

The didactic relation in the teaching-studying-learning process

Abstract

The relation between general didactics and subject didactics is first analysed and the special characteristics of subject didactics are described. With the help of the didactic triangle the pedagogical relation between the teacher and the student is discussed. The core of subject didactics is outlined as the teacher's relation to another relation, that between the student and the content. The manifest part of this later relation is expressed as studying and the latent part as learning. Finally the fact that every teacher has a didactics of his/her own is discussed.

General didactics and subject didactics

The substance of didactics and of research on didactics is the instructional process with all its connected factors. The ideal approach to such an examination would be to look at that process as a totality, taking all possible factors into consideration. It is certainly not possible to include all viewpoints into the design of a particular study. But the framework is totally different when the process is looked at as a whole, as against the alternative approach where the focus rests on some particular component and the totality is not even discussed. Research on didactics in its broadest definition refers to all kinds of research on teaching or, more precisely, on the teaching-studying-learning process (Kansanen, 1999). It must be added that didactics also means pedagogy here. The descriptive side of didactics is characteristic of a research approach and the normative side represents the practical viewpoint, with its arguments and justifications behind the educational decisions. In addition, didactics is always connected with some context in society, with some institution, and it is here that a curriculum comes into the picture. A curriculum restricts the degree of freedom of action. It is pedagogy as a whole that guides the instructional process according to the aims and goals stated in the curriculum.

A general view of didactics differentiates into many particular viewpoints at the level of action. The teacher and the practitioner/researcher need some viewpoint from which to approach the instructional process in practice. Besides general didactics (*didactica generalis*), special didactics (*didactica specialis*) concentrates on some aspect that is distinguished from the instructional process for examination. It may be some period of life (*Stufendidaktik*), some content (*Fachdidaktik*), some broader content area of education (*Bereichsdidaktik*), or leisure didactics (*Freizeitdidaktik*). Another way of looking at the same problem is to discuss theoretical didactics *contra* applied didactics. In applied didactics the theoretical aspect is emphasised and there is a difference in the dimension of generality if we compare it with special didactics. Covertly, at least, applied didactics steers our thoughts to the idea that content may be deduced from some theoretical model or rationale and that practical procedures may be subordinate to theoretical didactics.

Education and didactics is a many-disciplined field of study. It has traditionally been a central content of the educational sciences, whilst other disciplines have made their characteristic contributions when dealing with the questions of education or didactics. Beside didactics some subdisciplines of education are generally mentioned in the literature. The most common are educational psychology and educational sociology or psychology of education and sociology of education (e.g. Röhrs, 1969; Tibble, 1966; Hirst, 1983).

Educational psychology is most commonly defined as the intersection of education and psychology. In that intersection we find an area where the aspects common to education and to psychology are found. If the viewpoint of social psychology is added, this area is often called the social psychology of education. The unity of two separate disciplines brings certain problems, mainly with those who are doing research in this area. It is characteristic of those who come to educational psychology from education to say that educational psychology is a subdiscipline of education, and of those who come from psychology to say that it is a subdiscipline of psychology. This state of affairs only emphasises the common area of both disciplines, that is, the place where they intersect. The same can be said of the unity of education and sociology: educational sociology.

Analogous to the unity of education and some neighbouring disciplines is the unity of didactics and the content that is to be taught, studied and learned. Usually we speak of subject didactics (Fachdidaktik) but the term is not clear at all. Why not content didactics (Inhaltsdidaktik)? We must first answer a very awkward question: what is content? When we speak of subject didactics we are already tightly locked into the level of action and doing very concrete things inside the curriculum. But where do the subjects come from and what is the relation between content and a subject?

It immediately becomes clear that subjects are only a part of the content of the whole. Content in the curriculum is usually divided into various subjects, but there are also other kinds of content that may be common to all subjects or which may be, for example, psychological by nature (cf. Achtenhagen, 1992). There is also a special use of terms depending on how we define subject didactics. On the one hand, subject didactics may refer to some specific school subject, e.g. mathematics, English or history. On the other, it sometimes means a combination of related subjects. If the content is more general, or refers to some area of personality development, we usually regard it as general didactics.

It is interesting to ask how independent the different sections of subject didactics may be. In Germany we speak of *Bereichsdidaktik* and that is also the practice in Finnish teacher education. We combine some related subjects into one area (Bereich) and in this way we have fewer didactic areas to deal with. Typical examples are didactics of mathematical subjects, didactics of natural sciences, didactics of foreign languages, and didactics of physical education. Apparently we can combine those subjects that have something in common with each other. It may be that we can use the same kind of phenomena or the same kind of methodology in acquiring new knowledge. It is problematic, however, just how far we can go with this kind of unification.

The possibility of general subject didactics of a certain kind has also been suggested (Achtenhagen, 1981; Scherler, 1989, p.21; Klingberg, 1994, p.82). It might find a place between general didactics and different subject didactics. Perhaps a range from concrete to more abstract content might be its basis. This suggestion is, however, similar to questioning what subjects, or more generally, content, may be combined. Bringing together different subjects with quite different theoretical assumptions may lead only to superficial compilations. Perhaps general subject didactics might be interpreted as a few partly overlapping areas, reducing the variety of subject didactics areas from many subjects to only a few combinations.

The position of subject didactics in the field of education is not completely independent in nature. It depends on how the curriculum is written and what kind of decisions are made. In curriculum making in general the position of subject didactics is political in nature and dependent on educational policy in society. That means that some subject didactics may no longer be in use, or they may change their character in line with societal development if that content is no longer taught in schools. Subject didactics may also be latent, in that sense that we do not know the content that may be produced in future and therefore taught in schools.

Subject didactics must also be seen as a last (or first) concrete link in a circle where academic subjects are one possible starting-point and where school subjects have their own position. If we start from the academic subjects we see that many of the oldest ones are represented in one way or another in the curriculum as school subjects. They are not identical, naturally, but it may be claimed that there is a certain authority in their relations. That becomes visible when we examine teacher education and the specialising of teachers. Those university departments in particular subjects are also responsible for the studies of university students in teacher education. Usually the didactic aspects are linked to the subject after some studies in the subject and in education. The situation varies in different countries as to where subject didactics studies are located in the university. It may be in the subject department or in the department of teacher education; either way it means in practice that the development of a school subject is controlled by the academic representatives of that subject. There are exceptions because not all school subjects are academic by nature, but the general trend is that university professors as authorities in their subjects also control the development of school subjects. It is therefore very difficult to break the circle and to introduce some alternative or new models to the content in the curriculum. The development of a new subject from the practical point of view in this circle is extremely difficult and there are considerable problems in achieving a strong position among traditional school subjects. The subjects of civic education (*kansalaistaito*) or guidance (*oppilaan ohjaus*) are good examples in Finland; Goodson (1983) also presents similar experiences in his studies of the development of school subjects.

In the course of time there have been attempts to get rid of the separate-subject system of the curriculum. Without going deeply into this topic, the view may be offered that with smaller children the curriculum has often been designed as a totality, concentrating more on unifying themes (*Gesamtunterricht*) than on the subjects. The vicious circle, however, soon comes into operation: how to build units; how to find competent teachers in the special themes; where is teacher education taking place, etc. An emphasis on the child or on the student puts content into a secondary position and highlights the formal side of education. Content cannot be avoided, its role in any case is central and important, only its systematic representation may be different. However, the larger administrative and traditional boundaries must be broken before it becomes realistic.

We can also conclude that the system of subject didactics follows the disciplines of knowledge. Trying to integrate knowledge into a curriculum is one way of breaking the traditional concept of the separate-subject approach (cf. Beane, 1995). Most school subjects are already multidisciplinary in some way and unity with education makes subject didactics interdisciplinary in any case. The integrated curriculum meets the requirements of everyday life in a natural way. On the other hand, knowledge has gradually developed and differentiated into certain accepted systems that may also be reasonably justified. Development in future will probably attempt to find compromises. One such a compromise has already been experimented with: the main factor steering the application of the integrated curriculum is the age of the students. With older students our experiences of integration are still quite limited.

In spite of the concept we adopt for the role of subject didactics in the totality of the instructional process, its relation to general didactics is essential. This relation can be interpreted in various ways

(Kron, 1993, pp.36–37). Usually we put them opposite to each other with their respective background disciplines. Every school subject has its own base, some in an academic discipline. In teacher education general education forms the background. When we form the intersection of the base discipline and education we get a subject didactics (e.g. Glöckel, 1990, pp.316–324). Plöger (1991; 1994) has described the development of the relation between general didactics and subject didactics in Germany. He states that the dialogue between general didactics and subject didactics that began in the early 1950s gradually diminished and gained special subject didactics emphases. Plöger claims that certain special questions in subject didactics came to the fore, leaving the theme of the relation between general didactics and subject didactics in the background. Questions like the selection of the themes, the position of a subject among other subjects and the hierarchy between subjects, became important in the debate. Concepts were sought in the general didactics and applications were elaborated in various subjects according to the models in general didactics. According to Plöger this was done with too little criticism. In spite of that, the identity of subject didactics was sought in the discipline behind the subject. This trend was closely connected to the reform of teacher education in Germany and the representatives of subject didactics considered themselves as belonging more to the realm of their subject than to pedagogy.

Klafki (1994) has summarised the relation between general didactics and subject didactics in five statements:

1. *The relation between general didactics and subject didactics is not hierarchical by nature. Their relation is, rather, reciprocal. It is not therefore possible to deduce subject didactics from general didactics. They both deal with the same problems and although naturally a certain subject has its typical characteristics their difference lies predominantly in the possibility of generalising their solutions and decisions. Reduction of subject didactics to general didactics is not possible and general didactics has no immediate consequences in subject didactics.*
2. *The relation of general didactics and subject didactics is based on equality and constructive co-operation. Their approach may, despite that, be divergent.*
3. *General didactics and subject didactics are necessary to each other.*
4. *The role of subject didactics between the discipline and education is not only mediatory, it must be seen also as independent with its own contributions to the common area of education and the subject.*
5. *General didactics aim at as comprehensive a model as possible but that does not mean that those models could include the entire instructional process. The models in subject didactics may, however, be made in more detail.*

At the level of action in the teaching-studying-learning process the integrated curriculum has aroused much discussion and also opposition. The arguments presented for and against integration also reflect attitudes in the discussion of the relation between general didactics and subject didactics. Beane (1995) claims that the separate-subject approach derives from Western-style humanism and is deeply rooted in our thinking and in the academic knowledge system. Beane also presents some factors that protect and contribute to the stable position of the separate-subject approach in the school curriculum and teacher education. First of all there is a network of academic elites with symbiotic relations. Beane refers among others to many academics and teacher educators, test and text publishers, subject-area associations whose identity and advantages are linked to particular subjects. Secondly, parents and other adults are unlikely to choose radical alternatives. Furthermore,

teachers have their identity in the very subject they have studied and are teaching. There is also a certain ranking among subjects that tends to strengthen teachers' own beliefs. Finally, Beane claims that we are living in a very conservative era.

Separate-subject approaches in the curriculum and subject didactics have many characteristics in common, indeed they both are based on the same knowledge system. It is reasonable to claim that the same problems are encountered when trying to combine certain subject didactics to area didactics (Bereichsdidaktik). Klafki, however, considers subject didactics and area didactics as parallel in his five theses (1994). The interpretation may be that he has nothing against combining some relative subjects into a common area. Conceptions about this matter are, nevertheless, extremely varied. In the Finnish system of teacher education, area didactics has already been realised for twenty years. Although it must be added that there are economic reasons for this decision, it has functioned reasonably well. Didactic research literature in the respective areas has increased and the number of doctoral students has continually increased.

Contrary to the positive attitude towards area didactics, is the point of view taken recently by the chairpersons of associations of subject didactics in Germany (Konferenz, 1998). They are strongly against combining neighbouring subject didactics into fewer units of area didactics. Among many other arguments it is repeatedly stressed that every separate subject didactics is strongly connected to its discipline and to its knowledge base. The different subject didactics must be seen rather in close co-operation with each other, so that this way they are together able to fulfil their interdisciplinary assignments. The problems of overlapping separate subjects are a challenge for the co-operation of specialists in subject didactics; area didactics is called something like "imaginary super science" (imaginäre Superwissenschaft) and is claimed to be impossible. As noted earlier, an integrated curriculum and area didactics must not be considered identical nor corresponding directly to each other. A possible solution to overlapping subjects or integration of subjects is interdisciplinary co-operation; combining separate subject didactics into some kind of combination is not the right way. The chairpersons are also taking a stand in relation to curriculum integration when discussing such subjects as civic education (Sachunterricht) and field of work studies (Arbeitslehre). To constitute a school subject from a practical point of view produces a different kind of subject, not based on any discipline, and the chairpersons (Konferenz, 1998) are not referring to such compilations. We tend to approve of this last view but it leaves the development of didactics for such compilations open. Furthermore the suggestion that many subject didactics are broad and heterogeneous is true, for example biology as a subject contains knowledge from many different areas.

The position of subject didactics as a special area of didactics is not a simple one. Although the viewpoint here is content, it must be borne in mind that subject didactics is only one special angle from which to look at the problems in the field of didactics. Beside subject didactics we need some other perspectives. The point is, however, that subject didactics traditionally has a very strong position. As we have indicated, there may be alternative ways of looking at things; examining and experimenting with them will prove their future usefulness.

Subject didactics has been thoroughly dealt with in German didactic literature. It has, of course, its corresponding field in Anglo-Saxon research on teaching. The tradition and the cultural context there, however, are totally different. Lee Shulman (1987) has introduced his term 'pedagogical content knowledge' and it has been noted to resemble the German *Fachdidaktik* quite closely (cf. Gudmundsdottir and Shulman, 1987; Gudmundsdottir and Grankvist, 1992; Nordenbo, 1997, pp.123–130). In spite of this, systematic analytical literature, comparable to that in the German context, is still lacking.

The didactic triangle as a means of understanding subject didactics

In addition to the participants in the teaching-studying-learning process this process itself has some purpose, it aims at something. The purpose, aims and goals are defined in the curriculum. The relation of the participants, the teacher and the students, is quite often described with the didactic triangle according to Johann Friedrich Herbart (Peterssen, 1983, p.46). What the content is in the teaching-studying-learning process is a very complicated thing. Put briefly, the content is not restricted to various subjects, it may in fact be extremely versatile, as e.g. Shulman (1987, pp.8–9) and Wilson, Shulman and Richert, (1987, p.114) have described. This has been taken into consideration when presenting the didactic triangle. The didactic triangle is usually presented with the teacher, students and content as its points. There are, however, numerous variations depending on how the points are understood in a larger context where the societal factors are explicitly drawn out (Paschen, 1979; Künzli, 1998).

Although the didactic triangle should be treated as a whole, it is almost impossible to do so in practice. That is why it is usually analysed in pairs. The most usual approach is to take the relation between the teacher and the students as a starting point (Figure 1). When this is seen as a pedagogical relationship it brings with it certain special meanings. Even when the students are adults the pedagogical relation between the teacher and the student is, still, however, asymmetrical. In the pedagogical relation the teacher has something that the students do not yet have. In other respects this relation may be more democratic. When the students are children the asymmetric quality of the relation is emphasised.

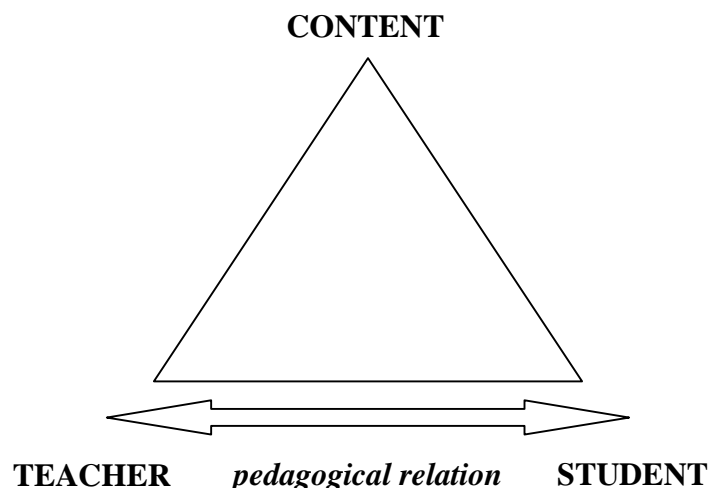


Figure 1 Pedagogical relation in the didactic triangle

In the *Geisteswissenschaft* pedagogy the relation between teacher and student is one of the basic concepts. In the thinking of Herman Nohl this relation has been of special importance. Wolfgang Klafki (1970, pp.55–65) has summarised it by stating that this relation is necessary from the point of view of a young person and it aims to draw out his/her best. The content of this relation has to be thought through in each situation; it must be interactive in nature, a student cannot be compelled/forced into it. It is not a permanent relation, but one which the young person gradually grows out of, developing into independence. This relation also gradually takes shape as the development of the young person brings with it different perspectives. In pedagogical discussion this characteristic has often been referred to as “the pedagogical suicide of the teacher” or the “pedagogical paradox”, according to Immanuel Kant.

The character of the pedagogical relation is such that it may be organised in a variety of ways. In principle there is almost complete freedom to construct interaction in the teaching-studying-learning

process. The various emphases may also be described by drawing the didactic triangle accordingly. Jürgen Diederich (1988, pp.256–257) presents some examples. An authoritarian atmosphere stresses the teacher's personality; student-centered methods emphasise the student's role; competence in the content means expert knowledge of some subject, and understanding of the student's personality refers to psychological interaction, etc. Klaus Prange (1986) describes the dimension between teacher and subject matter as doctrinaire, the pedagogical relation, from the teacher's point of view, as ethical, and the teacher's knowledge of the student as maieutic.

In the relation between the teacher and the content, the teacher's competence in content is the main focus. From the point of view of subject didactics, the important issue is the balance between subject knowledge and pedagogy. It is a common sense view that the requirements in this respect are greater the older the students are. The limits of subject-matter expertise are easily defined. To be a teacher s/he must have something that the students do not have (cf. McClellan, 1976); in the area of content knowledge this means sufficient academic or professional studies. In principle the competence of the teacher can never be too great but if it is beyond what is necessary it may be of no use. It is also important that the teacher's relation to the content is sufficiently many-sided and that there is sufficient pedagogical competence. A combination of expertise in subject content and pedagogical competence is a good starting point, but more specification is needed to fulfil the requirements of subject didactics.

Traditionally, understanding the content aspect of the didactic triangle has meant discipline-based content knowledge that relates to curriculum questions rather more than to questions of general pedagogy. We have, however, considered content as somewhat more comprehensive than pure subject-matter and thus nearer to the core of subject didactics as it is generally understood. This underlines the limitations of using models such as the didactic triangle. However, in spite of their simplification, such models may be of help in the conceptual analysis.

The didactic relation – the core of subject didactics

The student's relation to the subjects, or more generally to the content, is the key to didactic understanding. The content is defined in the curriculum as subjects and other content. The whole instructional process aims at achieving the aims and goals stated in the curriculum. Most of the outcomes from the teaching-studying-learning process are learning results but behavioural changes through an individual's own free will in response to the activities in the instructional process are also consequences of the same process. Learning and other desirable changes, or more generally the defined development of a student's personality, are the primary purpose of the teaching-studying-learning process. It may thus be said that the consequences, learning included, form the most essential aspect of the relation between the student and the content.

It is well known that teaching in itself does not necessarily imply learning. Rather, teaching is a kind of action that is aimed at pupils' learning or other kinds of outcomes, without any guarantee on the teacher's part (e.g., Smith 1961, 1987). If we describe the activities of the teacher as teaching, we would prefer to call the activities of the students as studying (cf. McClintock, 1971; Uljens, 1997, pp.34–43). It is this studying we can see and observe in the instructional process. In other words, the relation between the student and the content is visible as studying, doing something in order to achieve the aims and goals in the curriculum. The invisible part of this relation may be learning and other consequences of the instructional process. Learning is taking place in a student's mind and in order to learn the student is expected to do something, to study. For the teacher, to bring about learning is the central task but to control the learning taking place is theoretically impossible. What the teacher is able to control, or rather to guide, is studying.

In any case, the most important determinant in the teaching-studying-learning process is the student and his/her achieving the aims and goals of the curriculum. The teacher's task is to try to guide this relation (Figure 2). First, there is a relation between the student and the content. This is manifest as studying, and latent as learning and other changes. Secondly, the teacher has a relation to the relation between the student and the content. In other words, the teacher has a relation to studying, and at the same time this relation is also to the learning and other processes. That may be called didactic relation (cf. Klingberg, 1995, pp.77–84). It is important to notice that the didactic relation means a relation to another relation.

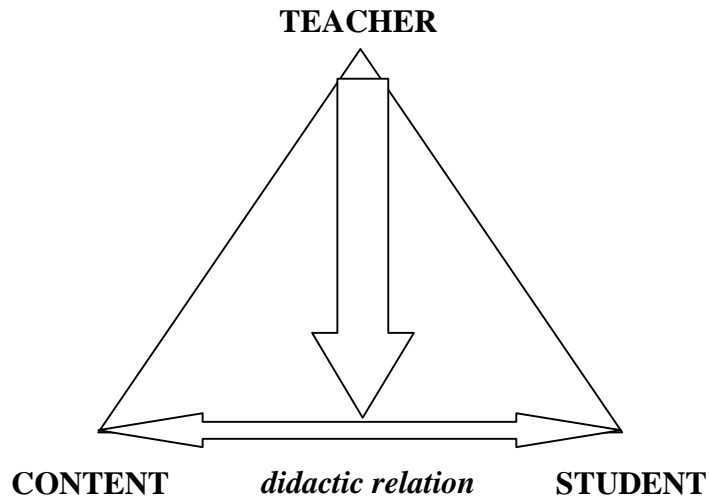


Figure 2 The didactic relation in the didactic triangle

To highlight the importance of the didactic relation it may be emphasised that concentrating on the content makes the teacher an expert and concentrating on a student makes the teacher a caretaker of the pedagogical relation. To concentrate on the relation between the student and the content or on studying is, however, the core of a teacher's profession.

A teacher's didactics

The didactic relation viewed as a teacher's relation to studying has some immediate consequences. It is difficult to believe that the didactic relation could be universally organised or according to certain technical rules. Each teacher is supposed to think and decide for him/herself how to handle it. It follows that every teacher has a didactics of his/her own. This comes close to the concept of a teacher's practical theories (Elbaz, 1983) or a teacher's pedagogical thinking (Kansanen, 1999). Didactic models or textbooks may help but they do not remove from the teacher a personal responsibility in making educational decisions.

A further aspect is the context of the didactic triangle. It has been claimed that wider societal conditions are not taken sufficiently into consideration. Adolf Diesterweg suggested a fourth factor which he described as outer conditions in the context of where the students are living (cf. Klingberg, 1995, pp.84–85). Although it is true that the didactic triangle is an abstract construct it is always situated in some context. The question is, how many of these outer conditions must be explicitly stated and how many belong to that context where the triangle is situated. In school didactics the instructional process is always guided by some curriculum and relations to larger societal determinants are defined through it. If these societal conditions are emphasised it is natural that they will also receive more attention.

The development of research on general didactics has responded to the importance of considering wider societal conditions with a concept of school pedagogy. It is also a German peculiarity, like didactics. It may be described in comparison with didactics. Glöckel (1990, pp.322–324) offers a historical explanation of their differentiation. Didactics has developed as an essential part of general pedagogy and teacher education. Almost all teaching took place in schools and school pedagogy was central in didactics. Teaching is nowadays, however, a broader concept, also taking place outside schools and didactics is not limited to schools. The same may be said of school pedagogy; it refers to broader societal conditions. Didactics concentrates mainly on the individual and refers to educational psychology and to the theory of teaching. School pedagogy is mainly interested in organisational factors and refers to educational sociology and to the theory of school. When didactics has its background in philosophy, school pedagogy is interested in political sciences. The most important names in didactics are Wolfgang Ratke and Johan Amos Comenius while the respective names in school pedagogy are Johann Friedrich Herbart and Friedrich Schleiermacher. The contemporary representatives, among others, are Hans Apel (1990; 1993) and Wolfgang Einsiedler (1991). It must, however, be emphasised that most of the problems and themes of didactics and school pedagogy are common.

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Department of Teacher Education

University of Helsinki

P.O.Box 38 (Ratakatu 6A)

Finland FIN- 00014

Tel: +358 9 191 28137/+358 9 492 055

Fax: +358 9 191 28114

Pertti Kansanen

E-mail: pertti.kansanen@helsinki.fi

Matti Meri

E-mail: matti.meri@helsinki.fi