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The real change versus the belief in change

“The times they are a-changin’” (Bob Dylan)

“Grave inequalities can become insurmountable barriers to reaching any kind of more positive perception of the oppressor or perpetrator. The greater the social, economic, political, or military inequality between the two sides, the less can peace education, as conceived of here, be a matter symmetry. When it comes to extreme inequalities, the agenda of the oppressed, conquered, disadvantaged, or discriminated focuses more on the experienced inequality and on the desire to correct it. Inequality easily becomes an energetic force driving feelings of reactance, anger, and frustration that stand in the way of trying of relate positively to an adversary’s narrative. Under such conditions, peace education and political action become fused” (Salomon, 2002, pp. 11).

This statement elucidates that change is very hard to fulfill. It seems that human beings have a positive attitude toward the word “change”. But real change is hard to achieve. We remember the story of Kafka’s doorkeeper. After a long time, the doorkeeper closes the door and tells a waiting man, that this door was only for him, and it is closed now forever. No change has been realized. Why is change so difficult to fulfill and why contains change always future, progress and besides of the door metaphor also the metaphor of moving ahead. Why is change also a concept with a lot of pitfalls and negative superficiality as many (post) modern sociologists suggest (f.i. Sennett 1998).

In this essay I would like to show, that a) real change is always painful, b) that there are, depending on the learning form, manifold changes and that different models of transformation yield different forms of change, c) that in general only small changes can be reached by intervention, d) that change is difficult to measure, and e) that sometimes a catastrophe leads to the most effective change. The song of Bob Dylan shall serve as a lead for the dispatch of our thoughts.

Learning is painful

All of us remember mistakes that we have done in important situations. This remembering with the help of episodic memory (Tulving, 1983) we call “negative knowledge”. Negative knowledge contains traces of mistakes, errors, faults that we have done ourselves or that others have done and we are emotionally touched. If the mistakes are done by others (literature, fairy-tales, movies, war reports etc.), we speak about advocacy learning. Let’s take justice: children experience unjust behavior of teachers toward themselves and toward others. They become indignant, and by this emotional state they learn that procedural and distributive justice are absolutely necessary. The subjective view of the children and the respective reconstruction of the case are only particular aspects of the story. Let’s take another example from an interview with a 60 year old: I was a first grader and my teacher was a vice-principle, leaving often the classroom for necessary meetings. One of us was always the guard of the class. If students made disciplinary problems we had to put behind their names on the blackboard a dash. One day it was my turn, and I made as many dashes as possible. Suddenly a student came up to me and proposed that he gives me 20 cents per dash if rub them off. Thus nearly all the kids did the same, and I earned a lot of money. When the teacher appeared only a few poor kids were on the blackboard, and they were punished. Coming home I showed the money to my mother, and if she asked me about the manner of earning, I told the whole story. But suddenly my mother became pale, and she exploded telling me what terrible thing I have done. She spoke about bribery and cheating. And the next day my mother came with me into the school, and I had to apologize. This story is from different points of view very special. First, he was 60, and he remembered as if it would have been yesterday. Second his learning was terribly painful, he told me that his legs cannot move toward the school when his mother accompanied him. Third, he never did something similar again his whole adult life. This example shows that real learning is indeed painful and that I child went through the door (Kafka) without willingness to do so, but smoothly pushed by his indignant mother. The function thus of negative knowledge is to protect the positive one and to help for preventing from the same mistake again. It produces behavioral security and formal about what shall be changed in a similar transfer situation. Negative knowledge is a sign for having changed the until now valid and protected knowledge, attitude, judgment and emotional state. The concept of negative knowledge implicitly states that only through contrasting issues or errors or declarative, procedural or strategic

mistakes, learning remains shallow and superficial. Therefore we must find out about how to measure not only the new judgment and the respective new concepts, but also the way in which it is developed or interventively introduced – The statement of Salomon in the beginning of our paper says something about the difficulties of such learning; peace is especially in conflicting countries of the world a very tough issue. But also with respect to preventive peace education, with goals like abolition of exclusion, of negative narratives, of prejudices, of racism and of xenophobia hat to do with learning from errors. Here an error is a false picture of the other and a false concept of what the other can do.

Choreographies of teaching and different models of learning and of transformation

Another aspect of change concerns the twelve basis models of learning that can be stimulated with independent surface models of teaching. The concept of choreographies of teaching assumes that there are rule-oriented basic learning chains and different personal forms of stimulating such chains. That's why we speak about sight-structure of teaching stimulating basis models of learning. In different research projects (see Oser & Baeriswyl, 2001) we investigated the relationship between the sight-structure and the basis model. But the most important epistemic gain was, that we found, that each basis model has a different transformation model. Here some examples for "concept building", what ever a teacher does didactically, the student has to transform his given knowledge structures into a new knowledge structure by adding new elements. Completely different is f.i. the basis model "development of the aim of education". Here the transformation model includes a disequilibrium of the given judgment structure (f.i. stage three of moral development). This disequilibrium leads to the basic transformation of that structure, the respective integration of new elements and the stabilization of the new higher stage (f.i. stage four of moral development). The steps for that transformation are "1. Confronting a conflict among special, political, moral, religious, etc. issues through dilemma presentation 2. Confronting the previous structure with controversial different positions within the dilemma 3. Being presented with and, subsequently, confronting arguments from the next higher stage (or ½ stage) through group work, dialogues, discussions etc. 4. Analyzing different student arguments with respect to reversibility, role taking, differential, complexity etc. 5. Reflecting on opinion change, value change, conceptional change, stage change etc." (Oser & Baeriswyl,

2001, pp. 1052) – A third basis model is “problem solving.” Cognitive Psychologists have done a lot of work in order to understand, what happens when people learn by problem solving (Lüer, 1973; Newell & Simon, 1972; Polya, 1945; Simon & Reed, 1976; Mayer, 1983; Gabel, 1994). A fourth model will be “transformation-concerning negotiating.” In negotiation subjects have to reach an equilibrium and a coordination of interest. Through expensive engagements and even fights and through intensive argumentations, learners try to find out, how far they can go with respect to make demands and finally to reach a position which both sides can accept. These four basis models are of course fundamental for peace education. The other models like “learning through personal experience”, “discovery learning”, “contemplative learning”, “use of learning strategies”, “development of routines and skills”, “learning through motility”, “social learning”, “construction of values and value identity”, “hypertext learning” etc. have all their own transformation model. We described the first four ones a little bit more intensive, because they are especially important for peace education. In peace education we need in fact to build up new concepts (f.i. new understanding of narratives of others) to have another more differentiated judgment about others to solve daily problems of living together and finally to negotiate rules for a new common understanding. And these four different learning types include – as we said before – different transformational models and Salomon (2002) distinguishes (pp. 8) “peace education in regions of intractable conflict... from the other categories of peace education, particularly peace education in tranquil regions.” This leads to two types of peace education which have a completely different face. For the first one, change is extremely difficult because, as Salomon states, simultaneously inequalities, oppression, discrimination, conquest etc. must be overcome in order to fulfill the conditions for change. But also for the second form, dealing with exclusion and racism, change with respect to attitude and a profound willingness of tolerance is not so easy to produce. Intervention studies intending to foster that change and to explain why it occurs are in fact seldom. They have to use all four mentioned choreographies of learning and all four transformational models.

What changes with respect to the first type of change? In the first type a full “conceptual change” is necessary, a transformation of the acceptance of the narrative of others. Here a digital or total conversion, of what I believed before and what I believe after is necessary. Subjects that use a certain model of how to interact with another ethnicity are forced to transform the whole model. Key factors that impede this change implicitly

have multiple roots of difficulty such as different belief of what satisfaction is, or what is basic need, or lack of commitment, or unwillingness to temporarily suspend certain conditions, insufficient information about another model of conviviality, or lack of social reasoning etc. (see Chinn & Samarapungavan, 2005). The most important feature with respect to that form of change lays in the force of the comparison of two models, the first what subjects think that it works until now and new model that shows indices of progress. With other words in comparison the old to the new model, it must be evidenced that the new model has significant advantages with respect to the old one. And, of course, subjects must be convinced that the new model is functionally and morally a better one than the old. To develop an understanding of new dynamic relationship of these advantages leads to a willingness to integrate the new model as a whole (see Barnett et al., 2000). – This dynamic becomes even more effective if subjects are guided to develop themselves the new models. In this case the new model is not given from outside, but has to be disentangled from the non-functionalities of the old. The following steps can be helpful (see Oser & Spsychiger, 2005, p. 126 ff):

- The first step is an analysis of non-functionalities and its consequences of the old model
- The second step consists of making public for the importance of such non-functionalities. A working group, a school, a political party etc. does share these disadvantages and make themselves on the way to develop a new model.
- The third step is contrasting a new model with the old one. This contrasting force is important because it contains the new concept as a whole model of a better understanding of what works. Only in contrasting the advantages of the new model with the disadvantages of the old, a person can become convinced that cognitive change is at stake. We speak so far of an “excessive” contrasting process.
- The fourth step consists of working publicly for the new model. If someone stands up and produces him/herself reasons for change, the convincing force becomes obvious.
- The fifth step is applying what the new model provides to concrete situations. The validation of the new model in contrast to old structure

explicitly demands a many-folded reconstruction of the change process.

- The sixth step contains remembering the old and fostering the new model.

Conceptual change in peace education, as Salomon proposes it, so far means to have in mind a new model for solving central conflicts between nations. It does not mean the change behavior itself but understanding of what the change can contribute to. A new model thus must become a socially shared construct that steers guided interactions with the enemies or the counterparts or the opponents.

But conceptual change can also arrive like an eruption. If for instance a master student speaks about change as the educational goal, and the professor proves that change in itself is precisely not a goal but stability and identity, the student is shocked. Change has only a value if it can be proved as an amendment of given states. To integrate autistic children into normal class stream is – with all its difficulties – a worthwhile goal. Thus not change in itself, but change with respect to ameliorating a given social structure or a human behavior or a system condition is search for. The student thus swapped from a postmodern conception of value relativism to an educational transformation of a fundamental concept, namely integration. And classically each new concept change has its gain and its losses. Integration of handicapped strengthens their intellectual competences but weakens their academic self-concept (Häberlin et al., 2003).

Real small changes and the belief in big changes

The claim to produce change by intervention is today obscured by the fact that most of the studies show only a very small effect. Due to slow long-term change f.i. of the choreography “development as the aim of education” versus fast knowledge accumulation change the choreography “concept building”, which is an additive concept, the growth of competences cannot be connected directly to one single independent variable and thus the pre- and post measurements lack process-oriented connectedness. In addition to that, the question arises, how valid the measurement instruments are with respect to the change on f.i. moral sensitivity. Let’s say that students have to rate the amount of possibility for democratic decision making in a pre- and a post-test using

the same instrument. The query now is that students judging on a middle level in the pre-test, having the possibility to make many democratic decisions in a Just-Community-School and thus becoming sensitive for decision making processes, will rate in a post-test the amount of decision making possibilities much lower than in the pre-test. The reason for this is they become more critical and more demanding and more aware of how important such things are and this sensibility effect makes them judging lower in the post-test. If evaluators of similar interventions ask students and teachers how much change did occur since t₀, they admit that subjectively seen there is a big change, an important transformation, but using a normal instrument like the DIT, (Defining issue test), for measuring moral development, subjects show lesser growth than even the control group. How can we deal with this phenomenon?

Let's look at an example. In a intervention study against right-wing extremism, racism, exclusion and xenophobia, lasting about six months, we tried to influence teachers in workshops that they work with their 36 classes by means of games, dilemma discussions, story analysis, role playing, media critic etc. to change the fundamental attitudes of their students. Teachers accepted to work with us on a voluntary level and to use at least two hours of their normal curriculum for these important goals. After the intervention a majority the students were enthusiastic and the interviews with the teachers showed that they believe in a big change. But if we measure this change with a classical instrument only few effects can be discoverable. Here an example: Critical image handling with respect to prejudice toward foreigners as a treatment shows a cumulative mean of 16.76 in the pre-test and 17.41 at the post-test ($F(1,468) = 12.095$; $p < .01$). Openers toward immigrants changed even in the opposite direction from a cumulative mean from 26.62 to 25.95 ($F(1,457) = 7.421$; $p < .05$). What happens here? First, it is clear, that teachers often believe that with the doing children are fundamentally touched and must absolutely show some progress. Second, in general students are after the intervention much more sensitive toward a lack of openness than before and thus they give, even if they are significantly higher in reality, a lower grade. Third, there is a difference of asking directly students about their change (f.i. how much did you change things at the beginning of our project?) and an indirect measurement using just the same instrument in t₀ and in t₁. The first shows mostly very high and significant effects (often confounded with the enthusiasm to be able to work in such a project); the second mostly influenced by the sensitivity effect is probably not very valid. And fourth, since the intervention is voluntary for the teachers we have many teachers who work since long

time against racism and exclusion and thus, many of these cruel things go in this direction if they have to judge about this problem. This is a form of special expectation effects (Pygmalion). We should build up three clusters of students, a) the ceiling students, with not much change because they are already open, tolerant, positive etc. in the beginning of the intervention. There is b) a second group, which starts with medium values and ends up with lower values because they become through the intervention even more racist, negative toward immigrants, exclusive etc. Mostly, right-wing students – and this is a terrible phenomenon – become more racist after the intervention because they use our reasoning to be against our conception. And c) there is a group who start slow and goes up very high, shows extremely positive effects and become very much getting involved. Thus, the designing of what we measure includes much more possibilities than we normally believe.

On the right instruments

But also the measurement in itself is difficult to handle. The mathematical modeling of change refers to the respective transformational model (see choreographies up off) on the one hand and on the classical measurement criteria (validity, reliability, objectivity) on the other. But the most important issue is of course the concept of deepness, which is seldom discussed. Let's take the example of measuring standards in teaching, qualifying the competence profile of a professional. Here we can a) only measure how subjectively persons judge their capability, but we can also f.i. measure how a competence is generated or even how affective she is employed in a concrete situation. These are completely different grades of intensity in measurement. Sometimes in one of these grades we have even different levels connected together (multi-level analysis reacting from the point of view of school, classroom, student or student teacher interaction). Shavelson & Towne propose different types of research questions like estimates of population characteristics, simple relationships, descriptions of localized educational settings, causal relationships by randomization or non-randomization, exploring mechanism of effectivity (by strong or by weak theoretical bases, see Scientific Research in Education, 2001). And the most important distinction will be, like we mentioned above, the objective change measured by pre- and post-test with the same instruments or the subjectively felt change which is never a reality but a meta-construct in the sense of the psychological dimensioning.

In 1985 the article of Oser & Schläfli with the title “But it does move: the difficulty of gradual change in moral development” claimed that “a) the moral learning process requires *a clearer description* of the educational treatment than has been the case in many intervention studies up until now; b) the path to a higher level of moral judgment is possible only by using a transformational model that explains *the preconditions of disequilibrated systems*; and c) that a developmental psychological theory, such as that of Kohlberg (1958, 1979), can also be used as a <http://pda.leo.org/ende?lp=ende&p=/gQPU.&search=bankruptcybasis> of intervention if the learning process is not masked by measurement problems.” This mentioned study had exactly the same problem, namely shall we just simply measure stage change after an intervention or shall we measure in a much more complex way the change in value preference, change in emotional and motivational morality, change with respect of shared norms, conceptual change from orthodox ethics to a more procedural ethics etc. It was for us a highly interesting experience that after our intervention many of these variables did significantly change, but not the main construct, namely the change of a whole stage in moral development.

If a catastrophe shakes us

Learning by catastrophe has a completely different face than all the other learning forms. Someone is putted into a situation in which he or she cannot escape. There is asked an accommodation, but only an assimilation is possible, either by the strengths of the situational constraints or by the fact, that no other solution is possible. Bankruptcy, war, death of a relative divorce, dismissal, or falling in love, winning a lottery, being honored by a price etc. are such events that totally transform the life of a person with respect to work, with respect to thinking and learning, with respect to self-efficacy and identity, with respect to motivation, emotion and attitude etc. Phillip (1990) has developed a model for dealing with the problem of crisis and she shows very clearly that – looking at the antecedence and the consequences of such events – some people can grow of it but many others crash down, get socially lost and, instead of learning, lose what they have learned before. We do not know yet how resilient someone must be in order to learn from such a situation, but we know that it becomes very deeply touching if the issue has to do with profession, with personal relationships and with dependency and security. We also do not know yet how we learn advocatively from such events if others than ourselves

got into troubles. We know f.i. that students do not learn very much from terri-political scandals. It rather leads to the opposite that students refrain from politics and detest it. On the other hand we know that human tragedies, like the ones of Holocaust, terribly influences the new generations on the one hand, but on the other have also for many a deplorable dimension of distance.

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And if teachers or school principles intervene change is mostly arbitrary and often not measurable. For the purpose of reflecting this difficulty, I would like to distinguish a few types of change, a) change through additional knowledge accumulation, whereby this knowledge must be applied to new situations, b) change with respect to social, moral or personal competences (see PISA), c) conceptual change implying a total transformative world view, and finally d) transformational change that occurs if subjects go through a crisis for gaining a higher stage. In this paper I would like to argue that change with respect to b) which contains change of self efficacy belief, change of tolerance, change in moral sensitivity, change in peace attitude etc. is completely different from what we conceive under a) or under c). It is more difficult to foster change in b) and d), and often the intention to do so leads to failure.

Thus for the concept of change we have not only to fulfill the up off claims but also a) the issue of intervention, b) the difficulty to understand change, but c) also the amount of change that inhibits a total transformation.

References:

- BARNETT, M., KEATING, T., BARAB, S. A. & HAY, K. E. 2000. Conceptual Change Through Building Three-Dimensional Virtual Models. In: B. Fishman & S. O'Connor-Divelbiss (Eds.): Fourth International Conference of the Learning Sciences, pp. 134-141. Mahwah, NJ: Erlbaum.
- CHINN, C. and SAMARAPUNGAVAN, A. 2005. Learning to Use Scientific Models: Multiple Dimensions of Conceptual Change, NSF Inquiry Conference Proceedings.
<http://www.ruf.rice.edu/~rgrandy/NSFConSched.html>
- FILIPP, S.-H. (Hrsg.) 1990. Kritische Lebensereignisse. Weinheim: Beltz Psychologische Verlags Union.
- GABEL, D. L. 1994. Handbook of research on science teaching and learning. New York: Macmillan.
- HÄBERLIN, U., BLESS, G., MOSER, U. & KLAGHOFER, R. 2003. Die Integration von Lernbehinderten – Versuche, Theorien, Forschungen, Enttäuschungen, Hoffnungen. Bern, Stuttgart, Wien: Haupt Verlag.
- KOHLBERG, L. 1958. The development of mode of moral thinking and choice in the years 10 to 16. Unpublished doctoral dissertation. Chicago: University of Chicago.
- KOHLBERG, L. 1979. The meaning and measurement of moral development. Worcester, MA: Clark University.
- LÜER, G. 1973. Gesetzmässige Denkabläufe beim Problemlösen. Weinheim: Beltz.
- MAYER, R. E. 1983. Thinking, problem solving, cognition. New York: Freeman.
- NEWELL, A. & SIMON, H. A. 1972. Human problem solving. Englewood Cliffs, NJ: Prentice-Hall.
- OSER, F. K. & BAERISWYL, F. J. 2001. Choreographies of Teaching: Bridging Instruction to Learning. In: V. Richardson (Ed.): Handbook of

Research on Teaching, 4th Edition, pp. 1031-1065. Washington, DC: American Educational Research Association.

OSER, F. K. & SCHLÄFLI, A. 1985. But It Does Move: The Difficulty of Gradual Change in Moral Development. In: M. Berkowitz & F. Oser (Eds.): Moral Education: Theory and Application: International Perspectives, pp. 269-296. Mahwah, NJ: Erlbaum.

POLYA, G. 1945. How to solve it. Garden City, NJ: Doubleday.

SALOMON, G. 2002. The Nature of Peace Education: Not All Programs Are Created Equal. In: G. Salomon & B. Nevo (Eds.): Peace Education. The Concept, Principles, and Practices Around the World, pp. 3-15. Mahwah, NJ: Erlbaum.

SENNETT, R. 1998. The Corrosion of Character. New York: W. W. Norton.

SHAVELSON, R. J. & TOWNE, L. 2001. Scientific Research in Education. Washington, DC: National Academy Press.

SIMON, H. A. & REED, S. K. 1976. Modeling strategy shifts in a problem-solving task. *Cognitive Psychology*, 8, pp. 86-97.

TULVING, E. 1983. Elements of episodic memory. Oxford: Clarendon Press.