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Editorial: Economic Education and Constructivist Didactics

Against the background of constructivist theories, this article is on the lookout for complex teaching-learning arrangements and participant-activating methods for economic education as well as it investigates didactic models that are part of the didactic discourse since the 1970s. Among other things, the didactic principle of the hands-on approach is being analysed critically. It is emphasized that didactic concepts centre on intervening measures of teachers that understand learning as a process directed from the outside and see contents to be imparted as an objectively given structure. The writer argues for economic didactics as a scientific discipline to examine the different existing approaches and forms to design didactic concepts / theories that help in explaining teaching situations in economic classes from a constructivist perspective. In its role as a service provider economic didactics should make recommendations on broadening teacher and learner activities to enable self-responsibility and individuality of the single person.

1 Introduction

Since half way through the nineties of the last century the constructivist approach has represented the "newcomer-theory in didactics"⁽¹⁾ (own translation by Manuela Haupt) (Olberg 2004, 123). Constructivist works claim to formulate and to offer according to teaching methods. Meanwhile publications that discuss constructivism and education explicitly or implicitly have become a legion. With regard to German speaking publications, H. Siebert (1994, 1999, 2003), E. v. Glasersfeld (1996) as well as K. Müller (1996), E. Kösel (1997, meantime a third print run was published) and K. Reich (1996, 2002) stand in for "constructivist didactics" as protagonists. Constructivist ideas are discussed in pedagogical journals as well. The journal "Pädagogik" discusses the topic "Education and Constructivism" in its issue no. 7/8 - 1998 focusing on teaching in practice. The journals "Zeitschrift für Pädagogik" (issue no. 6/1995) and "Zeitschrift für Erziehungswissenschaft" (issue no. 4/1999) both discuss constructivist ideas theoretically. Recently published textbooks about didactics (Straka, Macke 2002) or revised versions (Peterßen 2001; Meyer, Jank 2002) look into constructivist approaches as well. The English speaking discussion is very comprehensible in anthologies written by T. M. Duffy / D.H. Jonassen (1992), T. M. Duffy. (1993), K. Tobin (1993) and L. P. Steffe / J. Gale (1995). Critical approaches to this topic can be found in the works of A. M. Kuhl (1993), C. Diesbergen (1998) and E. Terhart (1999).

The sources mentioned above have one thing in common: The importance of constructivist ideas for economic education is not discussed. Some constructivist teaching-learning-environments are part of teaching methods in economic education, (see, for example, Achtenhagen, Getsch 2000; Dubs 1995); but these works fail to state clearly how a constructivist gain in knowledge (learner's self-modeling) is possible for economic contents. The reason for this ignorance might lie in the primacy of relations over contents (see exemplarily Reich 2002, 11). The systematic heart of constructivist didactics focuses on the well-known question in education: what does a (constructivist) teaching approach have to be like. Answers to this question are, as always in general didactics, given in an in-principle and neutral-in-content (see Terhardt 1999, 645). The specialized didactical discussion which has to focus on curricular issues explicitly is not included in the area of "meta-theory" or "formal" theory. So the paradoxical question how self-organization is possible within the given structures of economy remains unanswered.

2 Questions ...

Constructivist ideas seem to be able to give a reference theory to complex teaching learning environments and participant-activating methods and to back up the interpretations-inviting construct of hands-on teaching. The answers to the question how self-modeling and external-modeling can be made possible are various due to the unstructured variety of constructivist theories and the still unsolved tense relation between method and content. Altogether, one can very well say that the way how the economic science perceives, takes up, and works with its subject matters differs from the learners' way who find themselves confronted with economical theories and ideas.

It is conspicuous that the didactical discussion about instructive and constructive teaching methods views teaching contents as given and mainly focuses on imparting textual knowledge.

The similarities in the usage of language in both fields, constructivist ideas about education matters and language used by managers, are impressing. For example, Peter Senge (1996) points out that self-development, organizing ability, shared visions, team-development and the understanding of complex systems are essential to every organizational development. Comparing these five dimensions to the language used in constructivist didactics (support of self-determination, self-realization, self-assertion, self-reliance, and personal contribution), there are distinct parallels or overlaps (see Uhle 2001).

It is displeasing to find the constructivist discourse less critical to culture and less emancipational than the critical-constructive view. (see Klafki 1991). Qualification models, which build up on postmodern notions and are obliged to economic neo-liberalism and the economical interest in utilization, are in the center of the didactic view under the label of self-organization and personal independence. Does the idiomatic idea of

progress gradually oust the educational idea of individualism (see, for example, Negt 2001)? Here it needs to be mentioned again that the development of personal independence is aligned to holistic ideas. On the subjective side, self-determination, participation in decision-making processes, and the ability to solidarity are in the center of attention; while on the objective side the ability of dealing with current professional problems has to be developed. (see, for example, Klafki 1996). Further investigations whether the "culture of self-organization and personal contribution" as well as the appeal to educationalists to bring forward self-organized thinking and acting succumb to economic partial interests (see Reetz, Tramm 2000, 77). Is the "culture of self-organization", as it is named in postmodern terminology, which should be transferred to educational works in a profitable manner, nothing more than the renaissance of the central dogmas of economic liberalism, according to which the individual optimization of personal interests benefits collective welfare (see Nida-Rümelin 2002, 133ff)? Is the "culture of self-organization" by no means neutral in value, but highly ideological in the narrow meaning of this word, a false consciousness about socially relevant relations and processes (see Klafki 1995, 100)?

Apart from these basic questions, the problem whether and how a link between construction and instruction is possible for economic education remains unsolved. In this context, the cognitive effects produced by a constructivist teaching method need to be explained if the learner has to deal with professional terminology, concepts and methods within the scope of economic education. The vital differences to instructive approaches in economic education have to be emphasized clearly. Two problems are still under consideration: Which didactical principles and recommendations can be formulated concerning a constructivist teaching strategy in economic education? Which categories of economic education and which contents (prototypes) can be filtered out that assist "economic literacy" successfully? One has to elaborate which learners are most receptive to constructivist teaching methods in economic education. Additionally, one has to point out what effects constructivist teaching methods have on other subjects as well as on the teaching-learning-climate in schools as organizations; as well as which challenges teachers have to meet facing the conflicting fields of instructive and constructive teaching strategies.

The question how both fields, construction and instruction, can be connected successfully needs to be clarified, unattached to the issue whether the teacher's interest in instruction concerning the learner's construction process is dominant in complex teaching-learning environments (see Rolf Dubs, work published in this issue). According to Mandl and Reimann-Rothmeier, instruction and construction cannot be put into effect using a simple "all-or-nothing-principle. Learning always demands motivation, interest and activity on the part of the teachers: thus every learning process is constructive, the main objective in teaching is to enable and activate constructive learning. Learning also requires orientation, instructions and guidance: thus every learning process is interactive; as another central task of teaching, learners need to be accompanied supportively and to be offered helpful instructions.(2)" (own translation by Manuela Haupt) Mandl / Reimann-Rothmeier, 1995:52; see as well the schema of traditional and constructivist teaching philosophies

written by Wellenreuther 2004, 69).

3 ... Clarification

The articles published in this issue try to find answers to these questions. At the same time they ask further questions. Gerhard Gerdsmeier outlines different task packs for economic education and discusses the question exemplarily what effects a constructive teaching strategy has if learners have to work with economic tasks, terminologies, models, and methods. Ideally, tasks offer the chance of concentrated, various and self-organized learning processes during a lesson.

After Gerhard Gerdsmeier has brought together basic thoughts about tasks for self-controlled learning in economic classes, Britta Göckede analyzes two tasks exemplarily and checks their importance for learning processes in economic education. Using selected tasks from economic classes, she also investigates the question whether these tasks enable learners to control their learning processes. Presenting an ideal decision-making process, she evaluates these tasks on the possibilities for decision-making they provide for the learner. Afterwards she analyzes these tasks on the criteria of completeness of the decision-making process, the frankness, complexity, and whether they suit the context to make statements about the influence of self-control and external control. She concludes that only both tasks taken into consideration enable a self-organized work phase in limits. On the other hand, it seems possible to enforce this effect in class.

Rolf Dubs, who criticizes polarization and extreme opinions in this scientific discussion which focus only on the disadvantages of traditional theories and on the advantages of the desirable innovations (see Dubs 1991), refers to the different philosophies of instructive and constructive theories. He finds it necessary to connect the two conflicting fields of instruction and construction. To illustrate his solution to this problem, he gives some information on this topic which also answers the question what challenges teachers have to face.

Horst Siebert focuses on the issue which didactical principles and which recommendations for constructivist teaching strategies can be given. Being a representative of adult education and general didactics, he summarizes constructivist ideas to the point and therefore gives a basis for the arrangement of self-organized teaching learning processes.

Another expert, Peter Bendixen, examines the contents of imparting processes and thereby discusses the didactical question which economic contents have to be filtered out to build up "economic literacy". The economic discipline is his starting point. He investigates the question whether economics is a constructivist discipline. As - let's say - bold assumptions or the axiomatic-deductive method. They are strategies of model forming or the instrumental success criteria (ability to prognosis). They are as-if methodology that does not build hypothesis about reality. New directions like the economy of information can be seen as constructivist. In contrast, the scientific view of life hold by economy can be

seen as "anti-constructivist" because it falls back upon mechanical physics to find out about universal economic regularities.

Bärbel Völkel takes the opinion that learners are open to think about historical and political issues if they are given the opportunity to develop future-oriented maxims of life. According to her opinion, the model of cognition held by constructivism is suitable to construct a "tradition of acting" as a reference frame. This tradition will lead to an awareness of changes which are put down to human acting. Bärbel Völkel as well pleads for a stronger cooperation between the reference disciplines history and politics.

4 Models of Economic Didactics

In the following passages, we will have a closer look at a thesis formulated by Gerhard Gerdsmeyer. According to this thesis, the overall concept of economic didactics has not broken with the instrumental understanding of teaching learning processes despite hands-on semantics. Further on, we will focus our view on the messages given by the constructivist worldview.

We all know that the outlines of economic didactics are only partial approaches. Approaches which base on so-called real life situations (Steinmann) are discussed. These approaches are accused of disguising consumer education and vocational orientation as economic education. There are as well concepts based on key problems (Schweizer). These concepts denounce that school is always in for crisis management and this would be too much to take for economic education. Economically oriented approaches (Dauenhauer, Kruber, May) have to face the critics not to attend the learners' complex living situation and to neglect controversy approaches and solutions. Hands-on approaches (Weitz) are criticized for focusing too much on the fun factor and thereby neglect contents. Some concepts try to connect hands-on ideas with economic theories (of behavior) (Kaminski, Krol), but mutual borders are not crossed (see works in Kruber 1997 as well as Weber 2001). Thus experts with conflicting ideas are in favor of a general economic education.

Therefore economic didactics is not an independent discipline. In the seventies, economic didactics used the ideas of education- and learning-theoretical as well as information-theoretical cybernetic didactics. Since the eighties, economic didactics has included the concept of hands-on teaching because learner-activating teaching learning environments were then discussed.

Taking everything into consideration, the appearance of economic didactics is still unready. The experts seem to agree on the inseparable alliance between economic didactics and its reference science economy. Based on this alliance, one focal point in economic didactics is to detect which basic skills and categorical contents - consolidated structural knowledge so-to-say are needed to enable learners to transfer their knowledge to unknown situations. At the same time, economic didactics includes ideas and models of general didactics. In this way, this science attempts to unify the meaning

of different teaching-learning contents and processes - that is the objective level in theory of didactics. Everything that is codified in the curriculum is exposed to permanent analyses and construction processes - that is the process-oriented level of didactics. After all, economic didactics attempts to assist teachers with founded, policing realization and analyzing reflection. That is the hands-on oriented level of didactics.

4.1 Overall Concepts in Economic Didactics in the Seventies and Eighties

The common ground of didactical concepts, discussed till the eighties, can be summarized easily: concepts of economic didactics in the seventies centered an instrumental understanding of teaching learning processes. According to this understanding, the focal point lay with analytical works, such as analyses of the curriculum and teaching materials as well as didactical-methodical recommendations for prearrangement of lessons. Receptive teaching environments were preferred (see Reetz 1984 and Achtenhagen 1984). Blankertz ascribes the instrumental understanding of teaching learning processes to "expanding technocratic interest in planning of the state(3) " (own translation by Manuela Haupt), which is today known as "economization of education" (Blankertz 1991, 164). The revision of learning contents, the substitution of the concept of education by the concept of qualification and the tempted optimization of teaching-learning processes is nothing more to Blankertz than "the resounding consequence of the economic-quantifying approach(4) " (own translation by Manuela Haupt) (Blankertz, 1991:176).

The concepts of economic didactics in the seventies met the spirit of the age and can be summarized as follows: They all have a mechanistic orientation. Economy classes are determined by distinct inputs and outputs. This concept of economic didactics ended in the production of principles that were supposed to give orientation. Terms as situation principles, personality principles or science principles were coined (see overview published by Reetz 1984). The framing of principles is still en vogue as well as a primarily reference-science-oriented curriculum that is dominated by a hierarchical structuring of terminology of the scientific systematics (see Reetz, Seyd 1995, 207 ff.)

Teaching is the process of perceiving, interpreting and deciding in highly complex structures and a process of reaction coupling (feedback) - this circumstance is not considered. Rather, teaching and all events during lessons are seen as technical problems to be managed - even if this concept is not put into words. To use the wording of economy: Learning is seen as a value-added process which transforms a (valueless) good into a valuable/more significant good by using resources - the teacher transforms something to more of something. Assuming the learning process is controllable - technocratic myth of managing - formulas, decision supports and concepts are designed which base on assumptions and normative presetting and therefore are abstractions of reality. In short: the model "the teacher raises the learner's level" predominates.

The main focus is put on the knowledge of the special branch of science. The predominant understanding of didactics is characterized by interventions. The acquirement of new knowledge is considered to be a process controllable from the outside, that has to be imposed on the individual learner, meanwhile learning through intrinsic motivation is widely ignored. Learning targets are predominantly formulated behaviouristically and this leads to the Taylorisation of learning. In this context, we need to rather talk about a teaching learning illusion because an "illusion of completeness" is indulged with the planning and arranging of classes. This illusion is strongly coupled with the "illusion of producibility". Two ideas are included: on the one hand preferably every available piece of knowledge should be taught, on the other hand it is assumed that everything that is taught is learnt. The misbelief is adhered that there is an objective structure of (economically founded) learning matters, although fundamental models of didactics prove that black is white (see as an example for general didactics Klafki 1991).

Therefore a limitation to the visible and - assumed - manageable factors takes place, the creating structure of teaching, so to speak. An instrumental understanding of teaching dominates. Poor attention is paid to self-referential learning. Yet the Taylorisation of learning is not only attributed to this point of view. General conditions cannot be neglected: teachers abandon time-intensive learning environments because they perceive and assume that the time of a lesson is scarce.

In the end, economic education centers on the knowledge taken from the neo-classical and economic discourse. Therefore the learners assume their own ideas are useless. They only have to anticipate what the teachers offer. They only need to act at the teacher's behest. Meeting learning objectives is only the teacher's business.

4.2 The Overall Concept of the Hands-on Approach

Since the beginning of the eighties, the didactical discourse has focused on the criticism on the traditional understanding of didactics. Interdisciplinary and class-overlapping teaching as well as complex lesson entries and the encouragement of the learner's self-activity are now in the center of the didactical discussion. On the theoretical level of the didactical-methodical debate, profound changes in economy and administration are the starting point for the revision of didactical models. New technologies, speed of innovations, multiplication of knowledge and the perceived liability of obsolescence of knowledge make this critical revision necessary.

With this, a shift of emphasis has taken place. While the trilogy of professional competence, methodological expertise and social competence (soft skills) were dominated by the professional competence during the seventies, this emphasis is moved to the hands-on approach. This approach aims at acquirement of decision-making and responsibility- competence which is comprehensive and includes the development of the individual learner. Since the mid-eighties, hands-on lessons have been in the center of

the discussion.

According to economic education, hands-on learning can be taken as a metaphor for the central idea of economic ability to orientation, decision-making, opinion-forming and arranging ability on a didactical - curricular level. On the didactical-methodological level, hands-on learning can be seen as a metaphor for complex teaching-learning environments. The principle of hands-on learning is more concrete than didactical models with educational -, informational - or learning-theoretical backgrounds (see Blankertz 1991). At the same time, hands-on learning as a didactical concept is more abstract than situation-oriented recipes for actions.

Although hands-on approaches "are extremely different, incompatible in parts and surely difficult to reduce to a common denominator⁽⁵⁾" (own translation by Manuela Haupt) (Achtenhagen, John 1992, 31), one can say that all concepts are following a cognitive understanding of acting. "This understanding emphasizes the unity of physical and cognitive acting, of kinetic action and mental reflection as well as practical doing and mental interfusion in the first instance. In the second instance, action is seen as a process and a 'completed action' is divided in hierarchical or cyclic phases or action measures⁽⁶⁾." (own translation by Manuela Haupt) (Euler 1995, 200).

To explain a completed action, theories of activities, cognition and learning are consulted which differ in their complexity and used terminologies.

Who thinks that the didactical magic formula of "hands-on learning" leads to a trend reversal till a didactics of enabling will be disappointed. Seven reasons argue against this:

1. Firstly, there is no concise definition of what hands-on learning really is. The interpretation-inviting term is usually defined by terms that are interpretation-inviting themselves (for example "holistic"). Thereby the "hands-on approach" has become an "opalescent fashionable keyword" (Czycholl 1996, 113) with different pedagogical - didactical intentions in different combinations and with different justifications. Therefore this term has "as many meanings as there are authors that use it." (own translation by Manuela Haupt) (Jongebloed 1986, 75).
2. Secondly, the term "hands-on teaching" is used inflationary but there cannot always be the speech of authentic action. The narrow economic term of rationality is still prevalent. The belief in the existence of optimal (teaching) decisions is still dominant; learning is understood more as a goal-directed than as an in principle open process and as a mere conformity to changing basic conditions.
3. Thirdly the attempt of "hands-on" teaching can be accused of being affirmative. Students still have to adapt themselves to the prescribed demands of the teaching logic, which has merely become more complex and confused. Behind didactic headwords like subject-, activity-, experience orientation or just hands-on teaching stands nothing more than the unfolding and stimulation of individual potentials of ability for the (future) professional action. It is suspected that this in the "era of post-modern pun-desperados" (own translation by Kerstin Mertens 1996, 2) merely meant to be veiled.

4. Fourthly, "hands-on" learning can be understood as an intensification of rationality and efficiency as well as learning of adaptation. It is still agreed on the point that learners acquire knowledge in a "hands-on" arrangement, which can influence their actions or which results in a (desirable) behaviour. The causality, that action deduces itself from the pool of knowledge, is adhered. At the same time a decrease between knowledge and action is assumed.
5. Fifthly, the questions in which situations learn-active arrangements are preferred to teacher-centered action and which interdependencies exist between the different teaching-learning environments remain unanswered. Furthermore convincing examples that show in which form teachers can be prepared for the change of their self-definition do not exist.
6. Sixthly, the calculus of the neo-classic marked economic rationality and the appropriate overall concepts of economy are still adhered (see works of Müller-Christ 2001 and Bendixen 2003, 2004 from a critical perspective).
7. Finally the didactical discussion is qualified in the way that in practise the "frontal look" dominates and the teaching process is accordingly planned and converted.

5 Search for New Models

The short look back at the economic didactical discourse makes the following clear: intervention facilities are developed or taken up and offered which perceive learning as an outwardly-controlled process and which give the contents through an objective structure.

Looking for the modern economic education with modern economic didactical know-how, the social economic discussion about the modernization of the modern age - also called reflexive modernization - should be accessed (Beck, 1996). The sociological philosopher and poet Ulrich Beck diagnoses in his expositions a "break-down of previous basic comprehensibility(9)" (own translation by Kerstin Mertens) (Beck 1986,19). He speaks of "evacuated terminology," "broken coordinates" and "evacuated institution(10)" (ibid), of an "erosion of the modern industry" (own translation by Kerstin Mertens) (Beck 1986, 20) and the "end of tayloristic working division, hierarchy und fordistic mass production(12)" (ibid) (own translation by Kerstin Mertens). The "models of little families and recipes for acting are doomed to failure(13)" (ibid) (own translation by Kerstin Mertens). And: The working society is running out of gainful employment (Beck 1986, 22). That means for the economic didactics that it is not its task to instruct for routines and to remain in tedious lecture performances. Rather learning processes have to be organized in the way of enabling didactics.

5.1 Constructivist Unfolding

The peculiarities of a constructivist view of learning can shortly be outlined: The assumption that reality (outside world) even in learning processes is not perceived in the way it is but in the way the learner experiences it. Existing worlds are not discovered, but invented. Furthermore it is assumed that an objectivity of the realization is not possible, but surely an "intersubjectivity", that means a communication with others. Therefore learning does not mean perceiving given contents, but it does mean forming own ideas. Yet the realized world is not characterized by a linear causality but by interaction and circularity. Realization and recognition processes do not take place in a vacuum; it is marked by generic historical evolution, cultural pattern and life-historical experiences, demands and expectations. The way the single learner constructs his world, depends on his socialization, his learning-experiences and his learning history, his circumstances and finally on his future prospects and expectations.

It is about a revision of the didactical total field because extensive ideas of the learning process, of the character of the contents, the teaching situation and teaching interaction, the task of the teacher as well as the comprehensive objective of the didactical action are developed. The main idea is that there is no absolute knowledge and there are no absolute truths because humans do in principle not have access to "one" existing reality, but human knowledge always has to be considered as just a temporary adequate suitable result of social divided processes of construction. Consequently, the wish to arrange teaching and learning processes according to the model of imparting and receiving knowledge is absurd ("Instructivism").

The understanding and experience of teaching as a provider for stimulating and enlightening environments are possible and acceptable. By reason of these environments the independent fulfilling acts of learning as a form of constructing and deconstructing knowledge as well as the winning of insight and understanding can be made easier ("constructivism"). Learning processes cannot be determined from outside, it is not the "use" of information or elements of knowledge, which - offered from outside - is then actively "taken inside." Learning, according to the sense of word, is an individual process of constructing and deconstructing inner worlds occurring in social contexts which can be initiated only for a little part from outside (by perturbation), but which course and result can never be controlled. The responsibility for learning is therefore allocated to the learner.

The world, how it seems to us, is not based on real facts of the case, but on rules of human experiencing. Usually such a giving meaning is accepted. Here it does not make any difference whether it is supported by a subject, by an intersubjective consent or by an interplay between historical circumstances and an individual comprehension. The constructivist convergence can have uncomfortable consequences for the economic didactics: Because the central thesis of constructivism is that our recognition does not reflect an objective reality. It rather constructs something that we accept, realizing as reality (Schmidt 1995). In simple terms: The environment in the way we realize it, is our fiction.

The basis of constructivism is the theory of "autopoietisch" systems ("Autopoiese" means: the ability to conserve oneself, to transform oneself, to revolve oneself. "autopoietisch" means: relating to "Autopoiese"). The concept of "autopoiese" says that recognition and knowledge are not directed at the real reflection of "the world outside." The process of recognition serves rather to support the "Autopoiese". We know this occurrence already from everyday life. We can daily observe how the offered data is selectively taken out of a pool of information. Naturally one might ask if it is worth to put a difficult theory, which is built up on sensitive ropes of argumentation, to such a daily banality. Isn't one searching for Easter eggs which one has hidden by oneself before? Does the analysis of constructivist views and the attempt at self-organization have the charm of an academic play with beads?

We cannot come along so simply. Because if we accept the constructivist perception and self-organization as an universal principle, this will have consequences: All suggestions for designing classes have to be seen as an experiment to achieve routines with the help of teaching arrangements, which are finally not constructed heteronymous but exclusively self-organized. This constructivist idea has to be seen in relative terms in its radicalization for organized teaching learning arrangements at school: The instruction during class is still an artificial and heteronymous form of communication and interaction because of the compulsory school attendance, teaching times, teaching curricula or standards of education.

Nevertheless the constructivist thoughts remain didactical relevant. If one takes the paradigm of self-organization serious, the basic idea of common learning illusions is taken away, so that someone only learns if someone teaches and that that is learned what is taught. Learning is a process of acquisition of individuals that proceeds largely self-organized or self-referential. Its results can be made possible by corresponding suggestions, but not produced in the sense of "made" and "ensured."

5.2 Lessons as a Complex System

While we have by now only looked at the learning process of one individual, in the following learning in the complex setting of a class is mainly considered. John D. Bransford, A. L. Brown and Rodney R. Cocking (2001) have collected the following key findings in "How people learn - Brain, Mind, Experience and School:"

1. Students come to the classroom with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information that are taught, or they may learn them for purposes of a test but revert to their preconceptions outside the classroom.
2. To develop competence in an area of inquiry, students must; (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application.

3. A "metacognitive" approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them.
4. Teachers must draw out and work with the pre-existing understandings that their students bring with them.
5. Teachers must teach some subject matter in depth, providing many examples in which the same concept is at work and providing a firm foundation of factual knowledge.
6. The teaching of metacognitive skills should be integrated into the curriculum in a variety of subject areas.
7. Schools and classrooms must be learner centered.
8. To provide a knowledge-centred classroom environment, attention must be given to what is taught (information, subject matter), why it is taught (understanding), and what competence or mastery looks like.
9. Formative assessments - ongoing assessments designed to make students' thinking visible to both teachers and students - are essential. They permit the teacher to grasp the students' preconceptions, understand where the students are in the "developmental corridor" from informal to formal thinking, and design instruction accordingly. In the assessment-centred classroom environment, formative assessments help both teachers and students monitor progress.
10. Learning is influenced in fundamental ways by the context in which it takes place. A community-centred approach requires the development of norms for the classroom and school, as well as connections to the outside world, that support core learning values.

Their findings are not so new: We know that pupils come into classroom with fixed pictures of the world. If teachers do not act on these world pictures, pupils cannot receive/not accept the new concepts and contents which are taught or they learn them just for a test, but return to their world picture if they leave the classroom.

We also know that pupils have a wide basis of fact knowledge, they understand facts and ideas in its each conceptional context and we know that knowledge has to be organized in a way which makes accessibility and application easier for developing abilities in a research surrounding. We know as well that a metacognitive approximation to lessons can help pupils to characterize their own learning by defining learning goals and observing their way to get there.

Even the conclusions for the teacher's actions are known: Teachers have to find out and work with the pictures of the world or imaginations which their pupils bring along. They also have to work intensively on certain/particular themes by showing examples, which use the same concepts, and offering a basic pattern of fact knowledge. Likewise they have to pay attention that the fostering of metacognitive abilities is integrated in many centres of the topics.

The phrased consequences are well-known as well: Schools and classrooms have to orientate/to align on the learners. To create a learn-fostering surrounding one has to take care what is taught (information, theme), why

it is taught, and with which competence and ability it is taught.

Briefly: We know that ongoing valuations of learning processes and education are very important to show the thought-processes both of pupils and of teachers. They give the teacher the chance to record and to understand the picture of the world held by pupils, where the pupils are in the developing process from informal to intentional learning, to conceive the lesson especially. In this learning area that is based on valuation processes, the concept of educational valuation helps the teachers and pupils to go with progress. The finding is generally important that learning is fundamentally influenced by the context it takes place in. A common centred view requires the development of norms in classroom and in school as well as the construction of connections to the outside world which supports the acquirement of essential values.

Why is it again and again useful to point to these generalities? Rolf Dubs and Gerhard Gerdsmeier give answers in their expositions: Either the (specific) didactical discourse of constructivist guidelines are contrasted with constructivist approaches in a dualising and polarizing manner (see Dubs in this issue) or the every day teaching life is orientated in a very different way in spite of constructivist semantic (see Gerdsmeier in this issue).

So we still have to make this clear on a relative abstract level: Lessons are a complex and split dimension that cannot be seized by theories and simple rules: Classes can take on a wide spectrum of well-ordered conditions. Non-linear knotting of elements in the form of positive/negative feedbacks, discontinuities and delays take place. The elements are heterogeneous regarding to their sphere-time occurrence or regarding to their willingness and logic of activity. The complex teaching system is based on hierarchies; as a rule, the higher level shows a margin condition for the lower level. The teacher doesn't have to represent automatically the higher level, moreover it is to distinguish between formal/official and informal level.

For this reason, easy, clear, handy recipes that show how to direct a good lesson have to be reined. Moreover a distance between an apparent rationality and partial reductionism of the classroom happenings is necessary, which is coupled with pedantry and not at last with cold towards learning and acting subjects. A specific didactical view which tries to fix the classroom happening in apparent controllable running parameter is a "forcible reduction of complexity." It reduces the scope of actors. The "limited acting rationality", which tends to complete information about existing acting alternatives and thus to adequate valuation competence, becomes an incredible special case. Briefly: The teaching happening consists of interventions of restricted acting actors in a complex system. Therefore clear recommendations are far away from "optimal teaching courses".

These observations can be summed up in seven generally and abstractly formulated theses:

1. The association that there is only one truth for all human beings needs to be abandoned/ has to be given up that (see von Foerster, Pörksen 1998). In fact a wealth of subject dependent, social constructed realities exists.
2. Intersubjective models of reality take the place of an objective

reality. The vocational education classifies at least five levels of perception for the learner:

- reality of business
- reality of schoolbooks
- reality of science
- reality of the subject
- reality that follows from the fusion of the four named aspects to a new picture of the world.

3. The "factual logic of the content(14) "deals with" a knowledge of the structures and relations of the theme(15)" (own translation by Kerstin Mertens) (Siebert 1996, 2). These structures could follow from the five mentioned levels of perception.
4. Reality is characterized by the perception of the observer. That means reality doesn't exist, but the realized reality. For economic didactics, this means the focus has to be on realized contents, not "just" on contents.
5. The in practise dominant model of learning, which mainly focuses on the impartation of knowledge, formulates the programmatic of the learning goal more behaviouristic and offers the contents in little portions. This model is antiquated. Knowledge is not just offered from outside and then received, but actively constructed in inner processes. The acquisition of new things is not an outwardly directed process which has to be taken to the individual.
6. Knowledge is not only received to realize the reality as efficient as possible, but to maintain the "Autopoiese."
7. There is not only one truth, but several "appropriate" truths. That means that every single person takes different observing positions so that we can speak about patchwork-identities.

Because truth and reality are not obliging working instances, the single person has to be responsible for his/her truth and his/her action. By reason of this reorientation a theoretical discussion about the view of self-organization is helpful to back up theoretically and justify pragmatic insights.

The described thoughts show that it is a task of economic didactics "to build up and extend a practical and productive academic theoretical program(16)." (own translation by Kerstin Mertens) (see Strohmeier 1997, 178, who formulates this demand for the business administration).

Economic didactics has to have a look at the following central questions:

- Does the self-organisational emerging structure of the single learner base on particular aspects of the (human) lesson outline?
- Does the demand of forming learning processes have to be given up at all for the turning away of the "illusion of feasibility"? This context has to make clear in what way a duality is built up at the learner, caused by the economic classes as an outside organisation, which also can be understood as a division: outside there - self here.

I don't go into the function of advice and service in more detail as well as into the question how the relationship between economic didactics,

economics and education can be formed.

Just a few ideas about this issue: There is no political excusable teacher training possible without specialized understanding, but there is no suitable vocational lesson without educational transfer. Referring to economic classes that mean: Economic didactics remains communicative "dumb" as a specialized science - educational views remain broadly "blind". This idea can be described by the metaphor of the journey: An expert of economic didactics is permanent on the way as a border crosser between the disciplines and between theory and praxis. But the journey is not purposeless. The direction is led by an idea that seems to be - for me - an imperative of economic didactics. This idea makes it possible that new forms of perception arise and it allows us to think in new possibilities and to convert them. I don't want to give the impression that I like ordering people around, therefore the deciding statement is: "As an expert of economic didactics, I have to act in a way that leads to a growing amount of possibilities to look at the world." (own translation).

6 To Take Responsibility as a Producer

An economic didactical approximation to constructivist views supports the sceptical position towards the naturalness of the realism. Because the constructivist idea comes to the insight that we consider the world as our product and invention, we have to include it in our area of responsibility. This epistemological view seems to be profitable for the economic didactical work. Because this view opposes the position of the naive realist who thinks that things, people and all facets of the world are shown on the screen of the consciousness in the way they really are. At the same time the constructivist view opposes the solipsistic side which starts out that everything is an imagination, an illusion and a product of the own spirit.

Likewise the constructivism opposes the idea of ontology - that means theory of the real existing. Finally the constructivist view points out two more aspects:

1. If we start out that the world is our imagination then that means also that the world is coupled to the recognizer. That means for a teaching learning process that one makes sure of the existence of the other and of the own existence, to talk about it and therefore to go in relation.

The metaphor of the dance can make this idea clear (the picture is used by von Foerster, see von Foerster, Pörksen 1998, 41): For dancing one needs a partner. Heinz von Foerster expressed it in this way: One "tries the dance with the world, one leads each other, senses the joint next step and melts with the moves of the other to one and the same person, to an unity being that looks through four eyes. One doesn't decide programmatically to dance now, but simply does it, one simply dances. And suddenly one turns around and sees something new, something unexpected at all.(17)" (own translation by Kerstin Mertens) (von Foerster, Pörksen 1998, 41).

2. A second consequence can be deduced from this thought: If I take in the world as an invention then it means that I am its producer - and as a producer I am responsible for its existence. In other words: I cannot refer to the phrase that something is the way it is. If I do without the - academically formulated - existential operator "it is..." and use the self-referential operator "I think..." then the personality moves in the centre. At the same time a dialog is made possible about something we call reality.

The hint to any so called objective reality - "that's the way it is..." - does not only prevent dialogues, but frees the personality - who says this - from responsibility. Because "if it is like this, then I am not responsible for it." (own translation).

6. Let's Dance Together

It seems to be worthwhile to consider not only the educational, but also the economical discussion about constructivist thoughts. Peter Bendixen deals critically with the economical discourse in his ideas. This should not be commented here. Moreover the economist Neubauer ought to be quoted: He points out that unshakable hard facts do not exist; there are just observations and constructions. Reality is not "there," it is produced. One cannot find out what exists, but just what functions. The reality does not exist; there is only the observer's reality. It does not exist; it is seen by the observer. Everything depends on the observing perspective and on differences. The pictures of reality regulate the entrance to it and justify that part of the boundless amount of possibilities which is treatable.

For the economic didactics as an academic discipline that means the following: The different views and forms, which exist in reality, should be sighted and ordered in the sense of a function of expression and inquiry. Economic didactical theories have to be designed, which build up on descriptive models and help to explain the teaching happening of economic classes. Economic didactics, in its function as a service provider, can formulate recommendations how the activities of teacher and learner can be extended.

At the same time it is the task of economic didactics to draw attention to "blind spots." That is very important especially for economic classes: The autonomy and individuality of a single person have to be emphasized for the reason that everyone learns to stand by oneself and to trust in his/her personal views. Another economic didactical field of tasks emerges here: teachers and learners have to be supported to develop their own imaginations and language, to use their eyes and ears, that means to sharpen their observant eye.

Notes

- (1) original German text: "Newcomer-Theorie in der Didaktik"
- (2) original German text: "nicht nach einem Alles-oder-Nichts-Prinzip realisieren. Lernen erfordert zum einen immer Motivation, Interesse und Aktivität seitens der Lehrenden: Jeder Prozess ist also konstruktiv, und es muss oberstes Ziel des Unterrichts sein, den Lernenden Konstruktionen zu ermöglichen und diese anzuregen. Lernen erfordert zum anderen aber auch Orientierung, Anleitung und Hilfe: Jeder Lernprozess ist also interaktiv, und es ist eine weitere, zentrale Aufgabe des Unterrichts, Lernende unterstützend zu begleiten und ihnen hilfreiche Instruktionen anzubieten".
- (3) original German text: "expandierende technokratische Planungsinteresse des Staates"
- (4) original German Text: "die durchschlagende Konsequenz des ökonomisch-quantifizierenden Zugriffs"
- (5) original German text: "äußerst unterschiedlich, teilweise inkompatibel und gewiss nicht ohne weiteres auf einen Nenner zu bringen sind"
- (6) original German text: "Dieses Verständnis betont zunächst die Einheit von körperlichem und geistigem Handeln, von motorischer Aktion und mentaler Reflexion sowie von praktischem Tun und geistiger Durchdringung. Zum anderen wird Handlung in ihrem Prozesscharakter aufgenommen und eine 'vollständige Handlung' in hierarchische oder zyklisch verbundene Phasen bzw. Handlungsschritte unterteilt."
- (7) original German text: "ebenso viele Bedeutungen hat, wie es Autoren gibt, die ihn verwenden."
- (8) original German text: "Zeitalter postmoderner Sprachspiel-Desperados"
- (9) original German text: "Zusammenbruch bisheriger Basisverständlichkeiten"
- (10) original German text: "entleerter Sprachformel", "zerbrochenen Koordinaten", "entleerter Institution"
- (11) original German text: "Erosion der Industriemoderne"
- (12) original German text: "Ende tayloristischer Arbeitsteilung, Hierarchie und fordistischer Massenproduktion"
- (13) original German text: "Kleinfamilienmodelle und Rollenrezepte versagen"
- (14) original German text: "Sachlogik des Inhalts"
- (15) original German text: "eine Kenntnis der Strukturen und der Zusammenhänge der Thematik"
- (16) original German text: "ein praktikables und fruchtbares wissenschaftstheoretisches Programm auf- und auszubauen (...)."
- (17) original German text: "versucht den Tanz mit der Welt, man führt sich gegenseitig, erspürt den gemeinsamen nächsten Schritt und verschmilzt mit den Bewegungen des anderen zu ein und derselben Person, zu einer Wesenseinheit, die mit vier Augen sieht."

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