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Two Solitudes: educational research and the pedagogical realm

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ABSTRACT There is much to be positive about in the current field of educational research. Now a burgeoning research domain in many European countries, diverse national and international studies are currently officially supported both politically and economically. However, on closer examination the actual effect of many prominent studies is sobering. The general claim that our research domain is full of pseudo-questions is probably unfair and unacceptable, yet it is worth considering how often educational research truly deals with educational questions. The gap between pedagogical thought and educational research has achieved grand proportions. The ideal of mutual profit between the two realms is now arguably simplistic, naïve, and functional.

1. On Being Useful

Educational sciences are confronted with heterogeneous expectations. Educational research is supposed both to meet inner-scientific quality criteria and to be application-oriented, i.e. to be useful. Kahlert & Reinmann (2007, pp. 10f.) argued that maybe this tension is not restricted to educational sciences but – in comparison to other disciplines – is definitely very high in our domain. This, they state, is also due to two specialties of educational sciences, which sometimes are slightly neglected. Firstly, ‘quite a part of educational-scientific subjects ... have not developed as a result of inner-scientific specialization but result from education-political decisions defining a societal need’ (p. 10, my translation). Secondly, educational disciplines, being close to the vocational field of school, university and further education, are subject to more intensive ‘but also more diffuse control than other sciences’ (p. 11). The first specialty has the effect that in many respects educational research is less defined by scientific interest and theoretically relevant questions than generally thought. The second specialty results in many people believing themselves to be able to firmly comment on questions of education.[1] Accordingly, it is no problem to attract public attention by help of educational and/or pedagogical questions.

These features form the background against which it is possible to understand why the debate on educational research is not only characterized by relevant questions and certainties but most of all also by triviality and confusion, as well as by a lack of theoretical background of its research about which – from the point of view of the social sciences and humanities – sometimes we can only shake our heads in disbelief. What might look like a research question or project, after all often turns out to be nothing more than a sporting attempt at starting a new ranking list which then will be used by education policy to legitimate decisions for which there are no scientific reason.[2]

On the other hand, some educational scientists find it difficult to explicitly distance themselves from high or all too high expectations in respect of the practical use of their results.

Meanwhile, it seems as if it is more typical for educational scientists to lead people to believe in their usefulness than it is for humanities scholars, e. g. philosophers. More than 30 years ago, Odo Marquard set an example in respect of philosophy of what a 'radical reduction history' of competence might look like also for the educational sciences. According to Marquard, in the past philosophy was at first 'in charge of everything; then philosophy was in charge of quite a few things; finally now philosophy is in charge of only one thing: that is admitting its own incompetence' ([1974] 2003, p. 31; all translations of Marquard are mine). Marquard called this competence the 'competence of compensating for incompetence' (in German, 'Inkompetenzkompensationskompetenz'): before, philosophy had to give up on these things (in the following order): the competence for salvation, technological competence and political competence (p. 32). Now, Marquard stated, apart from a few other 'residual competences' (p. 32) it still has the remembrance competence (p. 34), but on the whole it has become superfluous. Of course, it would like to be still useful. This longing for usefulness is what Marquard calls a 'competence nostalgia' (p. 38), and he explains: 'That is why – because currently philosophers live as those superfluous people who are unhappily and competence-nostalgically in love with the useful, so that if necessary they offer their pertinent services in the form of sideline jobs – superfluousness can be a justification category only there where – if not perfectly – it is added to a theory of the usefulness of the superfluous' (p. 38).

Being a meta-scientific subdiscipline, within an increasingly pragmatic culture philosophy and parts of the educational sciences are confronted with the problem of still being understood by their topics, their criticism and their ways of expression. Their representatives – to quote Marquard once again – must increasingly attempt not to do what those philosophers did who 'only write for professional philosophers', thus acting 'almost as absurdly as producers of socks do who produce socks only for producers of socks' (Marquard 2003, p. 289). Thus: for the socks producers among scientists it will increasingly become more difficult to produce socks only for producers of socks. To have it by Münch: 'Only elite universities can afford any longer to handle education as a cultural asset, as under their protective roof they need not be subject to any efficiency and effectivity control' (2009, p. 88, my translation).

2. Two Solitudes

In 1945, Hugh MacLennan by the title of his novel (*Two Solitudes*) coined this term. Originally meant to name the tensions and differences between French- and English-speaking Canada, the term has become independent and now quite generally means a lack of exchange and/or lack of willingness to communicate between groups. Indeed, in the following it will be assumed that the field of educational research and the field of pedagogy have only little in common, but that mutual indifference is something which is not only lamentable but, rather, this seems to be a problem precisely if this double solitude – which perhaps might simply be accepted – is forcefully terminated from one side.

Education-political attempts at changing, i.e. improving, controlling and steering the practice of schools and teaching, but just as well other pedagogic and educational fields, as they are officially supported by education policy in Europe, are possibly among others due to noble motivations, but this way the relation between educational research and educational practice, which has never been close, will rather be worsened.

In the focus of my explanations are the steering and control attempts by educational reformers we have had to deal with for a number of years in most European countries. Educational scientists who want to criticize the reforms of educational systems, which often are not democratically legitimated, may start out from quite different places: e. g. one may criticize (a) the lack of theoretical foundations of the reforms, (b) object against trends towards a deprofessionalization of the teaching profession coming along with current reforms (although the contrary is suggested), one may (c) critically reject the one-sidedness of educational goals and the reduction of the educational concept which have been started by the competences discourse, one may (d) accuse educational policy and educational administration of lacking reference to pedagogical thinking and educational knowledge, one may even (g) point to specific negative results of the reforms – for example, the meanwhile well-documented establishment of new

cultures of cheating – and, for example, one may question the (output) controllability of educational systems on the whole.

Only one thing is for sure: that it cannot be the task of representatives of educational science to support decisions made by educational policy and administration only because they are those of educational policy and administration. Rather, it is the task of educational researchers to discuss such reforms according to the criteria of reasonable criticism, i.e. to analyze their motivations, to question their political and historical premises, to check on their legitimacy, to discuss their foreseeable and possible effects and to point to relevant empirical studies on and experiences with analogous reforms.

I would like to ask if we also need an explanation for the lack of a theoretical foundation of contemporary reforms. Lack of theoretical background does not mean ineffectiveness, after all – and a good theory is not necessarily helpful with achieving a desired effect; an appropriate theory, on the other hand, offers a basis for reflected and self-reflective criticism of reform. But even without such criticism it is obvious that often the reforms of quality assurance are under-complex and may be contested in principle, among others as they mostly ignore the variety of the social functions as well as social and personal meanings of school. However, this does not rule out that precisely stupid reforms might be particularly effective.

3. Too Late to Stop: in the ‘Concorde trap’[3]

The longer one watches a bad film, the more probable is it that one will watch it to the end. The longer one waits for a bus, the less probable is it that one will call a taxi (for, in the meantime the bus might finally arrive). The longer a nation wages an unnecessary war it has caused itself and which produces many victims, the less probable is it that – unless the government changes – it will withdraw from this war. The phenomenon all these examples have in common is also called – after the (meanwhile withdrawn) aeroplane type – the ‘Concorde trap’ (see MÉRÖ [1996] 2004, p. 20). The game theoretician László MÉRÖ wrote in his *Logic of Stupidity*:

In the course of its development, the costs of the Concorde, the supersonic aircraft developed jointly by the French and the British, rose rapidly. Already when only a small part of the originally planned development costs had been consumed it turned out that this enterprise would never be profitable. But still, the British and French governments were drawn ever more deeply into the project, which finally cost many times the originally planned amount of money. It would have been cheaper to terminate the enterprise after the last screw was fixed, for since then the Concorde has always only been making losses. But this airplane had become an object of prestige and is still considered something British and French may be proud of. (2004, p. 20).

Now, these days the prestige-and-loss Concorde is not used any more, and also the various contemporary reforms of the educational system will have come to their end one day and will be pushed away by other – maybe appearing less self-confident and less effectual – reforms. But until then they will have succeeded with making proven and less proven things disappear, will be officially successful but unofficially a failure. Even bad films serve for passing the time, may be entertaining, and it is not ruled out that one might learn from them. Also, in most cases they are not only bad, and for sure the respective director knew what he wanted. Perhaps the idea for this film had not been matured enough, maybe the shooting started too early, maybe the script was not the best, and maybe the actors were not really motivated. But stopping the whole thing in the midst of shooting is something you simply don’t do ...

‘Successful failure’, as Seibel’s (1992) thesis is, is typical of non-profit organizations which survive for a long time although often being economically inefficient and although basically being unable to solve the problems they claim or are supposed to solve. Seibel sees the reason for this paradox in a kind of dilettantism typical of non-profit organizations which has a societal functionality and is at least partly even desired by politics. Thus, ‘successfully failing’ organizations do not survive ‘*although but because* they fail according to the criteria of legality and efficiency, not although but because they show only a limited degree of learning ability and responsivity, so that their *success* is in *failing* notoriously’ (Seibel, 1992, p. 17, my translation, italics in the original). These organizations survive ‘within an environment characterized by a rationality of norms and purposes’ although they fail to meet its demands. ‘They make it possible to stabilize failures of

steering and controlling, without themselves considerably losing stability' (p. 16). Just as the Concorde project, educational reforms also fail successfully, i.e. they are continued although in respect of those goals – apart from improved test results in the context of performance measurement – the educational system would also have to achieve and which can legitimately be expected they must fail almost of necessity.

However, the fact that on the whole many reforms seem to be little accepted among teachers is only one, if an important, reason why reforms 'become a failure'. For instance, every pedagogically *educated* teacher knows that it is absurd to organize education only as an acquisition of competences and to focus solely on the *empirical* dimensions of education, and soon enough he/she will experience that his/her professional status will be affected by the reform (precisely as it is already the case in the USA and Britain). Here, to emphasize it once again, 'failure' does not mean that the reform will not survive, on the contrary: 'its' (well-defined) goals are likely to be achieved, and then empirical competence dimensions will be regularly measured on the broadest possible scale, and teaching contents will be adjusted, made comparable and finally standardized.

According to Max Weber (1976, p. 128), with administrated institutions we find two fundamental options: either they keep on bungling or they become bureaucratic. Organizational dilettantism may be a constant phenomenon of modern organizational culture, but it is most probably preferable to successful bureaucratization (see Seibel, 1992, p. 18). That is why reflecting on the educational institution must also deal with the handling of incompetence and those dimensions of organizations which are unavailable or hardly available, i.e. the fundamental limitedness of purposeful effect and transparency. But it is astonishing how little 'evidence-based' important attempts at reform can be to be nevertheless initiated and implemented, how it is possible in this sense to 'bungle functionally' and how representatives of educational research and education policy can mutually profit from each other, even without having – not to speak of being able (!) – to answer the question of which chains of effects can really be proven at the level of school and teaching.

4. Can 'Organized Anarchies' Be Controlled?

According to a meta-ethical rule, 'ought' must include 'capability'. What cannot be done cannot be demanded, after all. Who wants to prove that an improved steering of the educational system as a demand will be convincing after all only if he/she is able to make the capability-aspect plausible. Of course, one may always believe in one's own effectivity; positive illusions ('illusions of control') characterize a good deal of human activity, most of all if insight and experience are lacking or ignored. As the fundamental contradictions of the educational system are inherent in democracy, the respective generations must expect reform. Of course, this does not mean that one must identify with them. Permanent educational reform covers the fact that the educational system can be steered only to limited extent (Luhmann 2002). With good reason: if it is not that social origin shall decide about the future, under democratic premises only the individual child's or student's performance, the so-called 'learning success', can decide. At the same time, this 'answer' to the problem of inequality is itself problematic because justice and equality of opportunity are mere wishes and not reality. Thus, the educational system has hardly any other choice but to answer its inherent contradictions by permanent attempts at reform. 'Now, if one observes', as Luhmann (2002) states, 'the respectively reformed system, one gets the impression that the main result of reform is creating the need for further reform' (p. 166). 'That reformers do not lose courage but after a period of weakness start once more' is 'typically' also due to soon forgetting 'that what is intended has been attempted once (or several times) before and become a failure' (p. 166). For Luhmann, the most important resource of reformers is an achievement of the system's memory: 'forgetting' (p. 167). As shown by Rothblatt's study, educational systems will not necessarily learn much from the mistakes of others (2007, p. 321).

The fact that in the past educational systems could be more or less fundamentally changed is not a convincing indication of their controllability, as far as controllability is meant in the sense of doing justice in the desired way to as many aspects and functions of the educational system as possible, of not reducing it to a few parameters and of being aware of the side effects of the respective reform.

However, this 'philosophy of controlling' is contradicted by the problematic consequences which become probable due to the use of the one-sided and effectful tool of centralized measurement of performance. Nichols & Berliner's (2006) analysis of the appropriate effects in the USA has become well known under the title *The Inevitable Corruption of Indicators and Educators through High-Stakes Testing*.^[4] But from what do these corrupting effects result? Maybe, some explanations on the concept of 'organized anarchy' (Cohen et al, 1990) will be helpful. According to James March, schools and universities, but also criminal organizations, are prototypical examples of 'organized anarchies'. Organized anarchies are organizations for which three features 'are typical', that is '(1) problematic preferences, (2) unclear technologies and (3) fluctuating participation' (Cohen et al, [1972] 1990, p. 330; see also already Lindblom, 1959). I will return to these three characteristics in a moment.

School is not chaos but organized anarchy; universal structuring features are fundamental to it. Baumert (2002) names four: firstly, other than with everyday learning, learning at school can be organized systematically, long-term and cumulatively (p. 4). This makes a 'graduation of that what has been achieved: better/worse, higher/lower, faster, more slowly' (p. 5) possible. Secondly, this way it is possible to judge on performance at school or performance-topical acting of students according to universalistic, that is affectively neutral, quality criteria (p. 5.). Thirdly, respectively there is a dual chronological horizon: 'One learns cumulatively in the presence for the future', and although, Baumert states, this is most uncertain and in most cases not true at all, school occupies 'the biggest space in the lives of young people and forms a *life world* by its own right which is not according to the logics of institutionalized learning processes or could be subsumed under future demands' (p. 5). Fourthly, the primacy of the cognitive or reflective can be stated for access to a variety of fields of life: 'Reflectivity and the primacy of the cognitive are probably a kind of protection against indoctrination which is inherent in school' (p. 6). Baumert identifies these four structural elements as the 'secret' educators of school, which work 'universally', as he states. In respect of education, thus far goes his claim: on the whole schools are only little different from each other, other than in respect of the 'fruits of teaching' (p. 6). However, the knowledge of the long-term effects of these differences – and most of all their causes – must be considered to be only modest. Sometimes, even in the sciences what is successful is what 'most of all is perfectly congruent to existing moral opinions' (Kagan, 2000, p. 21) as well as education-politically correct or not indecent, such as the idea that if not the knowledge then at least the skills acquired at the times of school and studying are most of all connected to the quality and contents of the teaching one has experienced. It seems as if one is not willing or able to give up on these claims. Even more refreshing – to give just one example – was the educational sociologist Abbott's address to the first-years at the University of Chicago in the year 2002, summarizing his as well as others' research results:

Everyone over thirty knows that, as far as content is concerned, you forget the vast majority of what you learned in college in five years or so. But, so the argument goes, the skills endure. They may be difficult to measure and their effect hard to demonstrate. But they are the core of what you take from college But the evidence that college learning per se actually produces these skills is pretty flimsy. While we do know that people acquire these skills over the four years they are in college, we are not at all clear that it is the experience of college instruction that produces them. (Abbott 2002, p. 8)

5. Do Current Educational Reforms Serve for Quality Assurance?

In short, it is somewhat annoying that currently the fact of the *fundamental limitedness* of the possibilities to control and steer school and learning at school attracts so little attention. At the institutional, administrative, curriculum and evaluative levels the escalating rhetoric of the competence discourse reflects a need for an illusion of control which is indeed politically significant, but from the pedagogical and profession-theoretical point of view it is not convincing and must be criticized.

Indeed, the ambiguities of the goals of school and educational systems cannot be denied, as we find in every theory on school. The clear emphasis chosen by the current competence discourse looks like the absolute will to make this variety disappear which is so typical for democratic

educational institutions coming along with the various – desired and necessary – pedagogical identifications and self-descriptions of the system's main actors, something which is an illusion in the long run. Rational models of decision-making behavior, which must assume that the preferences of decision-makers are essential for their acting, soon reach the limits of their plausibility. It is rather, as is the insight of the model of organized anarchy, that the decision-makers' preferences are only uncovered by their actions. Problems are dealt with without the possibility to make rational, preference-guided decisions. Existent tools for a solution – e. g. performance surveys – so to speak rather define the problem and the preference instead of working as a means to solve earlier identified problems. This places some typical demands on current educational researchers: now they must do research also where there is hardly anything to recognize (with the exception of temporary Olympic-sports rankings), they carry out evaluations without knowing about their necessity, they are under the pressure of regularly finding or, if necessary, producing 'evidence' for political acting without being able to publicly question this cognition policy, e. g. in respect of what could count as 'evidence' at all and what could not, and again and again they must compare apples to pears, carrots to potatoes, without being provided with a theory of fruit or vegetables. Creating problems, preferences and problem preferences by way of solutions results in hardly asking any more which topic shall be researched at all and why. With this questionless scientific nature or science of questionlessness – topics, but no questions – it becomes perfectly understandable why education politicians and some educational researchers vie with each other for the championship of spontaneous ad hoc interpretations, ex post and 'how it was possible that' hypotheses. If nothing else, a comparison to Finland will help; in that context it is always possible to make a statement.

The technology deficit in the field of pedagogy and education is appropriate to the criterion of the 'unclear technologies' of organized anarchies which – unplanned and not rationally organized – do work all in all, although decision-makers find it difficult to explain why. Coincidental discoveries, stopgaps and the results of trial and error procedures keep organized anarchy alive in a way which is difficult to comprehend. Additionally, there is the problem of individual preferences: whereas normative or descriptive theories of choice and decision-making behavior must assume that preferences are absolute, relevant, stable, consistent, precise and exogenous, at the level of the individual it seems to become obvious that none of these 'characteristics of preferences ... seems to be consistent with observations on the choice behaviour of individuals' (Cohen et al. 1990, p. 310, my translation).

Also the third criterion, which is fluctuating participation, is essential for all levels of the educational system; that is, interpersonal, organizational and cross-organizational levels. Decision-makers and their policies or 'sub-policies' change often, and the amount of time actually invested by them for the solution of certain problems is considerably different. If one succeeds with raising the attention of decision-makers or with activating them, and if then certain people with certain competences will indeed deal with certain problems, or if they will deal with other problems or with none at all, or if they will deal with the problems in question in an unintended way, is more or less a matter of coincidence. After all, how could more or less autonomous people act differently?

Whoever is not able to stand this typical vagueness and these ambivalences which are always connected to complex systems, whoever is not able to stand that again and again decisions must be made on the basis of badly defined and inconsistent preferences, should better not be provided with the power to define what the problems of the educational system are and how they could be solved.

So, do current attempts of school evaluation serve for quality assurance? As an account, at first three reasons shall be given which Becker (2007) has recently stated in order to show that no prospects for a reform of educational systems can consistently be derived from the PISA results (pp. 23ff.) These points of criticism are of importance for the current debate on reform. According to Becker, the first reason is that for the debate on and after PISA it has not seriously been taken into consideration 'if those phenomena as being claimed to be educational problems are much less connected to the educational system itself than previously stated' (p. 23. my translation). For example, there were good reasons to assume that the causes of social inequality in respect of reading skills can also be found outside the educational system; 'education policy would be both naive and ineffective if these facts were not considered, and if it was satisfied with specially supporting socially disadvantaged children within the educational system' (p. 24).

The second reason is of a methodological nature. Due to PISA's methodical limits, Becker states, 'neither empirically nor logically' is it possible to derive 'education-political recommendations in the sense of rational, i.e. scientifically reasoned social technologies' (p. 24). And, while quoting Pekrun: 'Usually, comparative studies on students' performance are summative evaluations with a cross-sectional, non-experimental design, that is a design type with little causal meaning' (Pekrun quoted in Becker, 2007, p. 24).

But even if surveys such as PISA did not show methodical restrictions and we would know 'the causes of the genesis, development and distribution of skills' – as is the third reason given by Becker – there would not be any necessity to derive reform prospects. Accordingly, educational reports in Switzerland and Germany, he states, point out to problems of 'early and highly selective transitions to Secondary Level I', but some education politicians and even some educational researchers simply deny this problem.

But what would have to be guaranteed to make us assume that educational standards – aiming at normed, standardized, evaluable and comparable learning – serve for so-called quality assurance? This connection is mostly claimed (Köller 2007) as being a matter of fact. Only a few have a more differentiated view of the connection. Among them there counts Helmut Heid (2007). The question Heid asked was: Which causal connection must be empirically confirmed to allow for concluding from students' learning success or failure on the quality (and performance) of the educational system? Without claiming such a connection, the current reforms could be even less justified (than they already are). According to Heid, who in his own words even simplifies things here, there would have to be at least the following five-pieces effects chain:

- 'The realization of what has been codified by standards is the result ('effect') of definable or measurable learning activities, more generally: of successful learning.
- Successful learning is the result ('effect') of identifiable teaching activities, more generally: successful teaching.
- Successful teaching activities are an expression (indicator) of a high degree of teaching skills.
- A high degree of teaching skills is the result ('effect') of successful teacher training.
- Successful teacher training is the result ('effect') of good educational research. (Heid 2007, p. 37, my translation)

If these connections cannot be proven, Heid goes on, 'meeting a standard means only that the standard has been met – and nothing else!' (p. 37). Whereas basically there is much educational and pedagogical knowledge of what means quality of school and teaching, for the time being the claim that educational standards serve for quality assurance stays without evidence.

Concluding Remarks

Thus, the two solitudes will stay, as we must hope. Paradoxically, educational research and pedagogical practice are close to each other, but they have little or nothing to tell each other. That is as it shall be. But that kind of educational research which is not cognition-guided and does not evaluate theory-based assumptions but understands itself to be a tool of educational administration and education policy or accepts being used as such shows a number of also unintended effects on the organization of practical work which, as it seems, can hardly be controlled. Educational research, on the other hand, which is rather guided by theoretical, methodical and empirical questions and less by pseudo-questions and the exploitation and control demands of educational institutions, has for the time being been much less changed and influenced than may be desired by some. But currently the wish for usefulness and absolute effectivity – an expression of an old, widespread and understandable 'skills nostalgia' – seems to be the greater evil, for it replaces the need for asking and weakens the desire for cognition, without which science and research would be as boring and bureaucratic as they often look to us these days.

Notes

- [1] 'Not only those experts that are being trained in these disciplines, that is teachers, university teachers, officials from ministries of education and arts, practitioners of further education, expert journalists, ask about the results of research but also educational-scientific laypeople such as journalists alien to

- the field, politicians, occasionally also parents. This shows consequences other disciplines have hardly to care about' (Kahlert & Reinmann 2007, p. 11, my translation)
- [2] Mis- and/or over-interpretations of results which, according to scientific criteria, have been produced in an appropriate way, happen always 'when action consequences for education-political steering of the organization of teaching practice are immediately derived from empirical data' (Stanat, 2007, p. 15, my translation).
- [3] A former version of the following sections appeared in the German language (cf. Reichenbach, 2008).
- [4] According to Nichols & Berliner, this way the law named after the American social psychologist Donald Campbell (1975) – Campbell's Law – is confirmed, which – as we all know – says: 'The more any quantitative *social indicator* is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor' (Campbell, 1976, quoted by Schirp, 2006). If quantitative performance results become the only or dominating point of reference for judging on the quality of school, a distorted image of the actual performance of the examined schools will be the result. Nichols & Berliner (2005) as well as Nichols et al (2006) describe the corrupting effects in detail. Among them there count: administrator and teacher cheating, student cheating, exclusion of low-performing students from testing, misinterpretation of student drop-outs, teaching to the test, narrowing the curriculum, conflicting accountability ratings, questions about the meaning of proficiency, declining teacher morale, score reporting errors.

References

- Abbott, A. (2002) *Welcome to the University of Chicago*. Ansprache für die Erstsemester der Universität Chicago. Im Originaltext aufgelegt als Beilage von *Forschung & Lehre* 08 / 2007.
- Baumert, J. (2002) *Deutschland im internationalen Bildungvergleich* [Comparing Germany's educational performance from an international perspective]. Deutscher Bildungsserver, Onlineresource 15249. <http://www.mpib-berlin.mpg.de/de/aktuelles/bildungvergleich.pdf>
- Becker, R. (2007) Lassen sich aus den Ergebnissen von PISA Reformperspektiven für die Bildungssysteme ableiten? *Schweizerische Zeitschrift für Bildungswissenschaft*, 29(1), 13-29.
- Campbell, D.T. (1975) Assessing the Impact of Planned Social Change, in G. Lyons (Ed.) *Social Research and Public Policy*, 3-45. Hanover, NH: Dartmouth College.
- Cohen, M.D., March, J.G. & Olson, J.P. (1990) Ein Papierkorb-Modell für organisiertes Wahrverhalten, In J.G. March (Ed.) *Entscheidung und Organisation. Kritische und konstruktive Entwicklungen und Perspektiven*, 329-372. Braunschweig: Gabler. (Originally published in *Science Quarterly*, 17(1), March 1972.)
- Heid, H. (2007) Was vermag die Standardisierung wünschenswerter Lernoutputs zur Qualitätsverbesserung des Bildungswesens beizutragen? In D. Benner (Ed.) *Bildungsstandards. Chancen und Grenzen, Beispiele und Perspektiven*, 29-48. Paderborn: Schöningh.
- Kagan, J. (2000) *Die drei Grundirrtümer der Psychologie*. Weinheim: Beltz (Original work published 1998.)
- Kahlert, J. & Reinmann, G. (2007) Einführung, in J. Kahlert & G. Reinmann (Eds) *Der Nutzen wird vertagt. Bildungswissenschaften im Spannungsfeld zwischen wissenschaftlicher Profilbildung und praktischem Mehrwert*, 9-19. Lengerich: Pabst Science Publishers.
- Köller, O. (2007) Bildungsstandards, einheitliche Prüfungsanforderungen und Qualitätssicherung in der Sekundarstufe II, in D. Benner (Ed.) *Bildungsstandards. Chancen und Grenzen, Beispiele und Perspektiven*, 13-28. Paderborn: Schöningh.
- Lindblom, C.E. (1959) The Science of Muddling-Through, *Public Administration Review*, 19, 79-88. <http://dx.doi.org/10.2307/973677>
- Luhmann, N. (2002) *Das Erziehungssystem der Gesellschaft*. Frankfurt am Main: Suhrkamp.
- Marquard, O. (2003) Inkompetenzkompensationskompetenz? Über Kompetenz und Inkompetenz der Philosophie, in Odo Marquard *Zukunft braucht Herkunft. Philosophische Essays*, 30-45. Stuttgart: Reclam (Original work published 1974.)
- Mérö, L. (2004) *Die Logik der Unvernunft. Spieltheorie und die Psychologie des Handelns*. Reinbek bei Hamburg: Rowohlt (Original work published 1996.)
- Münch, R. (2009) *Globale Eliten, lokale Autoritäten. Bildung und Wissenschaft unter dem Regime von PISA*, McKinsey & Co. Frankfurt am Main: Suhrkamp.

- Nichols, S.L. & Berliner, D.C. (2005) *The Inevitable Corruption of Indicators and Educators through High-Stakes Testing*. Tempe, AZ: Arizona State University.
- Nichols, S.L., Glass, G.V. & Berliner, D.C. (2006) High-Stakes Testing and Student Achievement: does accountability pressure increase student learning? *Education Policy Analysis Archives*, 14(1). <http://epaa.asz.edu/epaa/v141/> (accessed 4 September 2006).
- Reichenbach, R. (2008) In der 'Concorde-Falle'. Erfolgreiches Scheitern von Bildungsreformen, *Schweizerische Zeitschrift für Bildungswissenschaften*, 30(1), 53-63.
- Rothblatt, S. (2007) *Education's Abiding Moral Dilemma. Merit and Worth in the Cross-Atlantic Democracies, 1800-2006*. Oxford: Symposium Books.
- Schirp, H. (2006) 'Wie die Fischer im Mahlstrom!?' Zum Zusammenhang von zentralen quantitativen Leistungsmessungen und qualitativer Schulentwicklung (unpublished manuscript)
- Seibel, W. (1992) *Funktionaler Dilettantismus. Erfolgreich scheidende Organisationen im 'Dritten Sektor' zwischen Markt und Staat*. Baden-Baden: Nomos.
- Stanat, P. (2008) Entstehung und Umsetzung von Innovationen im Bildungssystem als Konsequenz aus Bildungsmonitorin, Bildungsberichterstattung und vergleichenden Schulleistungsstudien – Möglichkeiten und Grenzen, in LISUM (Germany), bm:ukk (Austria) & EDK (Switzerland) (Eds) *Bildungsmonitoring, Vergleichsstudien und Innovationen. Von evidenzbasierter Steuerung zur Praxis*, 11-24. Berlin: Berliner Wissenschafts-Verlag.
- Weber, M. (1976) *Wirtschaft und Gesellschaft* [Economy and society]. Tübingen: Mohr. (Original work published 1922.)

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