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Didactic analysis as the core of preparation of instruction (Didaktische Analyse als Kern der Unterrichtsvorbereitung)

WOLFGANG KLAFKI

The following paper, here in a recent translation, 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 develop was used for about two decades in preservice 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 revision 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 and Künzli 1980). The most recent version is contained in the essay Zur Unterrichtsplanung im Sinne kritisch-konstruktiver Didaktik in my Neue Studien zur

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This abridgement and adaptation of 'Didaktische Analyse als Kern der Unterrichtsvorbereitung' draws heavily on an initial translation of the paper prepared by Gilian Horton-Krüger of the Institute für die Pädagogik der Naturwissenschaften (IPN) at the Christian-Albrechts University, Kiel. The adaptation incorporates the comments of Peter Menck of the University of Siegen and the corrections of Wolfgang Klafki on the translation. Support for both the translation and adaptation was provided by IPN through its 'Didaktik meets curriculum' group consisting of Kurt Riquarts, Roland Lauterbach and Stefan Hopmann.

Bildungstheorie und Didaktik-Zeitgemässe Allgemeinbildung und kritisch-konstruktive Didaktik.²

There is scope here only to cite the salient points which 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) and 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 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 concept of Didaktik came from the criticisms and suggestions of the 'Berlin School of Didaktik' (Heimann, Otto, Schulz) in the forms developed from 1972 onwards, 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, i.e., 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 since the 1970s, and the ideas of 'communication-centred' or 'critical-communicative' Didaktik.

In presenting the older text 'Didactic 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.**

A. The question

I

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 reflected 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—for any planning of instruction can be only provisionally valid—then it is quite consistent to rate the instructional planning process highly while at the same time recognizing that, in the end, each and every lesson holds in store a myriad unforeseeable possibilities and that the openness of teachers' minds

*Notes on the translation

Bildung: The modern use of the term *Bildung* resulted from the translation and modernization of the Latin concept *eruditio* (as used by Comenius, for instance). Common translations such as 'formation' or 'education' tend to evoke misleading connotations. *Erziehung*, the direct translation of education, is generally the external aspect, the corollary of the personal development called *Bildung*. The teacher (parent, etc.) is the *Erzieher*. In German, the process of becoming educated (*gebildet*) with the help of others is often termed *Bildung und Erziehung*. *Bildung* means both the process and the product. We feel, however, that there is enough overlap in the meaning to warrant using the translation 'education', though with *Bildung* and its composite nouns indicated in parentheses to differentiate it from *Erziehung*. In cases where a composite noun (such as *Bildungsinhalt*, *Bildungsgehalt*) occurs repeatedly, often several times within a few lines, and where *Erziehung* is never an attribute with the same noun, a note in the text indicates that the German will no longer be given in parentheses to facilitate reading, but that the term 'education' within this composite noun always refers to *Bildung*.

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 limited to 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 the notion of 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* edited by R. A. Makkreel and F. Rodi [Princeton, NJ: Princeton University Press]) 'human', of the 'human world', with few exceptions.

Geisteswissenschaft: This term is left in German or (following the translation of Dilthey's works) translated as 'human science'.

to new situations, impulses and difficulties arising from the moment is a criterion of their pedagogical skill.

II

The principal purpose of instructional preparation can be summarized as follows: preparation is intended as the design of one or several opportunities for certain 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] or whether it is 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 which 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'?

III

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 which 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 which have been put forward and which 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 'scientificness', or that curriculum contents are cultural contents, more precisely the contents of the various authorities which 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' which 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, i.e., why these were selected as possible contents of education (*Bildungsinhalte*) which 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. 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 which a young person's mind is to 'possess': it is, in short, *content of education (Bildungsinhalte)*. The task is to elucidate which aspects of the content contribute to education (*Bildung*), to explore what it contains which 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 only fulfill their task of educating and instructing their children if they *represent* the content which 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 which 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 man—for that is what we are all 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, 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*, see below; see also Notes on Translation above) 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 education (*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 *didactic analysis*. It is evident that we must first clarify our terms if we wish to get closer to the nature of didactic analysis. And although we are dealing here with a truly practical problem of school work, we must not allow ourselves to shy from the 'effort of terminology', from confrontation with the difficult, fundamental theoretical questions which the problem poses.

B. The contents of education and educational substance (*Bildungsinhalt* and *Bildungsgehalt*)

1. A speaker who uses the term 'contents of education' (*Bildungsinhalt*) tacitly acknowledges education (*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 education (*Bildung*) is agreed on; as broad, for example, as that expressed by Th. Litt:

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 over-emphasis, 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 'education' (*Bildung*) for any state of mind of a person which puts him in a position to impose order upon himself, as well as upon his relations to the world. (Litt 1963: 11)

E. Weniger, in his essay *Bildung und Persönlichkeit*, puts it more cautiously: education (*Bildung*) remains 'by nature in the forecourt of life. It only prepares for the decisions of life through which a person will become a "personality"' (Weniger 1958: 138). With reference to education (*Bildung*) as a result of the educational process, Weniger describes it as 'the state in which one can assume responsibility'. A simple interpretation of the term, as recommended by the statements of Litt and Weniger, will be adequate for our purposes as we now try to find a more precise definition of contents and substance ['Content of education' in the text may now be assumed to refer to *Bildungsinhalt*].

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

Within the whole of the contents to be acquired there is 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 to 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. (Willmann 1957: 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 which 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 germinative forces and their productive drives’ (Willmann 1908: 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 further 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 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.] 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.

H. Nohl and E. Weniger in particular came up with the theory, 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, only be ascertained 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 H. Nohl describes the adjustment to the life of the student as ‘the pedagogical criterion’:

Whatever demands are made upon the child by the objective culture and the social relationships, they must tolerate a transformation which proceeds from the question: what is the sense of this requirement in the context of the child’s life, for its development and the increase of its faculties, and what potential does the child have for coping with the demands? (Nohl 1949: 427)

This is a concrete interpretation of Martin Buber’s thesis that conscious and volitional education is always ‘selection of the active world’ (Buber 1953: 23). R. Peter has the same sort of thing in mind when he says that ‘the object of teaching is dependent on the didactic aims of the teacher’. ‘The concept of the object of instruction thus also contains an objective’ (Peter 1954: 74–75).

The second, historical relativity in what can be regarded as content of education, substance or value is emphatically underlined by E. Weniger. 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 which is generally experienced by larger groups as formative (*bildend*). ... (Weniger 1952: 48–49)

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 which has, for the person speaking about substance,

become an asset (*Bildungsgut*) in the course of his own experience of education (*Bildungserlebnisse*), and what he experienced with his generation ... as a common asset will for future generations ... also become an asset, i.e., 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 hypothesis that

posing the problem of selecting and concentrating 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* which arise in our specific and individual situation. For a people, a group or the individual, as life progresses, particular challenges are always present. (Weniger 1952: 96)

This means, therefore, that everything which 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 which 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, which present themselves to the teacher in the form of curriculum and the substance (or value) of which must be tracked down by 'didactic 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), 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, 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, for example, in the arts, in the choice of profession, etc.).

This form of opening up, of rendering the learners open to contents and

values can only be achieved by what we call contents of education, because they have a particular characteristic: they are always individual contents which 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 which 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 didactic 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 elements of the material those parts 'on which its internalization [one could also say, its power to penetrate; ed.] depends or, inversely, in which the form of subjective education (*Bildung*) is fulfilled and perfected' (Nohl 1949: 144). In other words, didactic 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. 77), a 'nexus, a complex of connections, which is itself set in a wider ... context' (Petzelt 1947: 78).

C. Didactic analysis

I

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

As the five basic questions, which we will in turn break down into sections, are mutually dependent, the order in which they appear below is not necessarily obligatory for didactic 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, i.e., didactic analysis, in view of the concrete topics/themes proposed by the curriculum or planned by the individual teacher?

I. What wider or general sense or reality do these contents 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 these contents as 'examples'?

1. *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 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, specific arithmetic problems encountered by bank clerks 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.

2. *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 which the child learns at elementary school will later be applied in high school lessons. ...

II. 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, i.e., the substance to be investigated in it, can and should be an element in the present education of the young people, i.e., in their lives, in their conception of themselves and the world, in their areas of competence. Moreover, this term 'education' (*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, 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, 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 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; contrasted with induction current; 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 songbirds, as cherry and grain thieves, but they may not know of the economic benefits birds can have for humans.)

III. What constitutes the topic's significance for the children's future?

With this question we formulate more specifically the perspective of the layman, mentioned above, 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? (For example, 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 education 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?

IV. How is the content structured (which has been placed in a specifically pedagogical perspective by questions I, II and III)?

It is vitally important to remember that the question about the structure of the respective content can, pedagogically, only be properly asked 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', i.e., a theoretical-scientific question—at least by intention—which yields corresponding answers. The question about the structure of the content 'electricity', for example, can be answered by keywords such as 'atomic theory', 'electron current', 'Ohm's Law' and so on. Responses of this kind can only be educational (*bildend*) 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 a child in puberty can comprehend and how it regards the world), that the model constructs of atomic theory, the mathematical formulation of Ohm's Law, etc., cannot (in general) be grasped in their inner meaning by these children, cannot be knowledge which contributes to education (*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 which 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 which interest them. This means, however, that it will be first and foremost the practical effects and technical applications of electricity which 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.

1. *What are the individual elements of the content as a meaningful whole?* In the case of the gasoline engine, this would be, for example, (a) expansion of gases on heating, (b) low ignition temperature of gasoline-spark plug, (c) technical transmission of upward-and-downward motion into rotary motion (crankshaft), (d) simple gear connections for transmitting the direction of mechanical movement.

2. *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.

(b) Or do they form an interdependent structure, where all or some elements are interrelated, so that the order in which they are examined is not necessarily given by logic (such as the typical plants and animals in symbiotic relationship, the geophysical factors essential to a particular landscape, geographical relations, etc.)?

3. *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, etc. 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/kaiser, class, revolution. ...

Can the layers first 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)?

4. *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.

5. *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' which mislead the children, but also terms commonly used in instruction and even in scientific 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' which 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 this analogy.)

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

V. What is the body of knowledge which must be retained ('minimum knowledge') if the content determined by these questions is to be considered 'acquired', as a 'vital', 'working' human possession?

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

1. *What are the special cases, phenomena, situations, experiments, persons, elements of aesthetic experience, etc. in terms of which the structure of the content in question can become interesting, stimulating, approachable, conceivable, vivid for the children of the stage of development of this class?* It is this questioning which is to drive the course of the teaching.

Heinrich Roth 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 which arose as an answer to a question?' (Roth 1964: 123-124). In reply he gives 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 analysing ... the object in its genesis, I recreate the original human situation with respect to it and thus the vital interest from which it once stemmed.

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

Copei gives 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 firstly that the contents of a can of condensed milk cannot be poured out of one hole and secondly, when two holes are punched, that the milk can only be poured if the can is held obliquely. The observation in early spring that children from a village on a hillside can still go sledding while their schoolfellows 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 which the children perceive as 'sad' and 'gloomy' or 'bright', 'happy', 'light' and so on can provoke questions which lead to a consciousness of the dominant sound character of major and minor keys.

2. *What pictures, hints, situations, observations, stories, experiments, models, etc. 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: 87 ff.). For all contents which are themselves the product of a process of thought development, the appropriate and adequate form of illustration is the 'return to the original situation', a term which here is not primarily meant in an intellectual, 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 their 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) and made obvious through functional or historical groups of people. 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.

3. *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', which is 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*'. Such situations which are well known to all children can be found by completing the phrase 'Strictly speaking it was forbidden ... but ...'. 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.

II

The second step of instructional planning, methods planning, can only proceed from didactic analysis. Methods planning is concerned with the 'how' of teaching, more precisely with the question, 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 didactic analysis) and what can follow for a fruitful encounter between the two to be achieved. This interpretation of method planning clearly shows its dependence on didactic reflection.

The transition from didactic reflection to method planning has already been indicated several times in our sketch of didactic analysis (in the narrow sense of the term 'didactic') 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 didactic issues, i.e., problems of content.

The depth of didactic 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. Didactic 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 didactic 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. 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 didactic analysis. None the less, method planning, which is, after all, the outline of the lessons themselves, can really only take place after didactic analysis. This is an essential point, particularly because the outline of the questions as set out above is by no means identical to the chronological order of the methodical steps. Thus the outlooks or applications which children can be shown on the basis of the ideas set out under Question II come, when method is under consideration, *after* the practical conclusions to be drawn from the considerations set out under Question V. In short, the order of methodical steps obeys a different set of rules from those determining didactic reflection. The former is governed by practical considerations, while the order of didactic reflection follows theoretical-systematic norms.

Notes

1. Didaktische Analyse als Kern der Unterrichtsvorbereitung. *Die Deutsche Schule*, (1958): 450–471 and later in *Auswahl* (1966), a collection of essays edited by H. Roth and A. Blumenthal, Vol. 1, 7th edition. Some of the changes I made to the essay in this version—especially in Section C—were influenced by W. Kramp, *Hinweise zur Unterrichtsvorbereitung für Anfänger. Die Deutsche Schule*, (1962): 78ff. and in the collection, *Auswahl*, mentioned above.
2. W. Klafki, Zur Unterrichtsplanung im Sinne kritisch-konstruktiver Didaktik. In W. Klafki *Neue Studien zur Bildungstheorie und Didaktik—Zeitgemässe Allgemeinbildung und kritisch-konstruktive Didaktik*; first edition (Weinheim, 1985); considerably expanded for the second edition (Weinheim, 1991); now in its fourth edition (Weinheim, 1993).

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