

ORGANIZATIONAL LEARNING: A QUESTION OF CULTURE

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Abstract

This paper explores the concept of organizational culture as a facilitator or barrier for change in relation to educational institutions and the use of ICT. Formed around a single case study, conducted at a German secondary school, we give insights into the complex nature and influence of cultural phenomena of and within an educational organization. We reflect on different dimensions and levels of culture, suggested by Schein and Helsper, and we refer to representations of organizational learning, organizational development in relation to sustainable ICT integration, and the structures of educational organizations as described by Mintzberg. Based on the single case study we consider how cultural phenomena are constructed, how they affect the change process, and which perspectives on culture are useful to understand cultural barriers and facilitators.

Context of the Study

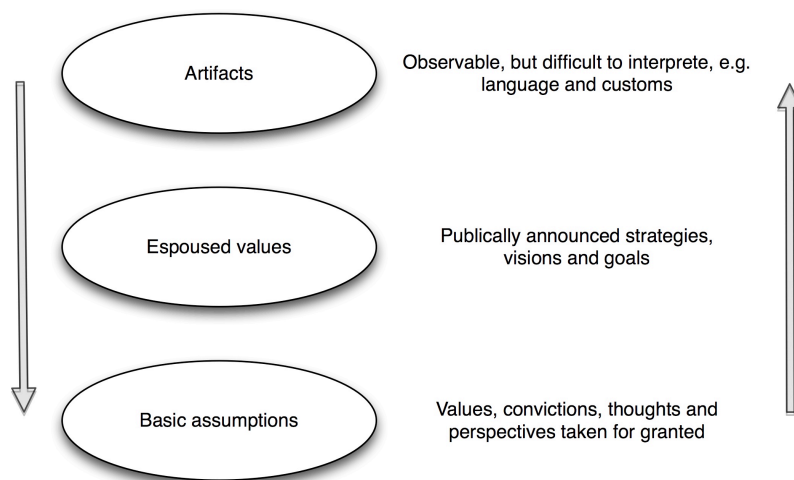
The study this paper draws from was conducted as part of the project School Interactive (“Schule interaktiv”), funded by the Deutsche Telekom Stiftung. The project’s aim was to facilitate a sustainable ICT integration by linking development on the technological level to the ‘traditional’ school’s development processes. In the first stage of the project between April 2005 and January 2008, four schools in Germany were involved. They were provided with ICT infrastructure, professional development and pedagogical advice within a close partnership between school, funding organization and the scientific team, formed by members of the Institute of General and Vocational Pedagogy of the Technische Universität Darmstadt. In the years 2008 until 2010 (the transfer phase of the project, called “Schule interaktiv Transfer”), the attending 4 schools worked as peer coaches, supporting 15 other schools in their work on ICT integration. The approach of School Interactive was based on the idea that not only project goals, but the individual preconditions of schools influence sustainable educational development. Since 2010, the attending Federal States of Hesse, Saxony, and Northrhine-Westfalia have been working with that approach

in order to transfer the project's results to other schools. During the first year of School Interactive, the attending schools demonstrated differing views on how to work with project's adaptive approach. The schools differed not only by the number of students and staff members, by location and by school form, they employed different strategies to involve teaching staff and students, and each school had their own internal processes, traditions and perspectives in relation to organizational development. Thus, they seemed to be drawing on different experiences of change and development, and held individual attitudes to media integration and change. Exploring these elements of different schools' approaches to a common objective, i.e., the sustainable integration of ICT in teaching and learning, the role of individual school's culture and character became increasingly visible as an important factor in process of organizational change and media integration. As a partly unconscious, intangible, but continuously confirmed and at the same time transformed concept, school culture could provide a supportive background for organizational changes, or it could impede change processes.

Levels of Organizational Culture

According to Schein (2003) the culture of an organization could be divided into three levels:

Figure 1: Levels of Organizational Culture



(Source: Schein, 2003)

Schein names an organization's language, customs and traditions "artifacts" — these structures and processes can be observed, but are difficult to interpret. They include the organization's "espoused values," which are publicly announced; these could be strategies, philosophies or goals an organization publishes as part

of their advertised programme of study, their webpage or in job specifications. Schein argues that these values are historically developed and are transformed by the interactions of the organizational members or actors. On a deeper level, there are an organization's "basic assumptions" — they could be implicit values, convictions, thoughts and perspectives which are taken for granted and influence what the actors pay attention to, how they react and interact and how they deal with problems and changes. These assumptions are rather stable and provide a strong orientation for members of the organization, which is necessary to create a consistent, predictable environment.

Whilst Schein's model provides an interesting insight into organizational culture, Schein does not refer to educational institutions and his model does not provide the tools with which change in these organizations can be fully understood. In some ways Schein focuses on what prevents change, and our interest lies in what enables change and how successful change processes occur. Therefore a concept of culture tailored to particular conditions in schools needs to be considered; such a model is developed by Helsper et al. (2002) who identify cultural phenomena as partly consistent, partly highly dynamic. According to Helsper et al., these phenomena, for instance subordination (on the real level), school history (imaginary level), and organizational routines (symbolic level), are reciprocally linked so a change of a factor on one level has implications for the other levels of culture. Usually, these relationships are not deliberately constructed, coordinated and rational, but created by the members of the educational organization through estimations, attitudes, and attributions, which can result in antagonisms, paradoxical effects, and controversies. Being oriented on a 'traditional' culture, neither Schein nor Helsper et al. consider ICT as change agent.

Organizational Change: A Rather Complex Challenge

Fullan stresses the important role of leaders for change in educational organizations. To achieve sustainable changes within these, he refers to examples taken from business and is convinced that leaders in market organizations and in education "have increasingly more in common." In Fullan's view "educational leaders therefore require a new mind and action set for leading complex change" (2002, p. 3). For Fullan this new paradigm, persona, must generate energy, enthusiasm and hope: "core components of leadership [being] moral purpose, understanding change, relationship building, knowledge creation and sharing and coherence making" (2002, p. 3). Married with the commitment of the organizational members and the support structures of an organization, these components lead to a process of continuous organizational learning. As a result, Fullan expects that "more good things happen" (2002, p. 4).

It could be argued that in Fullan's model of organizational change the 'good things' to happen are economically driven and that his idea of leadership as a change promoter is based on the business context, and these experiences are not

easily replicated in educational institutions. There are a number of studies highlighting that the imposition of managerial processes are rejected particularly by teachers (e.g., Gruschka & Heinrich, 2002; Rürup, 2007), and there are findings showing that members of educational organizations react protectively against the implementation of hierarchical structures (Krainz-Dürr, 2006). These are underpinned by current findings from studies exploring how to establish sustainable ICT use in education. They describe development as a reciprocal process in which actions need to be undertaken on the levels of organizational, technological, professional, pedagogical, and cooperation development level (Eickelmann 2010; Schulz-Zander & Eickelmann 2008). In these processes, technology is mostly regarded as a material fact or the end point of a change process, the primary focus being an appropriate number of computers, a reliable infrastructure, adequate support structures and professional development of teaching staff. Frequently little consideration is given to the extent to which technology influences change and is itself a change agent, and how the model of Helsper et al. applies to the change process.

It is not just hardware and software, support and qualification which facilitates organizational development and ICT use in classes, it is also the reconsideration of pedagogical goals, which is based on the actors' knowledge, engagement, motivation, relationship to the organization, and perspective towards technology use. Also, the co-operation between teachers, for example as communities of practice, has been identified as a factor of successful ICT integration in schools (Low & Chow 2008). Therefore, co-operation activities within the organization, and between them and external partners (Eickelmann, 2010), the role of the actors and the cultural phenomena they transform (Zentgraf, 2011) can be considered as important factors. On the other hand, co-operation as a component of cultural change is difficult to establish. Mintzberg (1983) refers to special preconditions of educational organizations, which consist of structures he describes as "professional bureaucracies." In this form of bureaucracy actors regard themselves as autonomous experts, who are highly specialized and thus acting independently. In schools, this independence is supported by "cellular structures" (Lortie, 1975); working according to different time tables makes it difficult to organize and stabilize cooperation. In addition, the main foci in educational organizations naturally are the teaching and learning processes, which could be the reason for a lack of understanding of the importance of organizational processes as highlighted by some studies (e.g., Steffens & Bargel, 1993).

This analysis of existing work in the field and the ensuing discourse, suggests that organizational change has to be seen as a highly complex challenge, in which actors are confronted with contradictions created by an institutionalized process and interactions within. The importance of the teachers as change agents, the disadvantageous conditions for co-operation and the problems that have been identified with structuring organizational development in schools leads to the hypothesis, that supporting developmental processes through a participatory research approach including feedback cycles would be beneficial.

Methodology

To understand the complexity of organizational change within schools, a special approach, based on mainly qualitative evaluation, was felt necessary. The study design adopted was a single site case study with research being conducted over a two-year period from 2005 to 2007. The research took place in Woehlerschule, Frankfurt. Woehlerschule is a German state secondary school providing an academic (as opposed to vocational or mixed) curricula to students aged from 11 to 19, with the expectation that the students will advance to higher education.

In 2005, the school employed approximately 90 teaching staff, delivering the school's curricula to about 1300 students. Thirty-five members of teaching staff were included in the research process: the initial sample of 8 staff volunteered to participate in the School Interactive project funded by Deutsche Telekom Stiftung; the additional 27 participants were recommended for participation by colleagues and then approached by the researcher. The research process was constructed around various forms of engagement and mainly addressed the members of teaching staff as the consistent actor group. Conducted were individual interviews with staff ($n = 16$), individual interviews with students ($n = 4$), participant observation at school programme development, curriculum development and project meetings ($n = 30$), observation at school conferences ($n = 5$), classroom observation ($n = 2$), surveys ($n = 3$) and feedback cycles in the form of group meetings ($n = 5$). National frameworks documents, school strategy and policy documents and subject curricula were accessed and informed the research. The intention of adopting such a broad range of methods was to generate a holistic understanding of the organizational culture as a living entity, which is continuously transformed by the actors. Students were invited to participate in each form of research activity, though their engagement was limited by their preparation for the *Abitur* (German equivalent to the A-Level exam).

The research was conducted by a single researcher working in close conjunction with the research participants to explore the core themes of the process and to create a co-operative learning partnership. With the aim to understand change processes and to support the actors as the subjects of change in educational organizations, the researcher acted as a promoter of development, assisting the teachers to reflect on their cultural practice, basic assumptions and values they intend to shape development with. Analysis of the research data was undertaken using objective hermeneutics (Oevermann, 2002) and qualitative content analysis (Mayring, 2007) to interpret the activities observed and the data from the interviews with the core group of 8 staff and 2 student participants. To provide access to implicit assumptions and perspectives of change, and to involve the actors in a discursive way, phenomena were interpreted in the context of the local environment and the theoretical framework. The researcher's critical assessment was presented and discussed in feedback sessions. The open, controversial discussion of the researcher's perspective on internal processes enhanced the view of staff members and encouraged them to develop their own conclusions. On this

basis, a deeper understanding of the school's culture and how to transform development processes could be enabled for both the actors as well as the researcher.

Synopsis of Findings: An Alternative Perspective towards Change in Educational Organizations

As part of the educational system schools are meant to act on governmental instructions and thereby provide teaching and learning processes for learners to succeed in the rapidly changing information and knowledge society. This includes the externally set goal to develop the learners' ICT skills and media literacy, which are considered as key qualifications in a "digitally shaped culture" (see Schelhowe et al., 2009) and the routinization of ICT based learning scenarios. By providing various levels of technical equipment, ICT infrastructure, professional development programmes, and support systems, governments in Federal States in Germany try to facilitate organizational development activities including integration of ICT. In addition, governmental quality concepts refer to the desire to develop schools into 'learning organizations' which they define as organizations which can develop independently and act responsively and adaptive to external requirements and targets. Set out in the quality concepts is a view, that change can be enabled by linear progression through pre-defined levels and stages of organizational development, which can be monitored by external agencies. One goal within these concepts is to embed the use of ICT in schools. The single site case study within the German school highlights the paradoxical nature of these demands: Traditionally, schools are highly dependant organizations which have to orientate on the curriculum given. Within this context their culture, created by different forms of communication, co-operation and interaction, provides a framework for independent, individually shaped activities, which are necessary to address the complexity in learner-centered teaching.

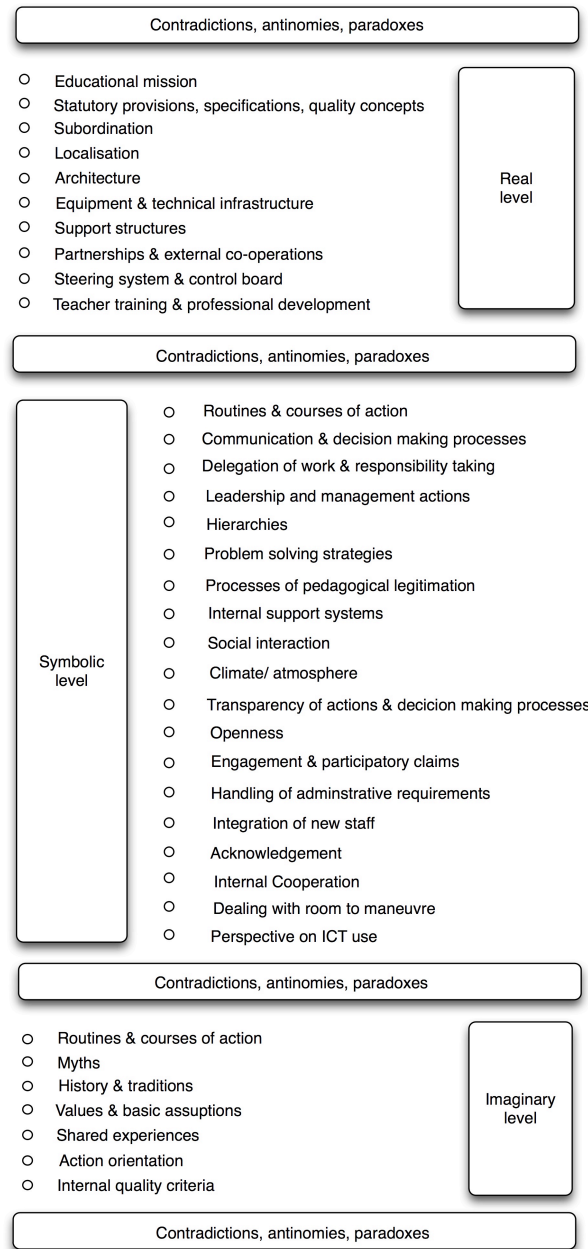
The three levels of culture identified by Helsper et al. (2002) need to be understood to implement effective changes in educational organizations. Their processes, structures and interactions are influenced by the school's own educational mission, governmental policy, technical infrastructure and support, external partnerships and co-operation, which provide factors on a 'real level' of culture. To link their dynamics most effectively to elements creating the 'symbolic level' and eventually embed the implications on the mainly subconscious, but highly influential 'imaginary level,' actions and negotiations aiming for a change need to be taken by the teachers. The engagement of professional staff in schools is regarded as of high importance in governmental development approaches, though as part of a top-down implementation model. Governmental steering instruments, e.g., the quality concepts, e.g., the Hessian School Quality Framework (Institut für Qualitätsentwicklung, 2008), have limited reach and effect in the micro-organization which is the school. If compulsory

specifications are used but not fully integrated in the cultural practice they are not considered as part of an evolving self identify and therefore do not reach the imaginary level.

The process of negotiating change contains social interactions, methods of acknowledgement, strategies for decision making, pedagogical legitimization, delegation, and integration of new staff. The study highlighted that centrally set goals and targets need to be designed to provide space for the individual cultural values of schools, thus allowing the actors to reflect on external demands on the basis of their own quality criteria. By this method, the actor's perspectives, experiences and engagement in their school are acknowledged, and given value and importance. This acknowledgement provides motivation and encouragement for further engagement and supports a sustainable, pedagogically legitimate change of practice. The study indicated that the change requirement and its underlying orientation can be rejected if they are perceived to contradict the basic values of a school's culture. If rejected then the change process can be viewed in the terms of a cumbrous and additional workload, which is undertaken but not accepted and therefore neither effective nor resulting in sustainable development.

Figure 2 highlights the operationalization of Helsper et al.'s cultural levels that emerged from the case study. The key areas on 'real' level to some degree are self-explanatory, e.g., educational mission, statutory provisions and quality concepts provided by the governing agencies, technical equipment and infrastructure. The 'symbolic' consists of human interactions like the decision by the staff and the students to participate in open feedback forums. It is through the relationship between elements on the real and the symbolic level that sustainable cultural change emerges, and this is represented by elements on the 'imaginary' level. Unlike other schools participating in School Interactive, the Frankfurt school refused to engage in the discussion around externally set operation and monitored instructions, and instead argued that both process and discussion have to be suited to their particular cultural environment. The school members insisted on structuring ICT integration according to their own traditions, meaning they delegated the ICT and project related work to a group of interested teachers. The dissemination of media use was voluntarily, neither did the school implement an internal steering committee to co-ordinate processes, nor were other teachers integrated systematically; in fact the school withdrew itself completely from the externally set operation and monitoring instructions. Nevertheless, their way of organizational development turned out to be very successful; the school was distinguished as one of the Hessian "Top ten media schools" and their teachers are currently acting as peer coaches for other schools in relation to integration of ICT in a pedagogical meaningful way.

Figure 2: Operationalized Levels of Culture



(according to Helsper et al. Source: Zentgraf, 2011)

Conflict

Their own way was to continue relying on internal experiences instead of adapting to externally set instructions. Being provided with 40 notebooks, interactive whiteboards, software, wifi infrastructure, and professional development workshops and supported by a close, participatory research partnership, the teachers found that ICT brings its own dynamics into the

processes. The use of the notebooks in classes could not be structured intuitively; it required co-ordination and the attendance at external and internal professional development workshops. The negotiations within the internal project group were time consuming and resulted in less engagement by the staff involved in other internal activities. This affected the group of staff who were originally resistant to ICT use, their reason being ICT use has a negative effect on teaching and learning in the sense of an anti-pedagogical rationalization. This resulted in various controversies, which affected another internal quality criterion: the positive organizational climate and work atmosphere was challenged. Tightened by disputes centered around the increased workload for all organizational members, the school's internal climate became tense.

Negotiation

These experiences led to the internal perception that a negotiation of the school's targets and cultural practices is necessary. This process should involve all members of staff who were not only discussing ICT use but challenging all foci of the school's profile in order to develop generally more efficient internal co-ordination and communication processes. This was felt necessary to reduce the teacher's workload to provide space for reflection, co-operation and the realization of innovative ideas. In a bottom-up process, which took one year, the teachers linked ICT use with one of their historically developed traditions, a socio-critical perspective, thus legitimated the integration of media, which they described as "deliberate media use;" a move through real, symbolic and imaginary levels. In this way, the integration of ICT in the school's teaching programmes was successively realized, and the integration activities were undertaken in a coordinated process, structured by the established school programme group.

Embedment

Eventually, the results of this change process were published by the school in a document which represented their philosophy and strategy towards media integration. This described the media based teaching and learning scenarios in relation to the media curriculum and the school programme. So, the teachers in the observed school recognized the importance of structured organizational development, but the recognition happened to be based on *their own* experience, and was formed according to their established cultural values and practices, which were finally transformed through the development process.

The tensions between the levels of culture are present in most organizational educations. However, it is the relationship between the operationalized elements of the real level, the symbolic level and the imaginary level, and the tensions that exists that needs to be understood in order for sustainable organizational development to take place. The findings of the study suggest that government and external project partners should not operate with fixed, rigid external targets that dictate how schools implement change, but rather construct goals and development targets openly to allow the members of the organization to engage in

a participatory way, thus empowering the teachers as the main change agents to deal with complex challenges like structuring development and ICT embedment.

Underpinning the complex nature of school culture and change, the study contradicts the idea, that the process of cultural change could be externally controlled via the use of instruments and methods (see Senge, 2000). In addition, it seems not to be likely that change processes are happening in distinct linear stages (Schulz-Zander & Eickelmann, 2008). Additionally the operationalization of Helsper et al.'s levels (Figure 2) provides a valuable tool to negotiate change within educational organizations.

Conclusion

According to the findings highlighted by the study, organizational development is a cultural development process, which consists of reciprocal, controversial and partly symbiotic action and is likely to take place in an irregular and chaotic, partly contradictory form. To engage with the complex dynamics of these processes it is necessary for the actors to develop their own perception of change in relation to the cultural values and traditions established. Schools can succeed in development, when they are willing, able and self-conscious enough to create space for the change agents to manoeuvre and develop understanding; the change agents being the teaching staff; even if this contradicts externally set linear actions to approaching fixed targets. A holistic engagement with the challenges of change can only take place when the main actors — the teachers — are empowered to interpret the achievements of a development process according to the school's basic values. Furthermore, to modify action routines and to balance conflicts based on their own shared experiences and quality criteria, teachers need to be motivated and encouraged in the first place, rather than instructed. The preconditions for such an alternative perspective on successful change are not only set by the school as an organization, cultural practices are transformed in the interaction with governmental policy and existing support structures. Therefore, schools form a particularly contradictory, and at the same time bound and self-related action unit, whose development naturally involves conflicts and difficulties. Engagement with these challenges significantly increases teachers' workloads, and needs to be enabled by participatory approaches and provision of space for the school's specific cultural 'character' to evolve. In order to achieve successful and sustainable development it may be necessary to challenge governmental perspectives on change processes. To regard schools as powerful action units means to involve them rather than implementing steering and controlling mechanisms. The integration of ICT therefore can have a catalytic effect; it brings to surface barriers and enablers for educational development and change — these may pre-exist, but are not necessarily understood and present in the organizational consciousness.

References

- Eickelmann, B. (2010). *Digitale Medien in Schule und Unterricht erfolgreich implementieren: Eine empirische Analyse aus Sicht der Schulentwicklungsforschung*. Münster, New York, München, Berlin: Waxmann.
- Fullan, M. (2001). *Leading in a culture of change: Being effective in complex times*. San Francisco: Jossey-Bass.
- Fullan, M. (2002, May). Principals as leaders in a culture of change. Paper prepared for *Educational Leadership* Special Issue. Retrieved March 1, 2011, from www.michaelfullan.ca/Articles_02/03_02.pdf
- Fullan, M. (2007). *The new meaning of organizational change* (4th ed.). New York: Teachers College Press.
- Gruschka, A., & Heinrich, M. (2002). *Innere Schulreform durch Kriseninduktion? Fallrekonstruktionen und Strukturanalysen zu den Wirkungen administrativ verordneter Schulprogrammarbeit — eine Projektbeschreibung*. Retrieved November 12, 2010, from www.uni-frankfurt.de/fb/fb04/schriftenreihe/inhalt/f4.pdf
- Helsper, W., Böhme, J., Kramer, R.-T., & Lingkost, A. (1998). Entwürfe zu einer Theorie der Schulkultur und des Schulmythos — strukturtheoretische, mikropolitische und rekonstruktive Perspektiven. In H.-H. K. J. Keuffer, S. Reinhardt, E. Weise, & H. Wenzel (Eds.), *Schulkultur als Gestaltungsaufgabe. Partizipation — Management — Lebensweltgestaltung* (pp. 29–75). Weinheim: Beltz.
- Institut für Qualitätsentwicklung Hessen. (2008). *Hessischer Referenzrahmen Schulqualität*. Retrieved March 14, 2010, from <http://www.iq.hessen.de/>
- Krainz-Dürr, M. (2006). Schulentwicklungsarbeit: Regelscheu, vergesslich, widerständig. *Pädagogik*, 3(06), 11–15.
- Law, N., & Chow, A. (2008). Teacher characteristics, contextual factors, and how these affect the pedagogical use of ICT. In N. Law, W. J. Pelgrum, & T. Plomp (Eds.), *Pedagogy and ICT use in schools around the world. Findings from the IEA SITES 2006 Study* (pp. 182–221). Hong Kong: CERC-Springer.
- Lortie, D. C. (1975). *Schoolteacher. A sociological study*. Chicago and London: The University of Chicago Press.
- Mayring, P. (2007). *Qualitative Inhaltsanalyse: Grundlagen und Techniken*. Weinheim [u.a.]: Beltz.
- Mintzberg, H. (1983). *Structure in fives. Designing effective organizations*. London: Prentice-Hall.
- Oevermann, U. (2002). *Klinische Soziologie auf der Basis der Methodologie der objektiven Hermeneutik — Manifest der objektiv hermeneutischen Sozialforschung*. Retrieved July 1, 2009, from <http://www.ihsk.de/publikationen.htm>.
- Rürup, M. (2007). *Innovationswege im deutschen Bildungssystem. Die Verbreitung der Idee "Schulautonomie" im Ländervergleich*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Schein, E. H. (2003). *Organisationskultur*. Bergisch-Gladbach: Edition Humanistische Psychologie.

- Schulz-Zander, R., & Eickelmann, B. (2008). *Zur Erfassung von Schulentwicklungsprozessen im Bereich digitaler Medien. Methodologische Konzeption einer Fallstudienuntersuchung als Folgeuntersuchung zur deutschen IEA-Studie SITES M2. medienpädagogik.com*. (Online) Zeitschrift für Theorie und Praxis der Medienbildung.
- Senge, P. M. (2000). *The dance of change: Die 10. Herausforderungen tiefgreifender Veränderungen in Organisationen*; [ein Fünfte-Disziplin-Arbeitsbuch]. Wien, Hamburg: Signum.
- Steffens, U., & Bargel, T. (1993). *Erkundungen zur Qualität von Schule*. Neuwied [u.a.]: Luchterhand.
- Zentgraf, C. (2011). *Schulentwicklung mit neuen Medien. Paradoxien, Problemstellungen und Potentiale*. Eine Einzelfallstudie. Darmstadt (in submission).