



Cooperative Learning within Educational Networks: Perspectives for Good Educational Governance in Modern Reading Education

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Abstract

German schools, universities, and libraries haven't established a teaching and cooperation practice that uses the potential of a convergent and participatory culture (Jenkins 2006, 2009). Schools and libraries have to collaborate more closely using the digital networks and language of the students of today.

Although official references, such as the report of the EU High-Level Group of Experts on Literacy (2012), postulate joint efforts with the objective of promoting reading and media education by different educational and non-educational institutions, at least in Germany this is currently still not a collaborative educational practice. One reason for this might be a missing link in local educational governance. Furthermore, the professional self-image of teachers and librarians, as well as the image of the cooperation partner, may limit effective public cooperation.

This contribution starts (1) with an outline of the demands in the field of digital literacy and participatory culture, followed by (2) a discussion about the chances and potentials of partnerships between schools and public libraries, their specific interests, and potential. Finally, (3) problems and principles of good educational governance within those networks are identified and developed to excavate the potential, especially for academic teaching and students' practice. The article is based on empirical data as well as participatory observation of the three-years teacher training and the seven years of on-the-job-training of librarians of public libraries ("Experten für das Lesen").

Keywords: reading literacy, media literacy, reading and media education, teaching librarian, cooperation school-library, educational governance, public schools, and libraries

Digital reading: what does it mean and what is necessary to achieve?

Thinking as well as speaking are human abilities based on coding procedures. The human being is, as Ernst Cassirer (1944, 44) defined it, an „animal symbolicum.“ To read texts – no matter what kind of texts – they have to link symbols (whether they are from a materialistic point of view pictures, images or signs) to ideas. Thinking is symbolic (Rath, 2001). Philosophy made the “symbolic turn” Wittgenstein (1922) was focusing on in his *Tractatus Logico-Philosophicus*. The meaning of understanding and reflection goes even further: The texts and their denotative significance get an individual connotation and importance. Reading education theory describes these procedures as on a low and on a high hierarchy level of understanding. Decoding and recoding processes are necessary to build an understanding of written or otherwise constructed texts. Reading literacy as an essential competence developed during the educational biography, therefore, means the ability of

understanding, using, and reflecting on written texts, to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society. (OECD, 1999, 20)

Since society and thereby the coding systems themselves undergo permanent changes with the media techniques especially becoming more sophisticated, it is necessary for the individual to keep up with that development. One of the significant developments during the last decade has been digitization. It not only changes industries but also individuals’ way of acting, producing and perception (Krotz, 2007). It has had the effect of a disruptive culture (Christensen, 1997) since it changes the way people organize the handling during the decoding and recoding procedure. As Paul Gilster puts it, digital literacy

is the ability to understand information and to integrate it in multiple formats that the computer can deliver. Being able to evaluate and interpret information is critical [...]; you can’t understand the information you find on the internet without evaluating its sources and placing it in context. (Pool, 1997, 6)

So it needs more than just decoding and recoding competence to be a competent digital reader. What is subject to digital reading is not all written text, but video, audio, photos. And being digitally literate is multidimensional and interactive since the individual very often is embedded within complex perception and production processes. The erstwhile reader or user becomes author and producer himself – “producer” (Bruns, 2008). Besides the decoding and recoding procedures, he has to use skimming and scanning to find a quick way through the provided information. The search interest conducts the whole reading process – not a single text-resource. During the search interest, even further communicative actions are possible. Besides a technical knowledge of how to use the internet, it is the capacity for critical thinking on the one hand and the ability to build local and global coherence on the other that are most important as new competencies for a digital understanding (Halpern, 1989; Shetzer & Warschauer, 2000; Warschauer, 1999). Warschauer concludes that overcoming the “digital divide” is not only a matter of achieving online access but also of enhancing people’s abilities to integrate, evaluate and communicate information. So, to close the digital gap – one of the recommendations in the report of the *EU High Level Group of Experts on Literacy* (European Commission, 2012) – the following seven partial competencies have to be developed during education:

- Analog reading literacy
- Technology literacy

- Information literacy
- Visual literacy
- Communication literacy
- Social literacy
- Critical thinking

Digital literacy, therefore, is a crosscutting expertise that does not belong to a single faculty or school subject. It has to be trained and developed as always linked to the subjects, questions, and topics that are focused on as well as to those human as well as mechanical actants that are involved in the answering process. It covers critical engagement with mass media and personal, technological, and intellectual skills for living in a digital society.¹

Teachers' education, as well as local governance, has to professionalize four aspects to implement digital literacy in school education. They are not only relevant to the topic of digitization – but without having an eye on these issues, the implementation of digital literacy is not going to work. Besides the seven partial competencies mentioned above and based on Shulman's (1986) work (*Technological Pedagogical Content Knowledge* TPACK), teachers have to reflect (1) on the content they want to convey. Also important is (2) the target group that is the focus of the learning process, their particular needs, individual knowledge and recourses, and (3) thirdly the technological or medial aspects that are necessary to impart knowledge. The relevance of the target group determines the pedagogical means. So, reflection is the first and most critical competency for teachers, since it “fosters high-order thinking” (Evens, Elen, & Depaepe, 2015). After all, it is (4) a didactic competence that combines these aspects of knowledge. Reflecting these procedures is more than the sum of the three individual competencies. They have to be connected: it matters what the kids should learn; not each topic can be mediated in the same manner, and not every target group can be reached the same way. Teachers have to adapt the methods and learning pathways to the circumstances of the learning environment and the learning individuals.

Effective teaching of digital literacy, therefore, means to react flexibly within different settings, to keep an eye on the needs of the students, use digital technology according to these requirements on the one hand and well balanced to the teachers' framework of resources on the other side. The objective a teacher wants to set, and the situation of the students determine methods and didactics. Teachers' education right now faces the changes of digitization, but – especially in Germany – is not yet successfully integrating digital literacy into current curricula in universities (Marci-Boehncke, 2014; Marci-Boehncke, & Wulf, 2016). It is not only relevant that future teacher can analyze modern digital presentations such as homepages, fanzines, chats, and videos, but also that they know about tools and ways to teach how students can use these formats for learning processes. It is relevant to find those resources, to pick out a particular draft, which means to give criteria for the selection. Besides, it is essential to motivate communication among the students to stimulate the discussion about and analysis of the movies and to motivate and enable them to produce their ones. Participatory culture (Jenkins, 2009) even in classroom settings for reading education (Jenkins, 2013) isn't well established in German schools, as recently shown in the IAE 2013 study (Frailon et al., 2014; see also German ICILS 2013 report in Bos et al., 2014). German teachers do not regard digital media highly as tools relevant for motivational purposes, individual support, for participatory learning, or for sustainability in education (see figure 1). They estimate digital media rather for administrative than pedagogical purposes (Schmidt, Goertz, & Behrens, 2017; Thom et al., 2017).

Compared to the IAE 2013 average, the approval of German teachers for the potential of digital media is more than 20 percentage points below. That means teachers' education alone will not change the situation very quickly or with lasting effects (Monitor Hochschulbildung, 2016). For reading education, in

particular, this situation would have dire consequences. Germany's results in the overall PISA evaluation in reading literacy are not very bad. Students could improve during the last 16 years of measuring and teaching support. So the numbers of lowest competence level students decreased. But the German situation for reading analog texts is much better than that for digital texts. German students do not train digital reading in school. Their digital knowledge is based on private resources, friends, and family. PISA 2009 and 2012 already have shown how far there is coherence between analog and digital reading competencies. Of course, an excellent analog reading competency will affect the reading of digital texts. That correlation seems obvious. But one can also conclude, that the better the digital skills are, the better the analog will be.

Figure 1: National percentage of teachers agreeing with statements about ITC teaching and learning in schools (Frailon et al., 2014, p. 200)

Table 7.2: National percentages of teachers agreeing with statements about ICT teaching and learning in schools

Country	Enables Students to Access Better Sources of Information	Results in Poorer Writing Skills among Students	Helps Students to Consolidate and Process Information More Effectively	Only Introduces Organizational Problems for Schools	Helps Students Learn to Collaborate With Other Students	Impedes Concept Formation Better Done with Real Objects than Computer Images
Australia	95 (0.6)	64 (1.4)	78 (1.0) ▼	18 (1.1)	72 (1.2) ▼	32 (1.1) ▼
Chile	97 (0.5) △	55 (2.1) ▼	94 (0.8) △	11 (1.1) ▼	90 (1.0) ▲	24 (1.7) ▼
Croatia	95 (0.7)	65 (1.0)	86 (0.8) ▼	15 (0.9) ▼	79 (0.9)	42 (1.0) △
Czech Republic	97 (0.5)	75 (1.2) △	92 (0.8)	7 (0.6) ▼	62 (1.4) ▼	48 (1.2) △
Korea, Republic of	95 (0.6)	76 (1.6) △	90 (1.1)	42 (1.3) ▲	69 (1.3) ▼	51 (2.1) ▲
Lithuania	97 (0.4) △	73 (1.4) △	94 (0.5) △	16 (1.0)	80 (1.0)	37 (1.3) ▼
Poland	96 (0.4)	68 (1.7)	93 (0.7) △	7 (0.8) ▼	85 (1.1) △	33 (1.2) ▼
Russian Federation ¹	89 (1.1) ▼	63 (1.9)	95 (0.7) △	15 (1.3)	84 (1.2) △	46 (2.4) △
Slovak Republic	98 (0.3) △	71 (1.4) △	87 (1.0) ▼	12 (1.0) ▼	77 (1.3)	29 (1.1) ▼
Slovenia	93 (0.6) ▼	79 (1.0) ▲	94 (0.7) △	10 (0.8) ▼	67 (1.0) ▼	55 (1.1) ▲
Thailand	99 (0.6) △	52 (3.7) ▼	93 (1.2)	32 (2.9) ▲	90 (2.1) ▲	42 (3.0)
Turkey	98 (0.3) △	59 (1.7) ▼	94 (0.8) △	20 (1.4)	79 (1.4)	38 (1.6)
ICILS 2013 average	96 (0.2)	67 (0.5)	91 (0.3)	17 (0.4)	78 (0.4)	40 (0.5)
Countries not meeting sample requirements						
Denmark	98 (0.8)	23 (2.4)	91 (1.6)	20 (2.8)	70 (1.7)	21 (2.0)
Germany	90 (0.9)	52 (1.7)	65 (1.3)	34 (1.7)	50 (1.9)	38 (1.7)
Hong Kong SAR	97 (0.5)	62 (1.6)	86 (1.1)	19 (1.4)	85 (1.0)	71 (1.4)
Netherlands	91 (0.9)	62 (1.5)	79 (1.4)	13 (1.5)	52 (1.8)	30 (1.5)
Norway (Grade 9)	97 (0.5)	30 (1.6)	92 (1.1)	17 (1.9)	61 (1.8)	23 (1.5)
Benchmarking participant						
Newfoundland and Labrador, Canada	98 (0.8)	39 (2.8)	91 (1.9)	13 (1.9)	85 (2.3)	20 (2.2)
Benchmarking participant not meeting sample requirements						
Ontario, Canada	98 (0.7)	29 (2.1)	92 (1.9)	12 (1.9)	82 (2.5)	20 (2.9)

Notes:
 () Standard errors appear in parentheses. Because some results are rounded to the nearest whole number, some totals may appear inconsistent.
¹ Country surveyed teachers retrospectively to the previous school year when they were teaching the target grade.

Countries that show higher scores in digital reading are also among those who have higher scores of analog reading competencies. On the other hand, good analog competences do not immediately translate into higher scores in digital reading competence (see figure 2).

That makes it clear that there is more to do than just enhancing students' ability of analog reading to prepare them for the requirements of digital reading. Navigation competence – in a way a synthesis of different skills like technology literacy, information literacy, visual literacy, and critical thinking – seems to be a key factor in successful digital reading.

It is a truism that the more one practices, the better the results will be. So, of course, the digital learning environment, the situation in schools will influence students' competencies. The context factors like a modern digital workplace with a good ratio of computers/iPads per student, access to networks/WiFi is significant. But it seems to be the attitude and confidence of teachers that are

most relevant to teaching digital literacy or at least enabling students to use digital resources in classrooms (Blackwell, Lauricella, & Wartella, 2014).

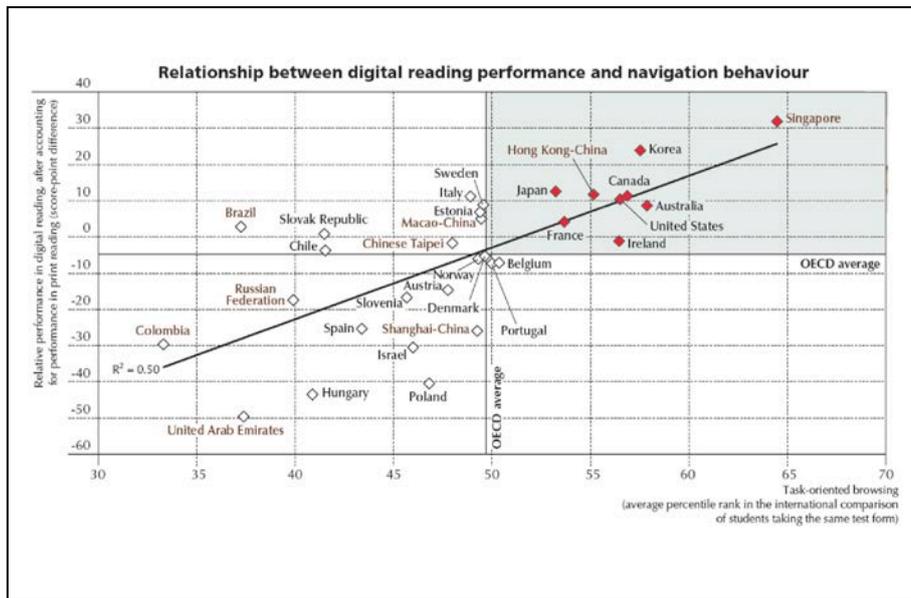


Figure 2: Relation between digital reading performance and navigation behavior (OECD, 2015, p.4)

Self-efficacy (Bandura, 1977) is a question of practice; in so far as schools can only keep up with the current developments in digitization if teachers on the job get more chances to practice digital teaching, coached or supported by others who can increase the teachers' digital awareness. That means: partnerships in local educational networks become highly relevant.

Possible partnerships with local educational networks and their institutions' specific interests and potentials

One of the most attractive partners for schools as regards teaching digital literacy are libraries – public libraries as well as scientific libraries, affiliated to universities. Although currently in Germany there is no particular qualification or outline of a profession as a school librarian, as we find school librarians in the United States, Canada, and Australia, there is undoubtedly the need for librarians to cooperate with schools. To this end, it is necessary to qualify librarians, especially those of public libraries, for the particular needs of such cooperation. Libraries, to be viable, have to analyze the needs of their potential users carefully. The social structure of their catchment area, the institutions that could be of interest as potential partners play an essential part in the strategic network planning of libraries themselves, which is part of local development (Umlauf, 2015, p.172). Kindergarten, all kinds of schools, as well as retirement homes define the target group of possible users. There is a chance to enlarge the numbers of users through well-organized cooperation and new, qualified PR-concepts (Holderried, & Lücke, 2012, p.14). Of course, there are already local partnerships of libraries and other educational institutions. Libraries provide access to lectures of famous authors; they deliver books and other media for particular topics, they organize the summer-reading club or offer guided tours through their research facilities, explaining catalogs and archives. There are even progressive curriculums (Keller-Loibl, 2016) that cover digital media. Public libraries do offer a lot – the question is whether and how schools and teachers use all this.

As Rose (2012) found out about the alliance partners of three representative libraries in three different German counties ("Bundesländern"), Northrhine-

Westphalia, Saxony-Anhalt and Baden-Wuerttemberg schools as well as kindergarten do not appreciate libraries as equal partners regarding reading education. Instead, they are taken into consideration as an attractive place to learn, as institutions that can organize lectures and provide books. It seems that teachers understand mediation as part of the profession of librarians only as a transaction of material and not so much as a communicative and pedagogical process for learning how and what to read. So, besides the urgent need to include cooperation skills in librarians' education and profession, there is the equivalent need to convince teachers that libraries and librarians can do a lot more than just provide and hand out books. For librarians that mean they have two target-groups in one: the teachers as their cooperation partner and the students, they want to reach by the reading promotion.

Still, the most favorable offerings of public libraries are those that deal with reading promotion: lectures and literature talk (Marci-Boehncke, & Rose, 2012). But, since 2010, the situation has changed at least in Northrhine-Westphalia: Based on the findings of Rose (2012) a certificate *Experten für das Lesen (Experts on Reading)* for public librarians as well as for teachers was established, to converge the two institutions and their interrelation. One-third of all professionally directed, regional libraries have participated in that professional development (Marci-Boehncke, 2016; Höft, & Marci-Boehncke, 2016), as have more than 250 students of the *Technical University of Dortmund* and 33 teachers of different schools participating in the national *BiSS-project Bildung durch Sprache und Schrift (Education in Language and Literature)* and 100 librarians. The primary goal of the training offering is to establish an attitude of cooperation on both sides and to inform about the possibilities and chances that occur by using the strength of the cooperation partner to enlarge the own educational offerings. The following synoptic comparison sums up results from different national surveys (*Bertelsmann, Telekom-Stiftung, IFS-Allensbach*) as well as results from content analysis of various schools and libraries which we could carry out in our educational projects such as *BiSS, KidSmart* (Strehlow/Rath, 2015) or others (Lohmann, Trapp, & Marci-Boehncke, 2017). For schools and libraries, one can sum up the situation as follows:

<i>School</i>	<i>Public Library</i>
Lack of free WiFi	High rate of free WiFi
Lack of digital working-places for students (Bos et al., 2014)	Reliable number of digital working-places for public
Teachers' lack of digital bibliographical research competence (Bos et al, 2014)	Professionals with high digital bibliographical research competence
School not attractive as working place	More attractive working place out of school
Lack of full sets of actual lectures (novels) for all students	Supply of full sets of actual lectures (novels) for all students possible
Each school/class works on its own – networking with other schools not regular practice (Richter/Pant 2016)	Possibility to establish cooperation with schools (national and international) by providing digital network structures (learning platforms)
Hardly any possibility for extra money acquisition (e.g. to invite and pay for an author)	Extra money acquisition belongs to regular library work
Teachers not yet sovereign in the use of digital media, partly skeptical about value of digital media. (Schmidt et al. 2017, Thom et al. 2017)	ICT professionals with a lot of digital competencies and mostly open minded for further possibilities of working and learning activities.

<i>School</i>	<i>Public Library</i>
Hardly any capacities for “maker-spaces” or other play-oriented learning spaces.	Provides play-oriented learning spaces and room for creative experiences with digital resources.
Hardly any public attention for students’ learning-outcome; governmentally restricted PR-policy for schools that prohibits publishing of photos, texts, audio-materials from students.	Possibilities to provide space and attention for productive outcome: exhibition, events, cooperation with local newspapers/press.
No appropriate valuation of and confidence in the potential of digital media as regards participatory culture, inclusion and sustainability of learning-outcome (Bos et al., 2014).	Open-minded for participatory working settings, play-orientation without strong emphasis of a comparison of students’ performance. Provide room for discovery and release of undetected potential of students by non-performance approach.
Library-visits belong to the curriculum of all educational institutions (including kindergarten) but are rarely actively and cooperatively planned with the library personnel. Teacher is responsible for the classroom – library personnel provides.th. in the library or a selection of books/media for classroom use.	More and more activities to establish educational partnerships that lead to a continuing interest in library activities of the students even out of school. Offering of a youth-oriented variety of media and events. Searching or at least waiting for cooperation offerings.
Teacher seeks recognition and appreciation for his work. Strong performance approach by grading-system inhibits social recognition of students and teachers. Conversely, attractive learning settings enlarge respect for teachers and fun for students.	Library is still interested in getting more users. Appreciation of library efficiency is measured by library lending volumes (or downloads). The better the cooperation, the higher the output of books.
Professionals in didactics and planning – need for extra personnel.	Providing extra personnel – need for more pedagogical and didactical competencies.

Table 1: Synopsis of different strengths and weaknesses of school and public library

As demonstrated in the table above (see table 1), libraries and schools show different strengths and weaknesses. If they would work together, the one cooperation partner with its strength may compensate many of the weaknesses of the other cooperation partner.

Working together with collaborative responsibility for a modern reading concept including digital work and resources may minimize a lack of individual confidence or a somewhat skeptical attitude towards digital media. Combining the teaching competencies of professional teachers with the educational and technical resources of the library can be economically as well as pedagogically effective. One of the most important arguments for a cooperation of schools and libraries seems to be playful, rather informal learning space and learning atmosphere a library provides, which is necessary to appreciate the students’ different competencies and learning approaches. As institutions that are not as rigidly administered as schools are – especially regarding public relations and digital access – libraries can provide gratification and public attention for students’ work. The attitude that a lot is possible if one is flexible enough is probably one of the key competencies which both library personnel as well as teachers have to train in and experience in their professional education and

practice. As international research shows for digital literacy in early education (Kontovourki et al., 2017) – which can be more or less generalized for school education as well – confidence, attitude, and flexibility are the three core competencies and more important than economic or technical resources to establish digital reading and learning offerings. A teachers' and librarians' education, which does not strengthen those personality traits but focuses on fixed patterns of behavior produces a simple assembly of a presumed educational ideal that will not fit into the rapidly evolving social, digital and technical circumstances of present and future educational needs. Standardized worksheets and imitation are not as encouraging as creative developments of own and differentiated learning scenarios.

Problems and principles of good educational governance

To establish those kinds of well-accepted and efficiently working cooperation between schools and libraries, let us finally focus on the issues and principles of the necessary educational governance. Mostly, governance implies *leadership* – which is the first obstacle for cooperation, which means equity. On the other hand, if no one takes responsibility there will be no movement. If municipalities develop governance for such a cooperative network, those responsible have to take into account the institutions' and individuals' attitudes towards governance, leadership, work-life balance, and technology. They are part of the professional self-concept.

Merkler (2015) sums up research about the three most critical social generations that are currently on the job: the *Baby Boomers* (born 1946-1965), *Generation X* (born 1965-1980) and *Generation Y* (born 1981-2000). He describes key differences as regards attitudes and values that might become important in cooperative and structured working-contexts. Whereas the Generation of *Baby Boomers* seems to be somewhat skeptical about digital technology, the other two generations are more flexible and used to digital work. They belong to the early adopters. Relevant for cooperative work is a critical attitude towards authority in all three generations. Generation *Baby boomers* show a more positive view towards work and feel responsible for the institution one operates in. The other two generations are more used to changing working places; they do not identify as strongly with their current job. On the contrary, it means their overall attitude is far more flexible. That applies to the setting of the working place itself, the colleagues, the users, or target groups they are working with. Multiculturalism, heterogeneity, and inclusion seem to be more a matter of course for the younger generations. Besides the generational differences, there are also differences as regards the social field, the job itself. Teachers are different from librarians. And there are even more substantial differences amongst librarians themselves, due to the various apprenticeship programs (Finger, 2015).

Without going too much into detail, a governmental structure for local networks has to take into account even these various situations. A brief analysis of the main – and maybe leading – generations represented in the partner institutions may help to understand expectations and attitudes. Of course, these are generalized remarks – an individual questionnaire at the beginning of a cooperative process could specify the very situations to reflect the different expectations, images, and self-images.

For most faculties in school, it is true that they show a strong sense of collegiality and team spirit – at least in the staff room. Peers for them are the most influential group and teachers rely on their advice, and they exchange their materials and ideas (Richter, & Pant, 2016, p.8). Still, Germany has no widely established peer-to-peer monitoring as a means of internal school development. Most teachers do not want their colleagues monitoring their lessons. Team-

teaching is a desirable, but not yet established culture. Even teachers feel an intense pressure of evaluation and competition. They mostly do not work full-time in school but have to do a lot of work at home. This situation affects their work-life balance. Partly self-determined, they often fluctuate between excessive demands, stress and a hectic lifestyle. Time pressure or not enough time to realize the own quality standards for good educational practice are often-heard arguments of teachers. That leads to a routine, which does not allow space for experiments or anything new, not evaluated in the outcome. For teachers, flexibility seems to be less effective than routine, and new but not yet implemented competencies threaten their time management and required outcome. Strict orientations on educational standards – either national/regional or from the local school itself (*school curriculum*) – permit little time for anything new.

That means that for teachers the implementation of digital media and digital reading are a *disruptive technology* (Bowen, & Christensen, 1995; Christensen, 1997). If they have to implement new media and develop new teaching habits – like participatory work –, it changes old patterns of behavior. Besides generational differences, a school faculty is – compared to a library – a rather homogeneous group, since all teachers went through the same kind of teachers' education and examination. Beyond the fact that they teach different subjects, they share a sort of similar "culture," they gain and own comparable assets and principles. Educational politics is a rather stable and slow-moving sector, so there is no pressure for high institutional flexibility in school. As long as there was no need for individual support even in classrooms, teachers didn't have a great need to retrain and adapt to entirely new conditions at relatively short intervals. That is even truer for higher education in a rather selective school system. (Richter & Pant, 2016, p.9). Whereas German primary school (ISCED 2011, level 1, cf. UIS, 2012), as well as "Gesamtschule" (*comprehensive school*, ISCED 2011, level 1, 2, and 3), brings together all social milieus, "Sekundarschule" (*secondary school*, ISCED 2011, level 2) and "Gymnasium" (*secondary school*, ISCED 2011, level 2, and 3) is highly socially selective. The more selective a school is, the less is the flexibility the curriculum forces. Grades as standardized values for a long time prohibited highly flexible, individual evaluation criteria in school. Equality was a high value. Since 2008 – the year the *UN Convention on the Rights of Persons with Disabilities* (United Nations, 2006) entered into force – a change of paradigm is taking place in schools, which is not yet completed.

For libraries, the situation is somehow different: due to very heterogeneous training pathways for personnel working in libraries (Fingerle, 2013) the staff itself is much more diverse than that of a school. Not everybody has passed a diploma; the way to become a librarian is not single-tracked. Furthermore, due to digital development, libraries feel a very high pressure for adjustment. The new technology undermines the very basis of their self-concept as institutions as well as individual librarians (Fuhrmann, 2016, p. 9). Digitalization means an enlargement of their traditional work; ICT is an entirely new technology and needs fundamental changes of structure and action processes. Library as a new place to learn, the librarian in the role of a mediator of competencies, not only provider of reading-material, e.g., books – these changes affect extensional resources of buildings and intentional resources of employees. The new profile of "Embedded Librarian" changes the direction of the use of libraries: Being a many-to-many supply, in the beginning, the library of today mutates into a one-to-one service, which provides highly differentiated supplies. Open Access publications and a new and less expensive administrative and accounting system like *RDA (Resource Description and Access)* mark some of the significant challenges for libraries since the new millennium.

Conclusion

Summarizing the different situations of teachers and librarians, one can conclude that librarians – due to their public contract as a service provider for reading promotion – felt a much higher pressure to change their job profile and their acting habits. Teachers, on the contrary, act in a much more homogeneous college. Their pressure for change during the last years was strongly related to the international students' assessment like PIRLS and PISA, which forced teachers and schools to enhance German students' results in the tested subjects including reading competence. Especially, boys and students with more than one "first language" are still in focus. The demand for inclusion marks another primary challenge. Due to the rather unfortunate situation as regards a technological ambiance – compared to other EU or OECD countries – the school didn't force the development of digital education in the same way. Experts demand a more and more "systematic reading promotion" (Rosebrock, & Nix, 2007) as a solution for an increasing reading competence. Training and theoretical background for the trainers, of course, is necessary – but the circumstances for that training are a matter of discussion and different opinions. Whereas traditional reading educators stick to analog texts and a linear reading process, digital reading promoters rather encourage hypertext reading and acting, using the convergent market to react flexibly to the changing interests and needs of their students. Of course, theoretical background and knowledge about different methods are necessary. Otherwise teaching stays – as the philosopher and founder of pedagogy as a scientific discipline Johann Friedrich Herbart in 1802 has called it – inefficient ("Schlendrian," "jog-trot", Herbart 1982, p.125). University education nationwide has not yet implemented a modern digital didactic of reading education. Charitable trusts and foundations – such as the German Telekom Foundation – encourage digital learning by project funding. Large Corporations – such as *IBM* or the German energy group *RWE* – promote initiatives at various locations. And institutions for teachers' training, like *Medienberatung NRW* or *Landesanstalt für Medien (Ifm, state institute of media)*, try to encourage the willingness for teachers' training as regards digital literacy. Cooperation with other institutions, such as libraries, belongs to their concepts. A bundling of resources and an enlargement of competencies should be convincing arguments. The cooperation of the German Federal Ministry of Education and Research and the Mercator Foundation supported two projects of the *Experten für das Lesen* (as part of the initiative *BiSS – Bildung in Sprache und Schrift*² ("education in speaking and writing") that try to encourage a digital reading education in cooperation with libraries.³

After the three-year supporting program for teachers and a seven-year on-the-job training for public librarians – both called „experts on reading” (Höft, & Marci-Boehncke 2016, Marci-Boehncke, & Vogel, 2017), we can conclude that it takes a long journey to convince an entire college to move towards digital reading promotion. And it takes continuous support on a peer-to-peer level. A vast majority of teacher colleagues has to accept profound organizational and contextual changes. They have to experience self-efficacy within their class and gratification in their students. Teachers who respect their students and who could convince them to be engaged for their benefit gain respect and success in class (Fisher, Frey, & Hattie, 2016). The motivation to change well-established patterns of teaching can only be sustainable if it is an intrinsic one. It means a change of teachers "media-habitus" (Biermann, 2009). That cannot be a mere state decreed order, but of course, it would help if digital literacy were made mandatory in all classes and all subjects. Cooperation with libraries would be an encouraging support since the two organizations could exchange their competencies. But as long as exchanges amongst teachers within the same school are not well established – or between teachers of two schools – cooperation with other institutions such as libraries has even a low probability to be realized (Richter, & Pant 2016: 16). As regards TPACK, it is still necessary to provide German schools with modern digital media and free access to WiFi

(technic). And it is always required to convince them of a new way of reading (content and didactics) within the digitally mediatized world. This material is highly motivating for students (target group) and covers the needs of present society. Cooperating as well as collaborating with competent library-personal will be an excellent chance to establish these new practices efficiently.

For the governance, nevertheless, it is necessary to obey the different interests of the two groups of personnel, to respect their fears and uncertainties. It would be helpful if teams with different competencies could work together so that there is peer-to-peer learning: the older could learn from the younger, the younger from the older, traditionalists benefit from the knowledge of entrepreneurs and digital natives, and vice-versa (Merkler, 2015, p.120f.). A team built of similar colleges might be less efficient. But everything has to be the result of free choice, consensual, with no explicit hierarchy between the actors of the different institutions. The image of librarians in the eyes of their cooperation partners has to change. They are not mere external contracted providers but colleagues at eye-level (Marci-Boehncke, 2016). Teachers have to understand the professionalism of librarians as regards reading education, especially digital reading education and ICT. A corresponding mentoring structure that enables encouragement of an overall flexibility and individual responsibility for problem-solving seems to be a better advice for local educational partnerships than any concrete hierarchical governance structure. The idea of change management (Fuhrmanns, 2016) is not too useful if this leads to the application of a set of fixed patterns of action. The concept for accompanying measures during the development of a local partnership must be to enhance flexibility, to force spontaneity, to focus on the main success factors rather than on impediments. The primary tool within a set of methodological devices is anything that encourages flexibility and a somehow adventuresome attitude based on theoretical and practical as well as methodological knowledge – as one needs this to keep up with the digital developments themselves. This is part of the 2017 OECD Report on *Paedagogical Knowledge and the Changing Nature of the Teaching Profession*. Teachers are required to revisit and update their skills continuously, which includes

adapting to technical development and using information and communication technologies, [...] collaborating with colleagues and other professionals and developing and maintaining an approach towards education based on reflection, inquiry, etc.” (Guerriero, & Révai 2017, p.254).

This is what we try to establish by the „experts on reading”: a „deeper learning” (Pellegrino 2017, p.223) that allows self-reflection and meta-cognition and tries to change cognitive, intrapersonal as well as interpersonal aspects of the professional self-image, strengthening self-efficacy and a positive attitude towards new challenges. And what is right for teachers might also be true for librarians and all those who support local partnerships: “Great teachers understand that different approaches work more effectively at different times” and “for some students better than for other students” (Fisher, Frey, & Hattie, 2016, p. 3).

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¹ Cf. <http://mediasmarts.ca> [03.06.2017].

² Cf. <http://www.biss-sprachbildung.de> [03.06.2017].

³ Cf. http://www.biss-sprachbildung.de/biss.html?seite=37&p_modul=P4&Id=67 & http://www.biss-sprachbildung.de/biss.html?seite=37&s_modul=&Id=99 [03.06.2017]