹ and later appeared in several editions of collected papers on instructional preparation, as well as in my book Studien zur Bildungstheorie und Didaktik (1963). The concept I developed was used for about two decades in pre-service teacher education at many universities and colleges in what was then West Germany and, particularly, in the second, school-based phase of initial training. It is still in use in places today.

The concept drew on and developed theory of education (Bildungstheorie) from the field of human-science pedagogy (Geisteswissenschaftliche Pädagogik), especially Didaktik, the theory of contents and curriculum (Theorie der Bildungsinhalte und des Lehrplans), as developed, in particular, by Erich Weniger. My formulation of the concept incorporated experience I gained as a teacher in primary and secondary modern schools and at the teachers' college in Hanover from 1956, supervising student teachers on teaching practice in schools in different types of localities.

When I later came to develop the human-science theory of education (Geisteswissenschaftliche Bildungstheorie) and Didaktik into a critical-constructive theory of education from the end of the 1960s onwards, I also began to revise my concept of instructional preparation. This work led first to the essay Probleme einer Neukonzeption der didaktischen Analyse (1977) and then to the paper 'Überlegungen zur Unterrichtsplanung im Sinne kritisch-konstruktiver Didaktik' (1980; reprinted in Adl-Amini & Künzli 1980). The most recent version is contained in the essay 'Zur Unterrichtsplanung im Sinne kritisch-konstruktiver Didaktik' in my Neue Studien zur Bildungstheorie und Didaktik: Zeitgemäße Allgemeinbildung und kritisch-konstruktive Didaktik (1993).²

There is scope here to cite only the salient points that influenced the revision of my concept of instruction planning:

- *My earlier position was rooted in the human-science pedagogy (Geisteswissenschaftliche Pädagogik) of Erich Weniger, Theodor Litt, Herman Nohl, Eduard Spranger, and Wilhelm Flitner. My exploration of the basic ideas of the Frankfurt School of social philosophy (as propounded by Adorno, Horkheimer, and Habermas) as well as the dialogue with educational theorists*

working, like myself, on a critical revision of traditional German pedagogy led me, from the late 1960s onwards, to evolve a draft for a 'critical-constructive science of education' and, within this framework, a system of 'critical-constructive Didaktik'. In this context, 'critical' is to be understood in the sense of 'social criticism', which in terms of Didaktik implies constant reflection on the relations between school and instruction on the one hand (their goals, contents, forms of organization, and methods) and social conditions and processes on the other. 'Constructive' continues to indicate an emphasis on practice, on 'reform' – but more decisively than before it refers to a shaping of school and instruction in keeping with humane and democratic principles (self-determination, participation in decision-making, solidarity).

- A second element is the expansion of my previous, narrower concept of Didaktik (as theory of contents and curriculum, Didaktik als Theorie der Bildungsinhalte und des Lehrplans). I now use Didaktik generically for both the dimension of objectives and content and the dimension of methods, taking the preconditions given at both the personal and institutional level into account. Now I emphasize the primacy of objectives against all other dimensions of instruction.

The most crucial stimulus for this expansion of my conception of Didaktik came from the criticisms and suggestions of the 'Berlin School of Didaktik' (Heimann, Otto, Schulz) in the forms developed from 1972 onward, later integrated by Wolfgang Schulz and Gunter Otto into their 'Hamburg Didaktik'.

- In my current concept of instructional planning I stress, more emphatically than in the earlier essay, that teaching and learning must be understood as processes of interaction, that is, as processes in which relationships between people – between teachers and learners, and between the learners themselves – play a central role. These processes must therefore be comprehended not only as processes of acquisition in which subject matter and problems are confronted, but also as social processes or processes of social learning.

This new emphasis on the relationship question was influenced in particular by the discussion of social learning which has intensified in Germany since the 1970s, and the ideas of 'communication-centred' or 'critical-communicative' Didaktik.

In presenting the older text 'Didaktik Analysis as the Core of the Preparation of Instruction' for renewed discussion, this time in an abridged, English version, I see the justification in the fact that the central ideas of the earlier concept with its five basic questions have not been supplanted, but continue to be valid in an expanded, in places modified, and in a more differentiated form.

The question

Preparing lessons is one of those tasks of the teacher in which the basic pedagogical problems of the school converge. It is the place where the interactive relationship between theory and practice fundamental to all education, the

interplay between experience and reflection, must be concretized in the form of reflective decisions for planning instruction and learning. Good preparation for a lesson, for a sequence of lessons, or for an instructional unit is always a new, small-scale, and provisional construction as well as a synthesis of prior experience. If we make the 'draft character' of good preparation clear enough to ourselves – because any planning of instruction can be only provisionally valid – then it is quite consistent to rate the instructional planning process highly whilst at the same time recognizing that, in the end, each and every lesson holds in store myriad unforeseeable possibilities and that the openness of teachers' minds to new situations, impulses, and the difficulties arising from the moment is a criterion of their pedagogical competence.

The principal purpose of instructional preparation can be summarized as follows: Preparation is intended as the design of one or several opportunities for children to make fruitful encounters with certain contents of education (*Bildungsinhalte*).

But, even with this interpretation in view, there is a danger that the task will be understood primarily, or indeed exclusively, as a preliminary reflection about the 'how' of the encounter to be engendered; in other words, preparation may be regarded first and foremost, or even wholly, as a question of *methods*. Usually the reflections of those who hold such a conception are dominated by a methodological principle (such as self-activity) or practice (such as learning in small groups), and the question is then how the material can be dealt with in keeping with this principle or this practice. (Basically, it is of no importance whether the principle of method or the form of instruction is a formal sequence [cf. Herbart: *Formalstufe*] or a matter of 'hands-on activity', 'self-activity', 'classroom discussion', and so on.)

With respect to this misinterpretation, the specialist literature has repeatedly pointed out that the search for method must be the final, albeit necessary, step in good instructional preparation and is, in a manner of speaking, the crowning element. The working out of method is contrasted again and again with the first step of preparation, which is the preoccupation with the *subject matter* to be conveyed or acquired in the lessons. This throws up a crucial question that will, in the course of the argument, reveal itself as the core issue of the whole spectrum of preparation. What comprises 'the matter'? What is the nature of this 'lesson content'?

Let us proceed from the ordinary situation of teacher. (*Ordinary* refers here to the situation of a teacher who is not also a curriculum developer or educational theorist.) With this normal situation in mind, let us ask ourselves what kind of 'matters' the teacher encounters as objects of preparation:

1. First, we can observe that the framework is, in the main, delineated by the curriculum or syllabus. This is no less applicable if the latter has assumed the desirable form of a set of guidelines that do not explicitly set out the individual items of subject matter but give basic issues or thematic areas, mostly with supporting examples, leaving the selection of suitable details up to the school or the teacher.

Our question as to the nature of the ‘objects’ of preparation can now be brought more sharply into focus: what is the nature of the subject matter or topics of the curriculum?

2. This is not the place for a detailed critique of the different answers to this question that have been put forward, and that are still being offered today, either expressly or implicitly. They include, for example, the opinion that the specific nature of curriculum contents lies in their ‘scientific-ness’, or that curriculum contents are cultural contents, more precisely the contents of the various authorities that are vehicles and sources of culture such as the church, the judicial system, science, art, commerce, or professional structures. The specifically pedagogical answer to that question would have to be, we feel, that the subject matter in the curriculum is characteristically seen by curriculum designers as *contents of education* (*Bildungsinhalte*). This is, then, how the subject matter must be regarded, and validated as such, in the classroom.

A decision has thus been made long before our teacher begins to tackle the business of preparation. From among the wealth of the conceivable contents yielded by our civilization, certain contents or thematic areas have been selected as *contents of education* (*Bildungsinhalte*). The teacher is not ‘unprejudiced’ when approaching the curriculum contents. He or she is aware of the prior decision reflected in these contents – or at least should be aware of it. Now we can bring our question about the nature of the ‘matters’ that the teacher engaged in preparation has first to deal with even more sharply into focus: the first step in preparation is the understanding of the *contents of education* (*Bildungsinhalte*). The teacher must re-enact the pedagogical decision made by the curriculum designers and embedded in the curriculum contents, must reflect which considerations must have led to the inclusion of a particular item or a particular basic issue, that is, *why these were selected as possible contents of education* (*Bildungsinhalte*) that the practical work of instruction must bring back to life?

We believe that it would be demanding too much of teachers in terms of time and mental energy to expect them to ‘rationalize’ about the contents in a pre-pedagogical context whenever they set out to prepare themselves for teaching. This would involve, for example, adopting the role of a scientist who sees the contents in question as a research exercise in a specific field. And we are of the opinion that this applies not only to teachers at primary, junior secondary, and vocational level, but also to those at senior secondary level! Admittedly, the teacher engaged in preparation must first concentrate on the ‘matter’ at hand, on what is to be taught. *But this ‘matter’ is from the very beginning an ‘object’ seen through a pedagogical lens that a young person’s mind is to ‘possess’. It is, in short, content of education* (*Bildungsinhalt*). The task is to elucidate which aspects of the content contribute to *Bildung*, to explore what it contains that can or should comprise education, *Bildung*.

The term *analysis of subject matter* (*Sachanalyse*), which in the relevant literature has become the common term for the first phase of instructional preparation, is not, therefore, particularly apt. Indeed, it could be misconstrued as

referring to a pre-pedagogical, scientific analysis of the subject matter, making this the basis of instruction and thus losing sight of the specifically pedagogical nature of the task.

3. The 'objectivity' demanded of the teacher in preparation requires a certain type of questioning. The teacher must adopt two positions, and must be able to assimilate both. He or she represents on the one hand the 'lay-person' the students will later become, and on the other hand the young people themselves and their individual potential. As a lay-person, the teacher represents, for instance, the democratic citizen who is to be aware of his or her responsibility for our society and our state, the committed member of the religious community to which both teachers and students belong, or the 'consumer' who should be able to choose critically and with taste from among the wide range of opportunities for experiencing and forming culture. And so the list could continue. In this perspective, teachers must be willing to be moved by the subject matter during preparation – honestly and seriously. They can fulfil their task of educating and instructing their children only if they *represent* the content that is to be acquired by education or instruction, if they themselves personify it and credibly reflect it. The poem the teacher is to present the next day, and which he or she will interpret with the children and render with the feeling it inspires, this poem must 'enchant' anew the teacher herself, shake her up, delight her, affect her. The physics problems that will occupy the next few physics lessons must stimulate the teacher once again, like an unsolved puzzle, causing wonder, questioning, experimenting, advance hypothesizing, as a piece of reality with a bearing on, and significance for, the common person – for that is what we all are outside our own specialized field of work.

In the second position, as a representative of the young person, the teacher must view the capacity for understanding and questioning of the 'educated lay-person' (*gebildeter Laie*) from the perspective of the child or youth at a particular level, must recreate with vitality the particular questions, interests, and attitudes of the students, and explore them for their deeper educational potential (*Bildungsmöglichkeiten*).

The 'matter' the teacher is wrestling with in order to comprehend and exploit its educational substance (*Bildungsgehalt*) is a peculiarly dynamic complex. It is to be absorbed by and fill the young mind while, at the same time, pointing forward to future tasks and opportunities of a mature life.

4. If we adopt the term *Didaktik* as a subsumption of all mental effort directed at aspects of content, at the 'what' of instruction and *Bildung* (as distinguished from the concentration of the 'how', a topic of a theory of teaching and learning methods, i.e. *Methodik*), the first task of a teacher engaged in preparation can be termed *Didaktik analysis*. It is evident that we must first clarify our terms if we wish to get closer to the nature of Didaktik analysis. And although we are dealing here with a truly practical problem of schoolwork, we must not allow ourselves to shy from the 'effort of terminology', from confrontation with the difficult, fundamental theoretical questions that the problem poses.

Contents of education and educational substance (*Bildungsinhalt* and *Bildungsgehalt*)

1. A speaker who uses the term contents of *education* (*Bildungsinhalt*) tacitly acknowledges *Bildung* as a basic term of pedagogy. But it would be wrong to assume that everyone using the expression invests it with a clearly defined idea of what it comprises, inevitably infusing it, though perhaps implicitly, with their own metaphysically-founded ideal or with ideals derived from their own world-views. On the other hand, we believe that the term can be usefully employed if the controversial issues of ideals are set aside and a broad – not simply formal – understanding of *Bildung* is agreed on; as broad, for example, as that expressed by Litt (1963: 11):

When we refer to a person as educated (*gebildet*) . . . we mean at least that this person has succeeded in establishing a certain degree of *order* in the whole of his existence, in the wide variety of gifts, opportunities, drives, and achievements he incorporates, linking the one to the other in the appropriate relationship, guarding against overemphasis, but also against suppression of the particular. However, a person can never, never create order within himself, unless he has regulated his relations to the *world* in an appropriate manner. If we regard the one side by side with the other, we may use the term *Bildung* for any state of mind of a person that puts him in a position to impose order on himself, as well as on his relations to the world.

Weniger, in his essay ‘Bildung und Persönlichkeit’ (1958), put it more cautiously: *Bildung* remains ‘in essence in the forecourt of life. It only prepares for the decisions of life through which a person will become a “personality”’ (p. 138). With reference to *Bildung* as a result of the educational process, Weniger described it as ‘the state in which one can assume responsibility’. An interpretation of the term, as recommended by the statements of Litt and Weniger, is adequate for our purposes as we now try to find a more precise definition of the terms ‘content of education’ (*Bildungsinhalt*) and ‘substance of a content of education’ (*Bildungsgehalt*).

2. How does a content become a content of education? Otto Willmann (1957) in his *Didaktik als Bildungslehre*, gave the general answer that it is the *educational substance* (*Bildungsgehalt*) of the subject matter. He explained this statement as follows:

Within the whole of the contents to be acquired [we must distinguish between] the essential and the inessential, fruit and leaves, the interior and the exterior. As the learners process the matter, differences emerge. . . . There are different degrees of internalization of what is presented: some matter penetrates through to the roots of inner growth, the rest remains peripheral. From among the whole of an object of instruction, we

distinguish its educational substance (*Bildungsgehalt*) and comprehend the latter as those elements of the former where the subject matter can begin to take root and be internalized, and on whose retention the value of the learning and the practising essentially depends. . . . Teach in such a way that what is given is learned . . . and that its substance (*Bildungsgehalt*) can take effect.

(p. 326)

Content of education is not, therefore, an externally-given matter, but there is 'rather an organic power contained in the content itself, which has a determining influence on the conceptions and thoughts during assimilation by the mind, bringing them into conformity with itself, and thus effecting internal organization' (Willmann 1957: 324). In this interpretation, content of education appears, by virtue of its intrinsic substance (*Bildungsgehalt*), as something 'wise', something vital, something invisible but objective that needs to be grasped if the matter is to be mastered. A system of Didaktik based on this view explores the particular objects and items of subject matter in order to ascertain their structure and organization, their 'ideal content' or the 'wisdom' they contain, 'their germinal forces and their productive drives' (Willmann 1904: 59).

Willmann's concept of substance (*Bildungsgehalt*) and his interpretation as sketched out here represent a crucial discovery in the history of Didaktik. But in this most general form, Willmann's definition does not yet give the elucidation necessary for our purposes. We must therefore press on and go beyond Willmann.

3. After Willmann, the terms *content of education*, *education substance* (*Bildungsgehalt*), and *educational value* (*Bildungswert*) were increasingly incorporated in the theory of education (*Bildungstheorie*). But Willmann's interpretation suggested the notion that objective contents per se, independent of the persons who assimilate them, have a certain substance or value contributing to education (*Bildungsgehalt*, *Bildungswert*). [Henceforth *substance* may be taken to refer to *Bildungsgehalt* where no other attribute is given: *translator's note*.] Until Kerschensteiner's *Theorie der Bildung* (1926), all attempts to explore the problems associated with the terms remained within the framework of this basic conviction.

It was the proponents of human-science pedagogy (*Geisteswissenschaftliche Pädagogik*) who made the decisive move on to new ground. Herman Nohl and Erich Weniger in particular saw, in contrast to the objectivism of Willmann and Kerschensteiner, that a double relativity constitutes the very essence of contents of education, in other words their substance or value. What constitutes content of education, or wherein its substance or value lies, can, first, be ascertained only with reference to the particular children and adolescents who are to be educated and, second, with a particular human, historical situation in mind, with its attendant past and the anticipated future.

The first point of relativity is emphasized when Nohl (1949: 427) described the adjustment to the life of the student as 'the pedagogical criterion':

Whatever demands are made on the child by the objective culture and the social relationships, they must tolerate a transformation that proceeds from the questions: What is the sense of this requirement in the context of the child's life, for its development and the increase of his or her faculties? and What potential does the child have for coping with the demands?

This is a concrete interpretation of Martin Buber's (1953: 23) thesis that conscious and volitional education is always 'selection of the active world'. Peter (1954: 72, 75) had the same sort of thing in mind when he said that 'the object of teaching is dependent on the Didaktik aims of the teacher'. 'The concept of the object of instruction thus also contains an objective'.

The second, historical relativity in what can be regarded as content of education, substance or value, was emphatically underlined by Weniger (1952). Reference to assets of education (*Bildungsgüter*) or contents of education means first that:

The speaker has gained formative (*bildende*) impressions in contact with a substance of the human world, with a component and detail of culture, with particular poetry, painting, music, constitutional doctrine, or with an historical or religious personality. He now possesses them; figuratively speaking, they now belong to him. The very fact that this is possible is the peculiarity of the human mind: an entity complete in itself, such as a sonata, an historical life, a poem, a cultural epoch . . . can be grasped and possessed by a person and yet remains unspent and independent. But for the person 'educated' by this entity (*der durch dieses Gebilde Gebildete*), it has become his property: he has experienced the values concealed therein as educational values (*Bildungswerte*) and possesses them. Now he learns that others have also experienced the formative force (*bildende Kraft*) of these contents, such as those with a similar educational career or interests, those with the same work and the same social class, in the same region or the same tribe. Thus we learn to term something an asset that is generally experienced by larger groups as formative (*bildend*).

(pp. 48–9)

But that is only one facet of the historical character of all contents of education. The other side becomes visible as soon as one recognizes that 'historicity, not only looks backwards, but also points towards the future'. It is an unreflected and by no means self-evident assumption

that something, that for a person speaking about substance has become an asset (*Bildungsgut*) in the course of his own experience of education (*Bildungserfahrung*) and what he experienced with his generation, must for future generations also become an asset, that is, will evoke the same experiences of education and must produce the same figure of an educated person (*gebildeter Mensch*), German, Christian.

(Weniger 1952: 49)

If we remain with the orientation to the life of the student as our pedagogical criterion, then we must agree with Weniger's (1952) hypothesis that:

Posing the problem of selecting and concentrating the contents of education means ... reflecting on 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. For a people, a group or the individual, as life progresses, particular challenges are always present.

(p. 96)

This means, therefore, that everything that claims to be content of education must also have a significance for the future of those to be educated – the future for which education is supposed to equip the young people and that it must thus anticipate (*vorwegnehmen*), without being falsely premature and without narrowing the students' future scope for decision-making.

4. Those contents of education, therefore, that present themselves to the teacher in the form of curriculum and the substance (or value) of which must be tracked down by 'Didaktik analysis' must be comprehended as a selection made in a particular human, historical situation and with specific groups of children in mind (according to environment, school types, grade level). 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), to cope with the requirements, and take the free chances of life. The contents of teaching and learning will represent such order, or possibilities for such order, such responsibilities, inevitable requirements, and opportunities, and that means at the same time opening up the young people to systems of order (legal, social, moral, etc.), responsibilities (such as human welfare or politics), necessities (such as the mastery of cultural skills, a minimum of vital knowledge, etc.), and human opportunities (e.g. to enjoy and be active in leisure time, e.g. in the arts, in the choice of profession, etc.).

This form of opening up, of rendering the learners open to contents and values, can be achieved only by what we call contents of education because they have a particular characteristic: *they are always specific contents, are examples that represent a larger set of cultural contents*. A content of education must always make fundamental problems, fundamental relations, fundamental opportunities, general principles, laws, values, and methods understandable. Such elements that effect understanding of the general in or through the medium of the specific are conveyed in the term *educational substance* (*Bildungsgehalt*). Any specific content thus contains *general* substance.

The task of Didaktik analysis as the first and most important step in the preparation of lessons is, therefore, 'to bring out the substance of the objects of learning' (Willmann 1957: 460), to establish as the pedagogically crucial ele-

ments of the material those parts ‘on which its internalization [that is, its power to penetrate] depends or, inversely, in which the form of subjective *Bildung* becomes fulfilled and perfected’ (Nohl 1949: 144). In other words, Didaktik analysis is to indicate wherein the general substance of specific content of education lies. The substance almost always proves to be ‘a network of relations’ (Peter 1954: 72, cf. p. 77), a ‘nexus, a complex of connections, which is itself set in a wider . . . context’ (Petzelt 1947: 78).

Didaktik analysis

Only after these preliminary fundamental reflections on the content of education and substance can the task of Didaktik analysis be more precisely defined. We make our general question more precise through the medium of five general questions that, together, should yield a definition of substance. It will be immediately clear that the answers to these questions can usually be obtained only from the specific situation, of the specific school class in question. Thus, our examples always remain distanced from the particular reality of school.

As the five basic questions, which we in turn break down into sections, are mutually dependent, the order in which they appear is not necessarily obligatory for Didaktik analysis in practice. Each question carries tacit overtones of the other four, and the answer to each individual question only becomes fully comprehensible in the light of all five answers.

What questions, therefore, should a teacher ask in the preliminary phase of instructional preparation, that is, Didaktik analysis, in view of the concrete topics/themes proposed by the curriculum or planned by the individual teacher?

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’?

i What does the planned topic exemplify, represent, or typify?

The automobile engine stands for all gasoline engines, the cherry blossom for the basic biological phenomenon of blossom, a particular incident from the colonization of the eastern European regions by Germans for eastern European colonization in general, the painting theme ‘Hurrah, it’s snowing!’ for creative use of spray techniques in art, these specific arithmetic tasks from the field of banking, for the calculation of interest in general, and so on. The ‘exemplary’ significance depends to a large extent on the teacher’s goals. One and the same item of content can in some cases exemplify a variety of general subjects.

ii Where can the knowledge to be gained from this topic be picked up on and used at a later date, either as a whole or as individual elements – insights, conceptions, conceptions of values, work methods, techniques?

When a child in the second grade learns to change small denomination money into larger denominations, the process will later reoccur as an ‘element’ in understanding basic arithmetical operations in written form. The basic terms of, for example, history and science that the child learns at elementary school will later be applied in high school classes. . . .

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?

It is crucial that this question should not be understood purely in terms of method. This is only its secondary sense. First and foremost, 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 young people, that is, in their lives, in their conception of themselves and the world, in their areas of competence. Moreover, the term *Bildung* of the child or adolescent does not primarily mean ‘school’ or ‘education’ as a definable, special area of knowledge, ability, attitude, or behaviour, but the world of the mind and the habits of the young person as a whole. Within this mental world, school should be understood as a place of clarification, purification, consolidation, expansion, and stimulus. In this perspective, the foremost criterion of a school’s efforts should be the query whether the activities can come alive and be effective *outside* the school’s walls. Thus we ask what importance electricity, animals, foreign lands, music, crafts, stories, church, faith, religion, and so on have for the child *outside* school, and in what sense they could or should become significant.

To clarify: has the planned topic already come up in questions occurring in class? Is the topic familiar to these children (to some? to all?) in their out-of-school experience? Does it play a vital role in their school or out-of-school life? 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? (bicycles, automobiles, fruit trees, the lives of knights, calculation of interest, letter-writing, water-cycle, trade-union movement, multiplication and division of fractions by fractions, punctuation in direct speech). From which angles do the students already have access to the topic? Which angles are still unfamiliar? (In the case of the topic ‘local birds’, for example, the children might know birds as song-birds, as cherry and grain thieves, but they may not know of the economic benefits birds can have for humans.)

3 What constitutes the topic's significance for the children's future?

With this question we formulate more specifically the perspective of the lay-person, mentioned earlier, which the teacher has to anticipate for the student.

To clarify: 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? (e.g. coming to terms with our recent history, securing the foundations of our democracy, the problem of communism, the question of European unity, the double role of women, the organization of leisure, getting to grips with modern art, and so on). Is this content a genuine element of general education, *Allgemeinbildung*, of all-round, foundational *Bildung* in its positive sense, or does it pre-empt some sort of specialized education (*Spezialbildung*), such as vocational training? If the answer to this is yes, then it should be rejected! Are the children already aware of the content's relevance to the future? Can it be made clear to them, or is it so difficult to understand that it cannot be explained to the children?

4 How is the content structured (which has been placed in a specifically pedagogical perspective by Questions 1, 2, and 3)?

It is vitally important to remember that the question about the structure of the content can only be properly asked, pedagogically, in the light of the first three basic questions. Detached from the perspective created by these questions, the structural question becomes a pre-pedagogical 'subject analysis', that is, a theoretical-scientific question – at least by intention – that yields corresponding answers. The question about the structure of the content 'electricity', for example, can be answered by key words such as 'atomic theory', 'electron current', 'Ohm's Law', and so on. Responses of this kind can be educational (*bildend*) only if and when the question and comprehension level of the students matches them, as would be the case, for example, in the highest grades of general secondary education or in the final grades of particular vocational schools. A teacher wishing to deal with this topic in grade 7 or 8, however, will be forced to conclude, after reflecting on the present meaning of this topic for his average students (i.e. from the point of view of what children in puberty can comprehend and how they regard the world), that the model constructs of atomic theory, the mathematical formulation of Ohm's Law, and so on, cannot (in general) be grasped in their inner meaning by these children, cannot be knowledge that contributes to *Bildung*. Any teacher, therefore, who believes the students must still be presented with these theoretical elements courts the danger of inducing misconceptions (such as confusion of the atomic model with reality) or mere rote learning that will play no functional role in the subsequent intellectual life of the young person in question (Ohm's Law). Physics at this level will have to be phenomenon-oriented (Wagenschein). It will have to confine itself to those phenomena of electricity to which the students have ready access, either through their everyday experience or through simple experiments, and that interest them. This

means that it will be first and foremost the practical effects and technical applications of electricity that create the framework within which electricity can be taught at this level.

With regard to these conditions, the basic question about the structure of a particular content can be broken down as follows:

i What are the individual elements of the content as a meaningful whole?

In the case of the petrol engine, this would be, for example, (a) expansion of gases on heating, (b) low ignition temperature of a spark-plug, (c) technical transmission of upward-and-downward motion into rotary motion (crankshaft), and (d) simple gear connections for transmitting the direction of mechanical movement.

ii How are these individual elements related?

(a) Do they form a logically 'obvious' series? (Mostly in arithmetic and in mathematics, in the natural sciences.) In this case, a certain order of logical steps must be adhered to. Or (b) do they form an interdependent structure, where all or some elements are interrelated, so that the order in which they have to be examined is not necessarily given by a unilinear 'logic', but characterized by the reciprocal effects of some or several factors (such as the relationships of plants and animals in symbiotic systems, the geomorphological factors essential to a particular landscape, geographical relations, etc.)?

iii Is the content layered? Does it have different layers of meaning and significance?

In the case of a reading text, for example, either a complete text or an extract, this would involve, first, the layer of the narrated events and actions; second, the layer of inner experiences of the protagonists not expressly described; third, the (possible) symbolic meaning of the phenomena and relations ascertained in the first and second layers. To take another example, in geography, with the topic 'Africa', it would involve the basic layer of knowledge about climatic and vegetation zones; then the layer of specialized and specific knowledge, including the anthropological, geographic, economic factors, and so on. In the case of a history topic, such as the 1917 Bolshevik Revolution in Russia, it would involve, first, the layer of essential historical facts; second, the layer of political ideology; third, the layer of fundamental historical, political, and sociological phenomena and basic concepts such as state, government, tsar/king, class, revolution. . . . Can the layers be understood in relative independence of each other? Or is knowledge of one layer a prerequisite for the understanding of another (as in our geography and history examples)?

iv What is the wider context of this content? What must have preceded it?

The study of magnetism, for example, would need to precede the study of the electric motor.

v *What peculiarities of the content will presumably make access to the subject difficult for the children?*

Examples: In science topics, it is not only common sayings such as ‘the sun rises’ that mislead the children, but also terms commonly used in instruction and even in science textbooks, such as ‘centrifugal *force*’, ‘the *flow* of electric current’, which either have caused or presumably will cause the children to make false analogies. The idea of electric current ‘flowing’, for instance, immediately evokes the conception of flowing water, which moves as a result of differences in altitude. (There is a so-called ‘illustration’ that is still used, even in science textbooks today, where water is watched as it flows from one vessel into another placed at a lower level. Even for primary science, this attempt at analogy is unsuitable or, more precisely, not isomorphic, inadequate, because it misrepresents the essence of electrical ‘current’, which is a *circuit*. No phenomenon of electricity can be made comprehensible by means of that analogy with flowing water.)

In history instruction, the difficulty constantly reoccurs that the children project their notions, which are anchored in their present experience, onto previous periods of history, and thus make it harder to understand historical phenomena and processes.

vi *What is the body of knowledge that must be retained (‘minimum knowledge’) if the content determined by these questions is to be considered ‘acquired’ as a ‘vital’, ‘working’ human possession?*

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?*

This final query of the five must be developed in three sections:

i *What facts or states of affairs, phenomena, situations, experiments, controversies, and so forth – in other words, what experiences – are appropriate for exciting in the pupils’ minds an interest in, and a positive attitude towards, developing questions oriented to deciphering the structure of the given problem?*

It is this questioning that is to drive the course of the teaching–learning process. Heinrich Roth (1983: 123–4) formulated the problem as follows:

How do I bring the object within the scope of the child’s ability to question? How can I make it worthwhile for the child to ask questions? How do I transform it again into a question, an object that arose as an answer to a question?

In reply he gave the following answer as a matter of principle:

Child and object interlock when the child or adolescent can sense the object, the task, the cultural asset in the nearness of its processes of development, in its 'original situation', from which it has become an 'object', 'task', 'cultural asset'. . . . By analyzing . . . the object in its genesis, I re-create the original human situation with respect to it and thus the vital interest from which it once stemmed.

(p. 124)

Such a pedagogical 'return to the original situation' strives to 're-transform dead subject matter into the vital actions that engendered it: physical objects into inventions and discoveries, works into creations, plans into worries, treaties into decisions, solutions into tasks, phenomena into basic phenomena' (p. 124).

Copei (1963) gave us a good example involving a can of condensed milk. His students begin to ask questions directed at the effects of air pressure after observing, first, that the contents of a can of condensed milk cannot be poured out of one hole and, second, when two holes are punched, that the milk can be poured only if the can is held obliquely. The observation, in early spring, that children from a village on a hillside can still go sledding whereas their school-fellows from a village down in the valley cannot because all the snow has melted there, can induce questions directed at a basic issue of climate. The juxtaposition of different songs that the children perceive as 'sad' and 'gloomy' or 'bright', 'happy', or 'light', and so on, can provoke questions that lead to a consciousness of the dominant sound character of major and minor keys.

ii What pictures, hints, situations, observations, stories, experiments, models, and so on, are appropriate in helping the children to answer, as independently as possible, their questions directed at the essentials of the matter?

The answer here as a general principle can be summed up as 'the model character of the elementary case' (Roth 1964: 125) or 'the fruitfulness of the elementary' (cf. Spranger 1954: 87ff.). For all contents that are themselves the product of a process of thoughtful development, the appropriate and adequate form of illustration is the 'return to the original situation', a term that here is not primarily meant in an historical sense, but refers instead to the systematic origin. This is a principle with which we are familiar as a means of inducing a genuine process of questioning in the children and, at the same time, as the right way of adequate illustration.

After, for example, a story from before the time of steamships (e.g. about a becalmed vessel) has brought up the question of how the trade winds occur, the students can develop their answer using air movement in a heated room as a model. In the case of a question about German colonization of eastern Europe – prompted by the issue of German refugees after the Second World War – the teacher can present the material required to formulate the answers by, for example, recounting a story in which the various motives are 'symbolically concentrated' ('*symbolische Verdichtung*:' Heimpel), made obvious by vividly charac-

terized historical persons or groups. The theme ‘winter landscape’ is appropriate to stimulate creative efforts in which the aesthetic quality of black-and-white colour contrast and plane-line form contrast is strikingly illustrated.

iii What situations and tasks are appropriate for helping the principle of content grasped by means of an example, of an elementary ‘case’, become of real benefit to the students, helping to consolidate it by application and practice (immanent repetition)?

Modern theories of language instruction justifiably demand ‘practice with a purpose’ appropriate both to the subject and to the child. Once, for instance, the pattern of concessive clauses has been introduced using an appropriate example, the next step should be to seek situations in the life of the child where concessive clauses are required to verbalize the subject matter, and not, as is still so often the case, simply to set the task, ‘Write 10 sentences using *although*.’ A similar principle applies in arithmetic. And in science, for instance, the aim would be for the laws of radiation worked out with one or two examples to be discovered in other cases. Or the characteristics of an animal community could be first studied by using the example of bees, and improved with the students subsequently doing work of their own on ant communities.

Planning of the methodical arrangement of teaching and learning

The second step of instructional planning, planning of teaching methods, can proceed only from Didaktik analysis. Methods planning is concerned with the ‘how’ of teaching, more precisely with the questions ‘Which ways can lead to the fruitful encounter between the children and the content?’ (the pedagogical significance and structure of which have been established by Didaktik analysis) and ‘What can follow for a fruitful encounter between the two to be achieved?’ This interpretation of planning for methods clearly shows its dependence on Didaktik reflection.

The transition from Didaktik reflection to the planning of method has already been indicated several times in our sketch of Didaktik analysis (in the narrow sense of the term *Didaktik*): first, in the remarks on the introduction of initial questions and, second, in the reflections on the problems of illustration. Nevertheless, we consider it of utmost importance that these very problems – contrary to common belief – must be seen primarily as Didaktik issues (and not in the narrow sense), that is, as problems of content.

The depth of Didaktik analysis required as a first step in preparation will, of course, always depend on the chosen theme. This may be an instructional unit stretching over several months, but could equally be the topic for a week, or just for one lesson. Didaktik analysis is the foundation, not only for the introduction of a new theme, but for all teaching activity dedicated to this particular content. Thus, even the design of a practice or revision lesson – as such mainly a matter of method – depends on the results of Didaktik analysis. In the end, the

only way of determining whether this or that form of practice or revision would be pedagogically right or wrong in a particular case is by ascertaining whether it is appropriate to the contents.

This is not the place for a detailed discussion of the second step for planning of methods of instruction. Suffice it to say that this phase of planning and preparation must, we feel, concentrate on four areas above all:

- the organization of instruction or learning into sections or phases or steps;
- the choice of forms of teaching, work, play, practice, and revision;
- the use of classroom aids (teaching and learning aids);
- the achievement of organizational prerequisites for instruction and learning.

Ideas about method will naturally occur to the classroom practitioner in the course of Didaktik analysis. Nonetheless, method planning, which is, after all, the outline of the lessons themselves, can really take place only *after* Didaktik analysis. This is an essential point, particularly because the outline of the questions as set out previously is by no means identical to the chronological order of the methodical steps. Thus, the outlooks or applications that children can be shown on the basis of the ideas set out under Question 3 of the Didaktik analysis (relevance for the future) come, when method is under consideration, after the practical conclusions to be drawn from the considerations set out under Question 5 (exemplary cases, phenomena, etc. as ‘entries’ to the processes of understanding structures). In short, the order of methodical steps obeys a different set of rules from those determining Didaktik reflection (in the narrower sense). The former is governed by practical considerations, whereas the order of Didaktik reflection follows theoretical–systematic norms.

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Notes

- 1 Didaktische Analyse als Kern der Unterrichtsvorbereitung. *Die Deutsche Schule* (1958; 450–71), and later in *Auswahl* (1962), a collection of essays edited by H. Roth and A. Blumenthal. Some of the changes I made to the essay in this version were influenced by W. Kramp, Hinweise zur Unterrichtsvorbereitung für Anfänger, *Die Deutsche Schule* (1962), and in the collection, *Auswahl*, mentioned earlier.

- 2 W. Klafki, Zur Unterrichtsplanung im Sinne kritisch-konstruktiver Didaktik. In my *Neue Studien zur Bildungstheorie und Didaktik: Zeitgemäße Allgemeinbildung und kritisch-konstruktive Didaktik*; first edition (Weinheim: Beltz Verlag 1985); considerably expanded for the second edition (Weinheim: Beltz Verlag 1991); now in its fifth edition (Weinheim: Beltz Verlag 1996).
- 3 *Translator's notes: Bildungsgehalt* – the substance of a content based on the content's history and current importance and use; limited by the curriculum, it is transformed by the interests and experiences vested in it by the teacher and the learner. As such, the notion of substance is a holistic concept. In Klafki's model, the search for the substance is practically focused on the question of what educating (*bildend*) potential the content is reckoned to have (e.g. by curriculum authors, teachers) and how this potential can be realized. In this practical sense, the content of 'substance' is close to Shulman's notion of 'pedagogical content knowledge' (L.S. Shulman [1987] *Knowledge and teaching: foundations of the new reform. Harvard Educational Review*, 57 [2], 1–22).
Geistig: (Following the translation of Wilhelm Dilthey's [1989] *Introduction to the Human Sciences*, eds R.A. Makkreel and F. Rodi [Princeton, NJ: Princeton University Press]) 'human', of the 'human world', with few exceptions.

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