Rolf Dubs

Instructive or Constructive Teaching Approaches in the Economic Education?[1]

Even if the polarizing discussion about instructive and constructive teaching approaches is widely overcome, some misapprehensions still seem to distort the discourse. Thereby thesis, like the future of teaching would only lie in self-directed, process-oriented, casuistic and interdisciplinary learning (predominantly constructivist paradigms) and instructed, product-oriented, systematic and discipline-oriented instructive teaching and learning would be replaced, emerge. This absoluteness is challenged in this article. Possibly the trend towards "moderate constructivism" alludes to which one of both approaches will succeed in future. Though hands-on and self-directed learning in complex problem situations plays a central role in constructivist theories, because it opens ranges of options and contributes to a holistic understanding of coherences, this type of learning still requires a certain amount of instructed knowledge. Self-directed learning therefore excludes a completely independent process of content and goal setting by learners in order that education does not get lost in arbitrariness. Here, instruction is not understood as decided tutorial for teaching and learning, but teacher-conducted stimuli that are supposed to assist the formation of significant knowledge and the process of gaining competencies.

1 Starting Point

Although in the scientific debate the polarising discussion between the supporters of the instructive and the constructive approaches (compare, for example, Duffy, Jonasson 1992) has been overcome and significant scientists take a moderate constructivistic view (Gerstenmeier, Mandl 1995 or Stark 2002), everyday school life has not remained uninfluenced by this controversy till today. Due to the fact that science has - apart from some exceptions - also in this area failed to define its concepts clearly and has not given practical examples, it is not surprising that in school practice these teaching approaches lead to more and more cliché arguments, which are not only supportive for the quality of teaching and learning. The following opposing pairs are in the centre of the discussion: teacher-centred versus student-centred lessons, instructed learning (teaching) versus self-controlled (self-regulated) learning, product-oriented versus

process-oriented learning, systematic structure versus casuistic structure of a lesson and disciplinary versus interdisciplinary lesson. In the simplification of the everyday school life one only wants to allow student-centred lessons, although the term is vague and indefinite itself, and therefore it is believed - although unclear again - that the future exclusively lies in the self-controlled, process-oriented, casuistic and interdisciplinary learning (essentially a constructive paradigm), while the other paradigm of the instructed, product-oriented, systematic and disciplinary teaching and learning (essentially an instructional paradigm) has finished.

The purpose of this contribution is an attempt to show that the polarising discussion of these two idealistic paradigms does not advance the practice of lesson planning, but one should look for combinations (varied repertoire). This is not least, because even scientific advocates of the new paradigm do not acknowledge four aspects satisfactorily:

1. Everyday stressful situation of teachers: new methods of teaching (e.g. work with complicated teaching-learning arrangements [Achtenhagen, John 1992] or the scaffolding in everyday teaching [Hogan, Pressley 1997]) put more pressure on teachers than traditional forms of teaching not only when they prepare the lessons, but also in everyday teaching. Therefore, this aspect should be taken into account if one recommends new paradigms because sometimes traditional teaching (e.g. good didactic teaching) can be more effective than badly prepared new methods.

2. The dispersion of learning abilities of both female and male students is increasing: motivation, concentration, background knowledge and ability to reflect etc. Therefore not every paradigm is appropriate for every class equally and teaching methods which are demanded too apodictically hamper the effectiveness of a lesson for single students more and more significantly.

3. Individual features and strengths of teachers which influence the effectiveness of teaching methods in different ways must not be ignored. Today there are still teachers who can, for example, structure the classroom discussion in such a way that it is very student-centred - if one wants to use the term at all.

4. Therefore insights gained from model experiments should be dealt with carefully. As a test they may bring about positive effects because the conditions have been particularly favourable (scientists in charge produce teaching materials, or only motivated teachers are involved etc.). These conditions, however, do not apply to everyday school life any more.

This contribution is aimed at teaching at vocational and general education schools and tries to come to universal trend statements in the sense of 'best practice,' which could contribute to overcome the little productive, controversial discussions about different paradigms of curriculum structuring and lesson management.

2 Three Levels of a Curriculum and of a Lesson

In everyday school life there are a lot of misunderstandings in the implementation of the two paradigms if their meaning is not distinguished according to the levels of a curriculum and a lesson. Two examples can show this problem: It is often claimed that the constructivistic paradigm is inseparably linked with social learning (group work) and the important thing there is self-regulated learning in the group. With this statement constructivism is wrongly interpreted and belongs to the microlevel (see Table 1). In fact, however, it refers to the macro- and mesolevel because it touches upon the gaining of knowledge (knowledge is gained through active, subjective analysis of a problem or of an object) in the first place and not the method itself. It is possible - as dialectic constructivists see it (Moshman 1992) - to construct knowledge via a well-led dialogue (scaffolding instead of restrictive guidance) in didactic teaching. Or you hear this demand more and more often that only autonomous and self-controlled learning has a future in view of a rapid change. Therefore school is not allowed to teach any more, but it should support and guide autonomous learning. The term autonomous learning, however, is ambiguous because different kinds of normative understanding of this term underlie it. Thus it must be normatively stated first what autonomous learning actually means: is it about autonomous decision on contents (students themselves settle what they want to learn) or is it about autonomous learning processes (students learn in a self-regulated way within the framework of prescribed learning contents)? Such uncertainties can only be removed if the problems with the three levels have been solved. Let's consider the last example: On the macrolevel it is decided that with regard to lifelong learning the youth must be given a well-structured knowledge, which means that they are not given a free choice of the subject matter. Therefore the curriculum (mesolevel) determines the subject matter. On the microlevel it is left to the teacher's own decision if he wants to use the instructive teaching approach (guided didactic teaching) or the constructivistic approach (self-controlled acquisition of knowledge defined in advance).

Table 1. Three levels of a curriculum and of a lesson

Level		Question	Scope of work
Macrolevel (normative) Philosophy of education Educational policy		Which objectives should be achieved in school and in class?	Normative basics Didactic ideas of arrangement
Design of instruction	**Mesolevel** (curricular) Curricular planning	How should the curriculum in regard to central themes be organisationally, institutionally and theoretically structured?	Curriculum guidelines (Instructions, Aims)
	Microlevel (instructive) Teaching arrangements	How should teaching units be organised exactly? (teaching – learning situation)	Ideas of teaching organisation

A lot of uncertainties concerning these two approaches could be avoided if these three levels of lesson planning were distinguished carefully.

3 Reflections on the Constructive Teaching Approach

3.1 Trends in the Teaching-Learning Theory

In the meantime even radical constructivists (for example, Bednar, Duffy, Cunningham, Perry 1992) have realised that their teaching approach of individual knowledge construction based on problems essential for life, in which the teacher takes the role of an advisor in the best case, is too one-sided and it is particularly insufficient to build up a structured knowledge and good mental models. Therefore practice-oriented paraphrases of the constructivistic approach (compare, for example, Grennon Brooks, Brooks 1993) which erroneously developed into a doctrine of student-activating teaching methods lose their importance. In spite of this fact the debates between constructivists and objectivists of the teaching-learning theory have brought a big step forward and they have led to the fact that many theorists have taken a path which can be called moderate-constructivistic (compare e.g. Stark et al. 1995). The common feature of this approach is the emphasis on the teaching-learning processes with the aim of arranging them in a more effective way for the students (Achtenhagen 2002). This can succeed much better if:

- teaching is attached to students' previous knowledge and their experience
- the extensive understanding of the teaching aims and subject matter is given special emphasis
- the lessons build up on meaningful problems
- already in the first years of teaching a teacher works with complex and not 'didactically reduced' aim and content structures, also including problems which are difficult to define
- classes are taught in an action-oriented way to strengthen sensible dealing with tasks and problems in active learning and to organise teaching in a way that supports understanding.

In this way metacognitive skills are facilitated because learning and thinking processes become understandable in a general form and - together with the necessary knowledge - their transferability and non-transferability and thus the necessary adjustments are recognisable (decontextualisation) and so much more aim-directed knowledge acquisition of the declarative knowledge (facts, terms and network-like structures of facts and terms), the procedural knowledge (operations with facts, terms and structures) and the strategic knowledge (mental models which define what one should do if at a certain point in time real problems are realised and must be worked on) takes place (Bransford, Brown, Cocking 2000).

With these features of the teaching-learning theory the problem of the passive knowledge (Renkl 1996) is said to be overcome, which means that

thanks to the profound understanding of the acquired knowledge learners should be able to recognise and understand problems in a greater context before they are able to deal with them. Knowledge and knowledge acquisition remain the basic prerequisites for learning, and such approaches as for example the one of the "key qualifications", which neglect the declarative knowledge in favour of the procedural knowledge, have turned out to be wrong. The didactic question of the choice of contents is always important. It is still controversial, however, if this knowledge should be effectively acquired through construction or through instruction on the one hand, or in a casuistic or a systematic way on the other hand.

3.2 The Consequences for the Mesolevel

In the latest didactical discussions some considerations from the teaching-learning theory have led to the fact that learning environments reached the centre of attention, and such terms as "situational learning" (contextuality of learning) referring to authentic problems (the greatest reality problems of the subject matter) have become the guiding principles of the school arrangement processes. Only the confrontation with the problems in authentic situations enables an active and constructive analysis of the subject matter, by which decontextualisation is facilitated and more effective transfer possibilities are created.

These undoubtedly correct ideas from teaching-learning theory have in my opinion been rashly overinterpreted and generalised on the mesolevel with the concept of the learning fields and with the demand for the exclusively casuistic learning because the learning fields which were derived from activity fields or the problems gained from the situations in professional or everyday life became the exclusive basis for a constructive syllabus oriented towards authentic situations. Due to this fact not only did the systematically created syllabus lose its importance - regardless of how "systematic" is defined - but also a lot of advocates of the learning fields think that instruction (systematic guidance of the teacher) is superfluous in the end. This generalisation has to be questioned critically.

First, an authentic situation (a problem, the learning arrangement, or the complex teaching-learning arrangement [Achtenhagen 1992]) which the learning is to be based on must be considered critically from the point of view of the learning and teaching theory, as Heid (2001) does it in a superior way.

A situation submitted to a class as a starting point for learning is not always appropriate to motivate each schoolboy and each schoolgirl to the same extent and to bring about the learning processes in the expected and desired direction. Selective perception, subjective interpretation, personal experience and previous knowledge lead to the fact that a situation is perceived in a particular way, but at the same time it leads to an individual and a varied recognition of a problem and to different - in the worst case to irrelevant - learning processes. For radical constructivists, however, this is

not a disadvantage because such problem fields which are recognised in different ways and which lead to different learning processes in content, mean more room for manoeuvre and creativity in learning for them. That is right; but more room for manoeuvre does not warrant at all the development of important elements of knowledge and skills. It can be observed again and again in everyday teaching, above all in improvised situations, how teachers fight with this problem. Learners perceive totally different problems on the basis of a given situation and they want to initiate learning processes with different aims. Pedagogically seen, it can be productive. As soon as, however, the time factor is involved - and it is especially essential at vocational schools - many teachers break such learning processes up and turn to a very strongly guided instructional teaching, so that they can reach their teaching aims more quickly and more effectively. Therefore the creation of a situation (of a learning environment and of a complex teaching-learning arrangement) considering the experience and the previous knowledge is crucial for the success of constructive teaching. Unfortunately, teachers have a hard time with it because the preparation time is missing and occasionally the energy for innovation in order to draft such effective learning fields. If the curricula are superficial and no good teaching materials are available, the problem with exclusively casuistic materials is even more critical. The definition of complexity of a task is difficult as well. How complex a learning situation is, cannot be generally laid down, but it depends on a structured derivational knowledge, which is at learners' disposal. It means that the more declarative, procedural and strategic knowledge for problem recognition and definition in a complex learning situation they have, the less complex a learning situation is. The more heterogeneous our school classes will be, the more difficult it will be to define complexity of a teaching-learning situations. Because of the fact that in many places due to the prevailing mentality of arbitrariness of the subject matter many learners lack a well-structured derivational knowledge, more and more often they already do not succeed in solving relatively easy problems. Therefore a question which has not been completely answered yet will appear again if in particular in weaker classes a pure casuistic constructive approach of a curriculum cannot close the existing gaps of knowledge, or if the exclusive casuistic already fails because of this. Finally the term "authenticity" is not totally unproblematic itself. First, equating "authentic" with "current", or "present" can lead to a narrow fixation on everyday life and it can virtually handicap the future-oriented education, because not every "relevance-to-the-present - show", which is very motivating and up-to-date, has a sustainable effect. In addition, an ascribed and selective authenticity can get a manipulative character very fast, if the ascription of authenticity is not reflected on, and if the reasons for it have not been lucid. This aspect is especially important in vocational education, in which the learning environment is aimed at directly useful professional skills and therefore is described as very valuable, even if it does not have a promising future.

Now it could be objected that Achtenhagen with his noteworthy works (Jeans Factory and a virtual company Arnold & Stolzenberg [Achtenhagen], 2001) has shown that casuistic and constructive curricula (Mesolevel) can be successfully and easily implemented. Without wanting to impair the important and innovative role of his work, evidence for a general superiority

of such curricula, however, has not been provided. His examples limit themselves essentially to business management and teaching in vocational schools, and they are little interdisciplinary. For business trainees he can fall back on experience in the firm, which clearly defines the situational aspect of the concept. He deals, however, neither with the curriculum that is structured in a interdisciplinary and casuistic way (as, for example, the curriculum for general education in the Swiss industrial-commercial vocational schools, which work with topics or issues and not with disciplinary subjects), nor with subjects in general education. Therefore it should be warned against such analogy-conclusions.

In the sense of a provisional summary the following can be stated:

1. The findings of the latest teaching-learning theory support the efforts to have lessons oriented on complex and authentic learning arrangements (problems, teaching-learning arrangements). Their success, nonetheless, entirely depends on the arrangement of learning environments. Learning situations which are not reflected upon and which neglect the prerequisites referring to the experience and previous knowledge of the learners prevent it from being effective. Besides, it must be considered that with all probability there are great differences between vocational teaching in vocational schools and general education teaching in vocational schools and grammar schools.

2. Teaching-learning theory primarily deals with the microlevel of a lesson and it does not prove at all that curricula with a constructive character (mesolevel) exclusively structured in a casuistic and interdisciplinary way are better.

3. In order to come to a well-founded result in this controversy on the mesolevel, it must be clarified if and where such an instructional and a systematic teaching approach are effective for learning processes.

4 Reflections on the Instructional Approach

4.1 Misunderstandings about the Self-Controlled Learning

In view of the quick change of society and economy, the demand of school that it has to qualify the youth for self-controlled learning has been taken for granted. Lifelong learning will only succeed if learners are able to learn in a self-controlled way, which means that they set themselves aims, they go through their learning processes independently and they supervise their learning progress on their own. Unfortunately, many people who want to abandon every form of guidance or direction of learning processes (instructional approach) confuse the aim which is striven for with the means of its achievement. It becomes clear if one considers what has to be assumed for self-controlled learning to possible at all. It has been known for a long time that pure trial-error learning - either on one's own or in a group - is not effective, and not only because it takes a lot of time, but because many mistakes can creep in. Therefore self-control of learning

must be guided and directed. The instructional approach is still significant (compare Weinert 1996). It can be proven in the following way:

1. Only few female or male learners are able to develop working techniques (for example: what are the phases in a group work?), learning strategies (for example: how do I learn new words in a foreign language in the best way?) and thinking strategies (e.g. how do I solve a problem?) without a guided help and in an effective way. The development of such procedural and strategic knowledge is more successful with good guidance. The same is true for the metacognitive support, which means reflection on your own learning. This important process must be initiated, guided and always repeated by a teacher. Otherwise, it does not take place, because how should learners come up with the idea to reflect on their own learning (compare Schunk 1994)?

2. Self-controlled learning assumes the availability of automatisms (basic skills). These basic skills must be learned through intensive practice, which is only possible if it is aimed at the state of learners' abilities, if it is guided and supported. The importance of knowledge has already been pointed out. Therefore above all in such learning areas, in which a lot of knowledge of orientation is necessary and little experience is available, instruction should be used in order to be able to recognise and define problems at all.

4.2 Misunderstandings about the Instruction

Unfortunately, the instructional approach is always equated with the teacher's lecture and with the leading class teaching (question-developing teaching method). A good instruction is more: It is a dialogue between the teacher and the students, in which the procedural knowledge is in the foreground, which means that the teacher controls the lesson more or less intensely depending on a situation by stimulating and supporting the learning and thinking processes (scaffolding). In this connection it can be referred to research on styles of leadership, which showed already 20 years ago, how a teacher's behaviour in didactic teaching (either direct (very much controlling) or indirect (little controlling)) aimed at a given situation (prerequisites of the learners, learners' performance, the state of class teaching within a given learning area) can be effective or not (see for details Dubs 1982).

In this connection there is another misunderstanding, in which the instructional approach is equated with systematic teaching. However, it does not need to be this way. It is absolutely possible or even desired to structure a lesson in a constructive way (microlevel) by structuring separate small lesson sections constructively within the scope of a systematic development of a curriculum. It can be shown on one example. In the business management lesson at a business vocational school the topic

"Warehouse and stockkeeping" is dealt with within the scope of a traditional systematic curriculum. Therefore it makes sense to design a complicated teaching-learning arrangement about the state of stock (compare the example in Dubs 1996) and to structure the lessons as guided teaching with direct teacher's action. Such a lesson is moderately-constructivistic. It would be desirable that as many lessons as possible are run in this way completely independent of the structure of the curriculum. However, it cannot be declared as a principle, because there are some situations, in which it does make sense to present some orientation knowledge by means of a teacher's lecture. Again, the following example makes it clear. In curricula structured in a casuistic- constructive way legal issues are mentioned again and again in single learning fields or in interdisciplinary subject areas. Very often, however, these aspects of law are dealt with superficially because the learners lack declarative knowledge structures of law (classification of law, legal procedures etc.), and they are not familiar with certain procedural elements of knowledge (e.g. How do you structure a legal text?, How is a legal problem solved systematically?), which are necessary to understand and not only to work out schematically some specific legal issues in a learning field or in a subject area. It is true that some radical constructivists still believe that this declarative and procedural knowledge is built up gradually in the course of constant work in these learning fields or subject areas. If this should be the case (the question does not seem to have been answered scientifically yet, even though practical experience opposes to it), there is still the question of the economics: Does it make sense to refer to the same basic gaps and deficits in declarative and procedural knowledge over and over again if these bases could be acquired and consolidated in advance?

Again in the sense of a provisional summary the following can be said:

1. In certain situations (acquisition of the basic structures of knowledge, learning and automating of the basic skills and developmentof procedural and strategic knowledge, especially as guidance towards self-controlled learning) the instructional approach is effective.

2. Teacher's behaviour is crucial at that point. Restrictive lessons are ineffective. Lessons which occasionally present knowledge of orientation, guided dialogues in class teaching with direct teacher's behaviour and with the effort to put understanding and the development of procedural knowledge in the centre of teaching are relevant.

3. It is an important finding that also in systematic curricula (mesolevel) in lessons (microlevel) the constructive approach must be laid stress on. At this point there is still an urgent call for action. Above all, in lessons of general education in vocational schools and in grammar schools the system with the instructional approach predominates too much, both on the meso- and on the microlevel.

5 Consequences for the School Practice

The argumentation so far should have made the multifarious diversity of the single aspects of the new teaching-learning theory clear and must lead to a conclusion that every one-sided commitment to one especially effective form of curriculum structure and of lesson management does not lead to the best possible learning results. Although an extensive empirical research is unfortunately missing, two old rules from experience are still valid:

1. Each form of curriculum (mesolevel) and all ways of learning (microlevel) have their strengths and their weaknesses, as well as desirable and undesirable effects, if different facts about female and male pupils and different learning situations are observed.

2. The more multifarious the learning aims are, the more significant the careful combination of the different approaches is. Not a particular approach, but a wide repertoire depending on a situation helps the students most. Table 2 suggests this in a sense of "best practice."

The following aspects are emphasised in a summary:

(1) When structuring a syllabus, a differentiation is suggested: The more important the cognitive aspects of knowledge structures as previous knowledge are in a course of learning, the more advisable it is to design a disciplinary and systematic syllabus at the beginning, in which the disciplinary skills and knowledge structures are built up, which are indispensable for both self-controlled learning and for the later interdisciplinary teaching. It must be warned against tendencies of arbitrariness of the subject matter in casuistic and/or interdisciplinary curricula. Many learning difficulties of older learners go back to a non-available and badly-structured declarative procedural and strategic knowledge and to weaknesses in the application of the basic skills. In later phases integration of subjects (consolidation of many related subjects into one subject) and casuistic curricula (core curriculum, which means a problem-oriented or topic-oriented building up of a curriculum) are also important because networked and interdisciplinary thinking must be expressed as well. Otherwise the traditional and discipline-oriented school will not change.

(2) The microlevel must be distinguished from the mesolevel. The structure of a lesson must be varied. It is important that problem-orientation and in this way the constructive element in systematic curricula is established very early because they make the learning processes more effective. At the same time a deliberate and careful development of the teacher's behaviour from a direct through an indirect control to learning advice and from a well-guided lesson to learners' independence must be considered. With regard to a lifelong learning self-controlled learning is significant. However, it cannot be sufficiently stressed that at the beginning self-control needs a very good guidance by the teacher. Therefore a good class teaching with constructive dialogues in order to improve the understanding and to direct and interpret the learning processes (metacognition) is not outdated at all.

It has been discussed for a certain time if curricula prescribed by the state should be replaced by standards of performance. In case of a positive decision schools would get a task to develop their own school curricula

geared towards the standards within the scope of their work for school development. This process can only be carried out successfully if dogmatic bias are avoided and a wide repertoire in curriculum and in lessons are ensured. A much more differentiated work is still necessary in order to achieve this aim.

Table 2. Variety in curriculum design and in realisation of a lesson depending on a situation

State of development	Mesolevel	Microlevel
	General tendency	
Beginners - in vocational classes - in classes of general education ↓	• Disciplinary (systematic) curriculum to acquire the knowledge structures with clear topic-orientation • Disciplinary (systematic) curriculum with emphasis on the acquisition of knowledge structures with chosen problem - orientation	• Multifarious lessons (wide repertoire) with emphasis on guided teaching (direct teacher's behaviour) with particular consideration of the process-oriented learning (working, learning and thinking strategies ↓
Advanced learners (greater knowledge; better developed working techniques, learning and thinking strategies; the learned ability of self-control while learning) - in vocational classes - in classes of general education	• Curriculum with integration of subjects • Learning fields (casuistic curriculum) • Curriculum oriented on topics and problems (casuistic curriculum)	with increasingly indirect teacher's behaviour with the aimed guided and collective learning) ↓ • Multifarious lessons (wide repertoire) with decrease of guidance and strengthening of individual and collective self-controlled learning

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