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ORIGINAL ARTICLE

Trust in the education system – thoughts on a fragile bridge into the future

Inka Bormann · René John

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Abstract This article discusses trust and its evident crisis with a particular focus on the education system (1). Subsequently, the function of trust in the complex knowledge-based society is highlighted (2). Using implementation of evidence-based governance in education as an example, this paper shows how social complexity increases by linking several partial systems (3). This is followed by a discussion of some perspectives on how these combinations can be interpreted with regard to trust (4). Finally, aspects of future theoretical and empirical analysis of trust in applied social science educational research will be outlined (5).

Keywords Trust · Mistrust · Evidence-based governance within the education system

Introduction: trust in the knowledge-based society

In this paper we will highlight the increasing uncertainty concerning the education system's performance under the conditions of a knowledge-based society. In our discussion the notion of a knowledge-based society is treated as a general concept which highlights an important trend of current social change. As uncertainty causes the implementation of diverse control systems, we argue that in an era of evidence-based education, general trust in education might be accompanied or even substituted by mistrust. Trust is considered an essential societal resource and crucial for the existence and welfare of nations. Subsequently, diminishing trust in central institutions such as education would affect society as a whole. Therefore, we pose trust as a desired theoretical and empirical research issue in future research.

The starting point of our discussion is the increasing uncertainty existing in today's society. This uncertainty is diagnosed and labelled as a knowledge-based society. On the one hand, this description of the present denotes the dependence on knowledge. On the other hand, it also refers to the fact that the production of knowledge simultaneously produces ignorance. This could potentially block communication, decision-making and action-taking. This is because the continuously growing amount of knowledge, as well as the lack of knowledge, increases the complexity of societal structures. Using the education system as an example, we will illustrate the complexity of societal structures. Within this societal subsystem we can observe a continual linkage of policy, science and education – a process labelled as 'evidence-based education'. Under the conditions of interwoven societal subsystems, it is assumed that the need for trust escalates. Trust is considered a special technique; a bridge between knowledge and ignorance. In other words, it is needed in cases where knowledge is lacking. Furthermore, trust is seen as risky as it is based on the assumption that the counterpart will honour one's expectations. Adjustments are made in advance, thereby facilitating present action. It is out of this assumption and its corresponding adjustments (which can only be appraised in the future), that the perception of risk is borne.

Luhmann [1] – one of the pioneering and key contributors in present day discussions of trust – argued that trust is an important means of facing the uncertainty of complexity. This uncertainty results from the problem of double contingency. Double contingency emerges in every social situation as in the most basic one, namely in interaction between alter and ego. Both are black boxes for each other because they cannot know what the other is really up to. They can only make assumptions

I. Bormann (✉) · R. John
Philipps-Universität Marburg, FB 21, Institut für Erziehungswissenschaft, Arbeitsbereich Allgemeine Erziehungswissenschaft, Bunsenstr. 3 (5. OG), 35037 Marburg, Germany
e-mail: inka.bormann@uni-marburg.de

based on attempts to understand what the other's intentions could be. The ongoing assumption amounts to a complexity which inhibits both communication and the undertaking of action. Under these circumstances, by directing expectations and attention trust reduces this basic complexity and absorbs uncertainty [ibid.]. In the face of deficient knowledge about future events and situations, it enables actors to be confident of success even if there is no guarantee [2: 265]. In addition to this, trust also has an affective component and especially an action-related one [3]. Trust provides a sense of certainty and creates a sense of coherence, so that communication, decision-making and action-taking are possible. This is owing to the fact that trust-givers, despite uncertain knowledge about the future, still assume that their expectations will be fulfilled. Trust is a means by which people can react to basic uncertainty. Due to the unpredictable nature of other's actions, this basic uncertainty can also take on the form of a danger of failure. This danger can then turn into risk [1]. Thus, danger has by no means been eliminated, but becomes limited due to observable, explicit expectations as expressed as trust [4: 370]. However in our complex modern society trust between people is no longer sufficient. Instead social complexity can only be sufficiently reduced by trust in the system(s), and more importantly, in organisations.

In modern, quickly changing social formations, trust is considered to be the foundation that supports them as well as the glue that holds them together [2, 5, 6]. However, international surveys show that the population's general trust in public institutions is showing signs of decline [7–10]. This also applies to institutions within the educational systems: Based on Gallup data, in the U.S. education system a trust crisis towards schools was identified as early as the 1990s [11]. This trust crisis was attributed to the ethnical composition of classes at school. Parents worried that their own children's individual academic performance was suffering due to the increasing proportion of children from immigrant families [12]. It was found that because of this worry parents sent their children to other schools, in particular private schools, where classes were more ethnically homogenous. Guppy and Davies [13, 14] also used the Gallup surveys to show that the time between the 1940s and the end of the 1980s was marked by a persistent loss of trust in the public education system. This loss of trust was primarily indicated by the growing number of pupils in private education. In contrast to Hagerty [11], Guppy and Davies [13] assumed the cause for the loss of trust to be the reforms in education that were taking place at that time.

Today reforms in education systems, out of all of the educational organizations, happen across all developed states. A general mistrust in their performance was already revealed by some studies. These are part of an evidence-based governance. This governance is the political means to solve the increasing uncertainty in society with the help of indicator-driven surveys. However, evidence-based governance alone does not solve the problem. Moreover, it produces uncertainty concerning the performance of educational organisations and systems, as well as the validity of assumptions about the capability of modern well-fare states' institutions.

So far, there are few studies that explicitly address trust in the education system. Furthermore, these studies arise from diverse sources. Based on representative SOEP data, Schupp and Wagner [15] showed that 49 % of the people interviewed had 'very much' or 'quite a lot of' trust in the German education system. By contrast, on the basis of a qualitative study, the Bertelsmann Foundation [16] reported that trust in public institutions in Germany was in a crisis which extended to the education system. This corresponds with data presented by the opinion research institute Ipsos [17]. This study showed that only a quarter of the population has trust in the German education system.[1]

In light of such findings it becomes understandable why there is discussion about a trust crisis [6, 21–23]. What does this notion mean, how did this problem occur, and why is the solution of evidence-based governance a part of the problem? Outlining such questions we would like to suggest trust as an important research issue for future research.

Trust as a means to absorb uncertainty in complex systems

Knowledge and ignorance in complex systems

Beside uncontrollable risks, the identification of present society as "knowledge-based" [24, 25] denotes a view of society which is increasingly gaining in complexity. This is because ignorance, risks, loss of expert authority [26: 21] or uncertainty as to how to use knowledge are spreading at the same time [27, 28]. A characteristic feature of the knowledge-based society is its differentiation into diverse, functional subsystems and the increasing interdependence between them [29]. Furthermore, the borders between the different subsystems are frequently crossed [28: 155], because, among other things, many different actors from diverse fields take part in generating knowledge [30]. The reason behind this is the endeavour to prevent unintended consequences of the application of knowledge via a regulatory knowledge policy [28: 109].

In addition to the regulatory knowledge policy one can also observe a reflexive knowledge policy. The reflexive knowledge policy discusses the newly developing orders of knowledge by taking a critical look at the intentions and practices of the actors involved in the production of knowledge [31: 699 f.]. This shows clearly that the knowledge-based society

[1] Besides this, educational reports also point to the socially unequal distribution of trust [18, 19], according to which interpersonal trust is greater between highly educated people, between people with higher incomes, between women and elderly [18: 171 ff.; also [20].

is seen as a system in which knowledge is the central axis of maintaining and developing it. Knowledge is seen as symbolic capital and as an essential resource that enables actors to shape and participate in societal developments. Nevertheless, knowledge is distributed unequally in society. Therefore, in the course of the discussion of the emerging knowledge-based society, discourses about knowledge economy or cognitive capitalism are also raised [29, 32, 33]. If trust is seen as Simmel views it [2], as an intermediate state between knowledge and ignorance, it can be regarded as crucial capital that may provide those institutions (which are basically trusted) with room for manoeuvre. This capital allows for opportunities to change plans and tactics which might otherwise remain barred.[2]

The fragility of trust

Trust as a risky means for reduction of complexity

The increasing unpredictability and complexity in the knowledge-based society demand an opposite pole. This is why generalized trust or trust in the system (meaning the kind of trust displayed towards experts, people in certain capacities or organisations [35: 84] is seen as one of the constitutive elements of modern society [1, 6].

However trust is as fragile as it is essential [1]. Trust is essential because it is a fundamental element of systems. It allows things to be done that are seemingly impossible in a climate of mistrust [6: 99]. With this in mind, in the following we will discuss the various measures taken to establish comprehensive monitoring circles. This discussion pertains to measures which are presently being set up in the education system. The usefulness and benefit of these measures are still open at the point of set-up, though it remains unclear whether the time and effort invested in setting them up are justified. At the same time trust is fragile. It is easily damaged by dashed expectations and can only very slowly be stabilized or regained by convincing measures.

Fundamentally, trust is described as a multi-factor process: "Someone has trust in something, in some respect and under certain conditions" [36: 8]. This description shows that trust in complex situations is not only necessary but complex in its own right [37]. One must take action at the present time, assuming an optimistic view of the future, although future events are unpredictable. The recipient of trust has many different options, but trust as a pre-condition of action is focused on one of these possibilities only, and thus limits expectations accordingly. This is why trust can be disappointed so easily and is quickly damaged. It is, furthermore, at risk since the inclination to have trust is a very gradual process. Seen from a factual point of view, trust can be understood as a form of expectation based on information from the past. This information is projected into the future while taking effect in the present [1]. From a social point of view, trust can be understood as the result of observation.

Increasing complexity through mistrust

The following discusses the issue of generalized trust in times of knowledge-based governance in the education system. In the coming passages, we can record an increase in complexity from a) a factual, b) a social and c) a temporal point of view. Beginning with the factual level, this was not the only level on which a comprehensive education monitoring structure was adopted. Executing a comprehensive education monitoring system includes the use of a great number of instruments for generating knowledge (e.g. comparative testing, inspections, indicator-based educational reports, etc.). At the same time, socially this is accompanied by new organisations in the education system, e.g. organisations that will develop and implement knowledge generating instruments will be responsible for communicating the knowledge gained. Addressing the temporal perspective, the dissemination of information through mass media creates a delay in the formation of knowledge. However, the use of instruments, the existence of educational monitoring institutions as well as media reports of findings might defeat the intended aim. Moreover, mistrust could be fostered instead.

Mansell [38] and Murphy [39], for example, estimate that the accuracy and appropriateness of the media reports will be crucial for the acceptance of investigation results. Moreover, they will be essential for the trust in the studies and the action taken as a result of them. Endreß [40, 41] assumes that even long-standing tacit trust that is firmly established can become brittle and reflexive through confusing or disturbing information, ultimately turning into mistrust. Accordingly, we think that the trust engaged in the education system up to that point was then undermined, for example, by media reports of below-average achievements of pupils [42: 493, 14]: As a result, there are now sound empirical indications that the implicit trust granted for years in the education system's capability might have been unjustified. Although this has yet to be empirically proven, it is plausible, at least from a theoretical perspective, to assume a loss of trust. This is because "trust is a peculiar belief predicated not on evidence but on the lack of contrary evidence" [43: 234]. However, if there is evidence of poor performance of the education system, it is hard to look confidently at the possibility of improvement. In a similar way, O'Neill [44] also points to the risk resulting from the introduction of the new instruments of governance: "An associated risk is that accountability can be a source rather than a remedy for distrust" [ibid.: 10]. But if once trust has been damaged, it takes a long time to establish it anew.

[2] Even the prosperity of enterprises is based on (interpersonal) trust. Trust does grow if the enterprises are successful [5, 34].

Furthermore, in order to do so complexity increases. This is because generally measures, organisations and actors are required. Examples of this might be knowledge brokers who act as intermediaries between scientists and politicians, or instruments with which the education system's capability can be systematically monitored and checked.

In terms of reducing complexity by observing others for the sake of finding further justification, mistrust is equivalent to trust. However, mistrust makes successful communication and cooperation with others more unlikely. If trust has been diminished it requires enormous efforts to be regained, as it is a struggle against the persistent tendencies of mistrust. This cannot be achieved without external control mechanisms. However, these control mechanisms inevitably lead to increased social complexity. This will be demonstrated in the following using evidence-based governance in the education system as an example. Henceforth both the linking of the various systems as well as the institutionalization of check-ups will be evaluated in greater depth.

Trust and structural linkage

It is typical for the knowledge-based society that several societal functional systems are linked [27: 33]. In this paper we focus on the combination of education with science and politics in the context of the evolving evidence-based governance in education. The phenomenon of the scientification of educational policies, where governance depends on evidence, is an indication of the linking of subsystems. Further linkages become apparent in the politicization of science, where specific knowledge about education is made available. Science generates instrumental knowledge. On the one hand it is used by politicians to solve problems, as is the case here, in the field of education. On the other hand it can be used to legitimize educational policy decisions as well. That is to say, politics are in charge of the resources for science as well as their institutional protection [ibid. 27 f.]. This is because the diagnoses and needs in the field of education provide legitimization of political control and agenda-setting in scientific research. Analytically, the matching of services or the mutual dependence of subsystems on each other cannot be perceived as dissolving borders between them. Rather, this can be seen as an act of structural pairing.

According to system theory each functionally distinguished system has its own individual communication code. In the system of education the code is communicable/non-communicable, in the scientific system it is true/false and in the political system it is power/powerless (or opposing). Due to the semantic differences in the specific codes, (which serve as the bases for internal communications within the functional subsystems), respective subsystems are regarded as operatively locked. At the same time they are open to information. Thus, not only are they able to communicate with one another, they also selectively allow themselves to be irritated by each other [1: 100 ff.].

Problem and solution part I: linking through mechanisation

The thesis states that linking diverse subsystems which have been carried out in the field of education and induced by evidence-based governance has been made possible by technological advances. These have taken place through the implementation of new governance mechanisms. While the scientific system is mechanised through "certain methods" [45: 70], the political system is mechanised, among other things, through the return to technocracy [46]. In the education system, the complex forms of the new governance model are being imposed on education to revise the interaction mechanisms on the organisational and system's level that have been deemed deficient [47]. If it is true that the aforementioned functional systems are becoming mechanised, the structural linking will ensure that relevant information will be translated quickly and appropriately from code to code. Could trust and mistrust in the mechanisms be seen as a quasi-universal communication code through which mechanised systems are linked to one another? Weingart [27] takes a similar stance with his view: the (side-) effects of linkages in the science system are actually changes in the mechanism of self-control and legitimization. These undermine the originally existing trust and, as a consequence, demand external agents in order to regain the damaged trust [ibid.: 32]. This process is regarded as the establishment of control systems and mechanisms. These forms of social mechanisation generate information which, seen from a system-specific point of view, is being used as knowledge for regulative purposes. However, when these mechanisms generate information they also depend on the trust of all relevant parties.

Theoretical opinions differ regarding the evaluation of the relationship between check and control mechanisms and trust. On the one hand, it is assumed that check and control mechanisms are interlaced with trust and thus are not mutually exclusive. Möllering [48], however, believes in the duality rather than the dualism of check and control mechanisms and trust. According to him, the check and control mechanism of a system may be the prerequisite of trust and, in turn, the trust in the system may encourage the trust in its checks and control. Indeed, a system is trusted because it provides mechanisms of checks and control. By extension, the control mechanisms are also trusted [see also 49, 50]. Nooteboom [36] arranges trust and checks and control in a time sequence by assuming that trust becomes necessary when checks and control end [ibid.: 4]. Luhmann [1], in contrast, expresses a more radical view by saying that the transparency created through checks and control does not require trust at all. If, on the other hand, checks and control are taken as statements of mistrust, they gain,

according to Luhmann [ibid.: 113], a system-stabilising function: "Whether systems are trusted … may … decisively depend on whether trust is suspended at critical points and mistrust is applied".[3] With regard to trust towards institutions, Shapiro [50] argues that the checks and control of these institutions might set off a spiral of mistrust [ibid.: 652]. On the other hand, trust and checks and control are regarded as compatible with each other. Hartmann [37], for example, assumes that those who have trust do not need monitoring and control and will do without. Luhmann [1: 26] says that it is contradictory "to the function and style of trust to demand or offer detailed factual information and expert proof" [see also 4].

However, if trust alone is no longer sufficient, and if the complex conditions must be stabilized through checks and control, this kind of dealing with contingency may, in the end, undermine trust. Checks and control primarily do not generate trust, but rather transparency. It is a means of creating knowledge, which replaces trust. Trust changes the focus and directs it towards the instruments of checks and control. How can the structural linkage between related partial systems be upheld under these circumstances? What other informational translations are taking effect here?

Problem and solution part II: "evidence-based governance" as generative metaphor

In the knowledge-based society, knowledge becomes an essential resource of education governance. At the same time, knowledge is unequally distributed between the conflicting poles of politics, economics and science [51–53]. Besides giving educational policy-making this new specific foundation, evidence-based governance also leads to educational policy becoming more scientific. Due to the fact that evidence is processed by the media much more than before, this tendency towards a scientific character corresponds to the communization of decisions. This communication of decisions leads then to specific trust-figurations. In former times these started from trust in external sources and then came to interpersonal and professional trust. By now, also trust against expert systems and their instruments of control as well as their mechanisms to produce knowledge is common [54, 55]. From this it follows that communization and gaining more scientific attributes are related to each other in terms of performance. Consequently, in the following 'evidence-based governance' is to be regarded as a generative metaphor which can guide the translation from one code to another, thus offering a different kind of connection between the subsystems.

A generative metaphor is to be understood as a figurative description of social situations. This description serves to both help pre-interpret problem situations as well as provide preformed solutions to them [56]. Because they are open to multiple interpretations, fundamentally this makes them good connectors in communication. Furthermore, such metaphors can be regarded as soft governance instruments, which are used to try and influence recipients in a targeted way [57: 139, 141].

If the figure of the generative metaphor is transferred to the current dominate forms of governance of education systems, an interesting picture crystallizes. A few years after the PISA shock,[4] comprehensive monitoring systems were installed in many countries [59]. The aim was to detect shortcomings in the education system in order to improve its performance. This was undertaken through, for example, competence tests, comparative testing, quality control and school inspections. This is called "evidence-based governance" of the education system [45, 60, 61]. Understood as a generative metaphor, the notion of evidence-based governance points to the problem that education policy has essentially been acting without substance thus far. Therefore this is a policy which is responsible, for example, for the bad PISA results. Conversely, this metaphor suggests that these problems could be solved by falling back on tried and tested knowledge. Furthermore the education system could be directed through politically determined stipulations. According to this, the re-assuring use of the term of evidence-based governance goes along with performance [62: 21 ff.]: In order for knowledge to gain the attractive label of "evidence", conditions must be created that will allow the creation of comprehensive monitoring systems as well as making "certain methods" hegemonic [45]. In this sense the metaphor of evidence-based governance can be understood as the cognitive instrument [63: 55 ff.] of a specific politics to gain insight [64] or a knowledge policy [31]. This makes it possible to establish "numerocratic rules" [65: 174]. It is within these rules (using the supposedly neutral methods and instruments of a "governance by numbers") [66–68], that political, economic or social factual targets are to be achieved [69: 75]. This is made possible by the deeply ingrained social trust in numbers and figures [70, 71].[5]

However, the development of evidence-based governance does not only seem to increase knowledge about education. It also appears to be accompanied by increased media attention to the education system or rather, its deficiencies. This is precisely the sense of the aforementioned characteristic of "communization of scientific knowledge". According to Luhmann [74], it can be assumed, that most of what we know about the education system, as about everything else, we have learned from the media. The latter plays a significant role and

[3] This and the following quotes of Luhmann [1] are our own translations.

[4] These results were not surprising. As early as in the 1960s Picht [58] talked about the "German education catastrophe". Subsequently, educational policy up into the 1990s was focused increasingly on economic considerations. It is especially apparent in the introduction of the new governance model, in the context of which the participation in PISA can also be seen as rational.

[5] But possibly because of this process and the seemingly undeniable evidence by numbers trust is met with scepticism [72, 73].

carries significant responsibility concerning knowledge and ignorance about the education system and its capability. However, media reports about research results in the field of education are by no means unbiased. Murphy [39], for example, shows how the media influences public understanding of education by their tendentious information about the national examination results in the UK. The media accomplishes this by using a limited repertoire of "structural, narrative and presentation templates" [ibid.: 144]. This is problematic especially because "educational assessment results are… a brand which depends very much on the confidence of the consumer" [ibid.: 142]. If data is used selectively or manipulatory – whether by the media or politics – it can, quite probably, have an impact on the loss of trust in the education system. In regards to the British school system, according to Mansell [38], it bears the risk that "parents might lose confidence in schools as a result of being misled about what is known about reading standards" [ibid.: 131]. It is maybe for this reason as well that public institutions are endeavouring to stabilize the trust in the reliability of their findings about the education system [75, 76].

By reverse logic this means if there is no longer trust in the assessment of the education system, it could result in people having no trust in individual organizations. Moreover, the instruments used to gain the results reported in the media and used by politics might lose their legitimacy. To a certain degree, it is suggested that reported results are connected with trust in the education system.

This connection between trust and the instruments of new governance can be seen from two different sides. On the one hand, it could be argued that the instruments of new governance are replacing the formerly existing trust. On the other hand, the very fact that new instruments of governance have been introduced may be seen as an indication that trust has been damaged and must now be regained [77]. Therefore, trust or rather damaged trust can be regarded as a condition for the introduction of monitoring instruments. Conversely, it can be understood as the result of the reports of findings generated by these instruments.

As shown in the following section, from a theoretical point of view both perspectives are quite plausible. However, no matter which perspective is applied, the connection between trust and evidence-based governance is precarious. In the knowledge-based society, there is an ever increasing dependence on expert knowledge and thus an increasing need for trust in expert systems. Simultaneously, this trust is growing fragile and appears to be headed towards a crisis.

Erosion of trust or shifting of trust?

The introduction of new governance instruments bears the dilemma that the complexity originally reduced through trust will at least temporarily increase again. This is because in order to regain trust a "new" complexity must be set up, which in turn will have to be reduced again. In this way, the above-mentioned organisations and knowledge brokers (which are meant to ensure the credibility of tests and test results) increase complexity. These measures remain risky in so far as it remains unclear whether they can fulfil their function and succeed in stabilizing trust. In order to determine in what way the introduction of new governance instruments are relevant to trust, the risks entailed in them must be considered. Risks might be the high costs incurred by the introduction while at the same time there is uncertainty as to how to translate the findings generated. Moreover, it may be uncertain as to whether any improvements to the problematic issues would actually be achieved. Risks also exist in: possible resistance to the introduction of the instruments, the great expenditure of time as well as in the fact that results will be documented and communicated even if they do not fulfil expectations [36]. The question that arises now from all this is whether one should assume that this constitutes an erosion of trust and/or a development of mistrust.

Trust and mistrust

There are different opinions about what the proportional relationship between trust and mistrust is. It may be that: a) trust and mistrust replace each other; or b) trust and mistrust might complement each other or actually occur at the same time, in the sense that both forms of complexity reduction coexist. A further perspective to complete this picture is the thesis that we support in this paper, namely that c) trust in organisations and actors is being shifted to instruments of checks and control.

Trust and mistrust as mutually exclusive – or: erosion of trust as the driving force of growing mistrust?

If one regards trust and mistrust as two sides of a coin, it stands to reason that if trust diminishes, mistrust will grow. This could also be described as a reciprocal relationship.

This is the position one will find if one says that trust is being replaced by something else. For example, trust can be replaced by checks and controls or accountability, as it is happening in connection with the new governance in the education system. Pechar [78] rather pointedly characterizes the development of demands for accountability in higher education and research policy as the replacement of what used to be advanced trust. This is also noticeable in other areas of education. For example, in pre-school institutions, language learning diaries and education plans have been introduced. Schools are subject to inspections, and lessons are designed to meet educational standards. The results of these lessons are obtained through competence tests, and in institutes for continuing education competence passes are issued and quality tests carried out. In universities in particular evaluations of courses and instructors are taking place. Indeed, in all areas of

education, introducing and executing accountability in the course of the new governance is interlocked with the establishment of quality development, quality control and quality management systems. Along the same lines, Codd [79: 45 ff] describes quality as the metaphor of new forms of managerial control. Indeed, because trust no longer forms the basis of professional ethics, such control is becoming necessary [see also [80, 81]. Codd [79: 48] sees the introduction of such instruments and institutions as an expression of "policies of distrust". Münch [81: 75] also observes that the new governance model "replaces trust with fundamental mistrust." He goes on to say that bureaucratic regulations are ineffective and expert autonomy is abused.

From a functional point of view, trust and mistrust are to be regarded as equivalent i.e. as a solution for the problem of the possibilities of communication, decision-making and action-taking. This holds true even though the consequences of trust and mistrust are different [1, 41: 85, 82: 290] and can only be assessed as good or bad by their results. Both trust and mistrust are seen as an expression of a "committed attitude" [83], which only makes sense when in connection with the aim to which the actor aspires. The abstract aim of both trust and mistrust consists in reducing the complexity of the social situations resulting from (reflexive) ignorance. Both achieve this by disregarding ignorance. However, mistrust blocks interaction. When this happens people may perhaps look for further information for confirmation, which in turn leads to further blocks. Regarding the organisations responsible for those checks and controls which are trusted, the "amount" of trust they receive depends on their functionality: "Well-functioning institutions need little trust for their stability, while malfunctioning ones need a lot of trust in order to survive"[6] [82: 286].

In the face of the "evident" shortcomings of the education system, it seems that the education system will require a great deal of trust for its survival. What is apparent though, is an ongoing fundamental restructuring of the education system according to the demands of economic rationality. This restructuring finds expression, for example, in the evidence-based, performance-oriented target agreements and in the allocation of resources.

Can this, besides the introduction of monitoring instruments, be taken as a further indication of declining trust in the education system? Again with Lepsius, this question must be answered in the affirmative. This is because the existing rules and procedures seem to be regarded as ineffective – otherwise there would be no need for restructuring: "Trust in institutions reaches its breaking-point when the rules and procedures that give structure and control to their actions are no longer deemed efficient" [82: 288]. Hence, ongoing reforms can be interpreted as expressions of perceived inefficiency. They are constantly addressed by new measures, instruments and rules. However, there is a tendency for reforms to always call for further reforms [84], thereby fostering complexity. As a consequence, the initiated continuity of reforms makes it very difficult to follow up with communication that is inherent to the system. The result of this could be that the system's very existence might even be called into question [85].

Trust and mistrust as two independent phenomena: the coexistence of trust and mistrust

Trust and mistrust may also be regarded as phenomena that occur more or less independently of each other. Hence, it can be assumed that it may be possible to find that trust and mistrust exist at the same time. This would be the case, for example, if an actor were to have little trust in an institution's services, but might have trust in one specific representative, a personal "face" of this institution [6], e.g. a teacher or principal. In such a case it is a different kind of trust. Some authors call the trust in institutions that is based on the trust in their representatives' ethical trust. While trust in institutions is focused (rationally) on whether the rules and regulations of these institutions are followed, ethical trust has a habitual anchor and is fed by the perception of trustworthiness. This perception goes beyond the present moment taking place.

Starting from the interpretation that an erosion of trust in public institutions is occurring, it is also conceivable that rational trust is decreasing, while ethical trust as a further component of trust in institutions remains stable. It is just as conceivable that while rational trust in institutions turns into mistrust, ethical trust remains as it is. Furthermore, present dealings with these institutions need not be affected by this mistrust. This is why an assumed shift towards mistrust can hardly be recorded in a methodical and controlled way.

From this point of view the diagnosis of the erosion of trust is therefore also a question of the choice of the segment under observation. If the focus is on rational trust in institutions and the measured trust is shrinking, it seems reasonable to interpret this as erosion of trust. Moreover, it is safe to assume that the original trust is now being replaced by mistrust. On the other hand, it can also be assumed that it is the chosen focus of observation that leads to the conclusion that an erosion of trust is occurring. It is also conceivable that trust is shifting away from institutions as the object of trust and towards the instruments institutions use to give proof of their legitimacy. In this case trust still exists in the system, but it is directed towards alternative elements. This scenario and conclusion is suggested by both Luhmann and Lepsius. Lepsius [82: 290], for example, emphasises that mistrust in institutions is not necessarily an indication of their weaknesses. Luhmann [1: 56] states that trust in systems also includes trust in their immanent checks and control: "Checks and control must be … moved

[6] This and the following quotes of Lepsius [82] are our own translations.

into the trust-seeking systems and must be made explicit, or even be organised there". Thus, if an erosion of trust has been attested in the education system, checks and control must be installed in order to regain trust or at least to reduce mistrust. This is currently being done through the implementation of new governance instruments in the sense of the "institutionalizing of mistrust" [ibid.: 118]. The necessary condition to fulfil this function is that the instruments of institutionalized mistrust – in this case the instruments for generating knowledge about education – are trusted themselves. This leads to our thesis that trust is shifted from the organizations and expert systems to the instruments of institutionalized mistrust trying to observe them.

Shifting of trust in institutions towards trust in instruments and the methodological consequences for the observation of these instruments

From the perspective of trust theory, the thesis can be proposed that: in the course of the newly ignited discussion about the methods of gaining insight and knowledge that are appropriate to the research object, there is an apparent shift of trust. This shift is, namely,towards the methods and instruments. If, for example, due to negative reports on the capability of the education system, there is cause for trust to be diminished, it seems reasonable that there is a solution to regain or stabilize the now damaged trust. Because trust has been withdrawn scepticism exists regarding the capability of institutions (e.g., concerning the observation of regulations designed to ensure the capability), it seems reasonable that the observation of regulations as well as the performance of institutions should be checked. For this, appropriate instruments need to be introduced. But the instruments, or rather their performance, must also be trusted if they are to fulfil their function. In the discussion about suitable methods and the establishment of organisations meant to regulate the application of governance-generating instruments it becomes clear that the focus of trust can shift. That is to say the focus shifts from trust in institutions to trust in instruments, and therein institutions reveal that they mistrust [54, 86]. As has also been shown, the precondition of trust in more abstract performance structures requires that these structures are reified [1: 29]. Some participants in the critical debate on "measuring" education see this real representation of empirical research of education as a reduction of education to something that can be measured and quantified [87]. It is said that in this way something is being installed which Angermüller [65], (with reference to Foucault's thoughts about governmentality), calls "numerocratic regimes". Such regimes are characterized by the fact that the perception, thinking and actions of actors are governed in such a way that perpetual self-regulation and optimization is taking place. This self-realization is transpiring through the orientation on numbers, statistics, or rankings. Parallel to the introduction of new governance models, a turning towards extensive government practices (with their accompanying continuous build-up of new governance models) can be also observed in the area of education. This is especially visible in those society formations which show an affirmed, accelerated transition to the knowledge-based society [79, 81, 88]. This argument is embedded in the critical review of government models that act in such a neoliberal way.

Accepted evidence

Instead of discussing the criticism of a neoliberal governmentality we will discuss the specific form of regulative knowledge generation that is connected with it. This is because what is regarded as "evident" primarily results from systematic research from controlled studies favouring the "predominance of one certain method" [45: 70]. Evidence gathered outside these "certain methods" (e.g. experimental control group designs in empirical-quantitative education research or indicator research on the macro-level) remains "disregarded from the start or is excommunicated" (ibid.). In this way, knowledge gained and legitimized by means of a limited repertoire of scientific methods becomes a scarce good that not is not accessible to everybody, as Schäfer and Thompson [26: 12 f.] assume.[7] It is not only that due to this selective prioritization of methods that the battle of about methods (assumed to that everybody thought have been overcome) might flare up again. There is also "the real danger that the debate (about the interrelation between empirical findings, research, politics and practice) might lead to a contemporary renewal of those 'paradigm wars'. To be sure, such arguments which had hindered forestalled a meaningful discussion about education research for decades" [92: 269 f.]. Furthermore, there is the worry that the methodological question of how to measure education will dominate over the questions about the aims and purpose of education. Furthermore, this would be done without approaching, reflecting on and discussing the methodological form of measuring education itself as specifically and making it accessible to designing access to the world [26, 93: 545 ff.]. However, whether the assumption of such a shift of trust will be confirmed is also an empirical question which will have to be solved by future research.

Summary and outlook on perspectives of future research on trust

This article has confronted the question of trust in the knowledge-based society. The first issue presented in this was that in

[7] See also the debate on the relationship between education theory and (empirical) education research, e.g. in Zierer [87]; Tenorth [89, 90]; Stojanov [91]).

the knowledge-based society ignorance must also be taken into account. Against this background, trust was introduced as a phenomenon which plays a central role in dealing with ignorance in terms of maintaining decision-making and action-taking capabilities. Because of its contingent complexity, it reduces the increasing uncertainty found in social situations in the knowledge-based society because of its contingent complexity, which is increasing in the knowledge-based society. In the face of the reported diminished trust in public institutions, which has been reported in numerous surveys, there has been a theoretical discussion on trust in the organisations of the education system has arisen. Trust is a multidimensional phenomenon which is cognitively and emotionally sound and relevant to behaviour. In this paper, the focus has been on the cognitive dimension of trust, within so far as the introduction of instruments of knowledge-based governance as the central point has been in the centre of attention. Beside the temporal and social functions of trust, a particular focus was on the factual dimension of trust, namely the issue of the introduction of evidence-based governance. In this respect we have worked out that in the face of negative education assessment results of education assessments and often correspondingly negative news reports, concentrating just on shortcomings, trust in the education system has been diminished. Although not yet empirically confirmed sound yet, this assumption is plausible. This is due to the perception of the background that the recent introduction of evidence-based governance instruments can be regarded as an institutionalizing of mistrust. The purpose of this introduction of such instruments which is meant to serve to regain trust.

We have further worked out that the introduction of such instruments increases the lack of transparency in the system. This opaque quality is the very reason why it cannot help regain trust. This increase in complexity is typical for the knowledge-based society, is plausible in our point of view. This is because the talk about evidence-based governance draws on a generative metaphor. This serves as a social-technological means of translation to link various subsystems. What remains open, however, is the relationship between trust and mistrust. On this matter we have discussed three perspectives in which trust and mistrust can be regarded as being either in a mutually exclusive relationship or in a complementary one. By assuming that there may be a shift from trust in organisations and actors to trust in instruments we have placed a third perspective opposite the first two. The opportunity to regain lost trust, created by institutionalizing mistrust in the education system through introducing instruments of new governance, which at the same time limits the control thus established, will only last as long as trust in the instruments is ensured. This opens up perspectives for future research on trust in the field of education. In our opinion, this is where the theoretical, empirical as well as application-oriented potentials of trust research in the social sciences.

The theoretical as well as empirical task that arises is to shed light on animating the relationship between trust and mistrust in modern society. The increasing social complexity, as evident in the education system enforces the dependence on expert knowledge. In turn it is met with increasing scepticism due to easier access to knowledge and the growing lack of clarity about the sources of knowledge. In our opinion having trust in the education system or its capability is essential seems to us to be essential to have trust in the education system or its capability, because the education system is the prerequisite for the future workforce [94: 320]. Questions that need to be resolved are, for example: What can more likely replace lack of knowledge – rational, ethical or emotion-based trust? Which factors contribute to making trust vulnerable and mistrust more stable? How can valid records be made of the multiple dimensions of trust beyond measuring attitudes and how can the action-relevance of trust be evaluated? What replaces trust that has eroded? Does trust really erode or does it rather shift, so that the focus of social-scientific research must be newly adjusted? What is the connection between perceived risks, trust and mistrust? How can the object of trust be determined and how can the risk be determined that this object will be exposed to? If one takes into account that trust is by origin functional or rests on a habitual foundation, only becoming reflexive when damaged, how can this be done in a methodologically controlled way?, if one takes into account that trust is by origin functional or rests on a habitual foundation and only becomes reflexive when it is damaged? It is at this point then the question as to when trust is converted into hope will have to be resolved. Does this transition constitute an improvement? Or rather another level of deterioration, specifically when no longer knowledge but solely faith alone forms the basis for further communication, actions and decisions?

Finally one could reflect on whether there may be equivalent mechanisms in the system of education to the ones in the business world that provide insurance coverage of trust such as it is made possible by insurance agencies. In that case, it is neither knowledge nor faith, but the weighing up and calculation of possible futures on the base on monetary considerations that will form the decisive foundation for complexity reduction. This will be done by transposing the danger of loss into the comparison between the risk of loss and a possibly bad investment in insurance. In that case, the worry about the future is not resolved in trust but in insurance [95]. Can we expect a similar mechanism in the education system in the course of further mechanisation? Indeed, such a mechanism would allow decisions to be made in the present independently of trust while simultaneously they also ensure that decisions can be made in the future.

Rising successfully to these theoretical as well as empirical challenges might also bring an application-related benefit. If there are soundly established measures of building trust in

institutions, decisions, instruments, people or the like, one could think about creating suitable communication strategies. They might, if necessary, ensure that changes in the structure of organisations and other controlling bodies made through the use of instruments have a neutral effect on trust.

Since futures research is concerned with the investigation of conceivable, desirable and feasible futures, research on integrating trust or disintegrating mistrust fits very well into the spectrum of its relevant and innovative research topics of research.

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