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## Literacy Education and Interprofessional Collaboration

**Abstract:** The aim of this article is to explore inter-professional collaboration in literacy education. It examines factors that facilitate collaboration between teachers and librarians and the contributions to literacy education. The study was designed as a research and development project in multicultural schools in Norway (2007-2011). Its theoretical framework was cultural-historical theory of activity theory, and the theory of expansive learning. The methods were formative intervention, interviews, participant observation, and qualitative and quantitative analysis of student literacy.

In the study, interprofessional collaboration made significant contributions to professional development and literacy education. Interprofessional collaboration was developed as a collective learning process. It was facilitated by research interventions, development of a shared object of activity and work with new theoretical concepts and cultural artefacts. The findings indicate that inter-professional collaboration can make important contributions to realization of the mandate of the teaching and library profession.

**Keywords:** literacy education; interprofessional collaboration; expansive learning; teachers; librarians and researchers

Globalization, migration, digitalization and multiplicity present great challenges to education and teacher professionalism. These challenges include unprecedented linguistic, cultural, religious and social heterogeneity in the student population in addition to research development and digitalization progressing at an unprecedented rate. How can the teaching profession educate all students successfully in the language of instruction under these circumstances? Can interprofessional collaboration in literacy education contribute to the realization of the educational mandate? In this article I examine the research question: What facilitates interprofessional collaboration literacy education and what are the contributions to literacy education? I analyse this question focusing on implications for professional development, research-based school development and student literacy.

International studies show that schools and the teaching profession have problems realizing their social mandate, which is to provide quality education and to assist students to obtain qualifications regardless of social class, ethnic background and gender. Studies show that students with diverse backgrounds are being marginalized in schools, particularly in terms of drop-out rate and sharp increases in special-needs education and segregated educational provisions (Amrein & Berliner, 2003; Dyson & Gallannaugh, 2008; Losen & Welner, 2001, Pihl, 2010). Marginalization pertains in particular to boys, pupils with minority backgrounds and those of low socio-economic status. There are significant differences in literacy among students depending on ethnicity, gender and social

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class (Hvistendahl & Roe, 2004; Kjærnsli, 2007; Kjærnsli, Lie, Olsen, Roe, & Turmo, 2004; OECD, 2009, 2010). If genders are compared, girls perform significantly better than boys. There was no reduction in the performance gap between girls and boys in the OECD region between 2000 and 2009. Contrary to expectations, relatively few countries have a larger gender gap in literacy than Norway. The difference in reading performance between first and second language learners in Norway is greater than in other Scandinavian countries (Hvistendahl & Roe, 2009; Hvistendahl & Roe, 2004). These results are a challenge to literacy education, teacher professionalism and realization of the educational mandate. They call for new ways of conceptualizing teacher professionalism and literacy education, which in the national curriculum is defined as the teaching of basic oral skills and basic skills in reading, writing, math and ICT.

In the following, I explore the theoretical context for the development of interprofessional collaboration, focusing on the dominant and competing discourses in professionalism. I address the socio-historical context of teacher and librarian collaboration related to teaching of reading and particular challenges related to contradictions between multiplicity in the student population and standardized textbooks for literacy education. Subsequently, I present the theoretical framework for the analysis, the research design and findings related to interprofessional collaboration in the research project 'Multiplicity, empowerment, citizenship' (2007–2011).

### **Competing discourses on professionalism**

Evetts identifies two competing discourses concerning professionalism in contemporary knowledge-based societies: 'organizational' and 'occupational' professionalism (Evetts, 2006). According to Evetts, organizational professionalism is a discourse of control used increasingly by managers, as well as the state. Moreover, Evetts (2006) and Fournier (1999) point out that organizational professionalism is a 'top-down' discourse that is increasingly used to bring about occupational change, rationalization and self-discipline among workers. Organizational professionalism works as a disciplinary logic that inscribes 'autonomous' professional practice in a network of accountability (Fournier, 1999:280). In the public sector, the state defines professionalism in such a way that it conforms to the demands of global capitalism and New Public Management (Evetts, 2003; Hanlon, 1999). In education, organizational professionalism is promoted by the state as a means to implement educational reforms and teaching practices conforming to the requirements of educational policy (Karlsen, 2006). Norway is a case in point. The most recent teacher education reform is based on concepts of teacher professionalism defined by the state (Kunnskapsdepartementet, 2008–2009). Guidelines for teacher education, defined by the state, are mandatory and pursuant to the school law. Thus, the state should be held accountable for the failure to educate pupils successfully regardless of gender, social class and ethnic background. This indicates a need for development of alternative concepts of teacher professionalism that are research driven and 'bottom up' (Pihl, 2009).

According to Evetts, occupational professionalism is 'bottom up' and developed by professional groups. This is a more traditional form of professionalism that involves discretionary decision-making in complex cases, collegial authority, occupational control of work and trust in the practitioner by both clients and employers (Evetts, 2006). Occupational professionalism gives priority to exclusive professional jurisdiction in a particular domain. However, in a state-governed educational system where guidelines for teacher professionalism and teacher education are mandatory, which is the case in Norway, occupational professionalism is relatively weak. National curriculum guidelines and teacher requirements leave relatively limited space for professional autonomy.

Historically, the teaching profession has not included interprofessional collaboration in teacher professionalism. Occupational professionalism is basically about defining sovereignty in a particular domain and defining borders in relation to other professions. This does not easily facilitate interprofessional collaboration. Neither educational research nor the state has included interprofessional collaboration in the concept of teacher professionalism. Nevertheless, Evetts points out that professionalism also may create values and moral obligations that restrain excessive competition and encourage cooperation (Evetts, 2006). The notion of professionalism as occupational value provides opportunities for redefinition of professionalism for the benefits of professional work and clients (Evetts, 2011). In line with this, the attempt in this article is to develop new concepts and strategies for teacher professionalism, which are both research driven and ‘bottom up’ in response to the present complex educational challenges. This is where the concept of interprofessional collaboration in literacy education becomes relevant (Pihl, 2009).

### **Socio-historical context**

The mandates of the teaching profession and the library profession have important goals in common with respect to literacy, qualification and democratic inclusion. This is articulated in legislation that governs teaching and librarianship (Pihl, 2009). The professional mandate is reflected in research about multicultural, intercultural and inclusive education (Ainscow, 2004; Gundara, 2000; Nieto, 2008) as well as in research on democracy and inclusive aspects of librarianship (Aabø, 2005; Audunson, 2005). Common goals are important social preconditions that facilitate institutional collaboration between libraries and schools.

The theoretical assumption here is that interprofessional collaboration with librarians may contribute to the fulfilment of the educational mandate in literacy education (Pihl, 2009). This mandate is to teach reading and writing so that students acquire basic skills *and* a capacity to pursue their needs and in future participate in work and society as citizens at their full potential. Interprofessional collaboration, however, requires a new concept of professionalism, in which fulfilling the educational mandate is the first priority. Traditional concepts of professionalism may be that interprofessional collaboration is a threat to the interests and autonomy of a specific profession. However, professionalism that includes interprofessional collaboration can alternatively be conceptualized as a protection of professionalism, in the sense that each profession refines its expertise and specialization, and collaborates with others with relevant expertise. In knowledge-based societies, this is becoming increasingly important (Edwards, Daniels, Gallagher, Lead-better, & Warmington, 2009; Pihl, 2009). Collaboration requires negotiation between professions in the development of a shared object of activity (Daniels, Edwards, Engeström, Gallagher, & Ludvigsen, 2010; Engeström & Sannino, 2010)—in this case, in literacy education.

Libraries and schools are separate institutions, each governed by a specific professional ethos, specific rules, division of labour, objects of activity and cultural artefacts (Daniels et al., 2010; Engeström & Sannino, 2010). The most important difference between libraries and schools is that while both are open to all, schools are obliged to assess the performance of students and to rank and sort them (Pihl, 2009), whereas libraries are not. The initiative for collaboration has historically come from public libraries, which have offered their services to schools (Dressman, 1997). Not all schools and teachers have responded positively to these invitations. In the case of Norwegian public education, educational policy has not traditionally defined the public library as an important institution for schools. In teacher education, neither educational use of public and school libraries nor development of school libraries has ever been a major issue. A national survey shows that school libraries are staffed on average for five hours per week (Barstad, Audunson, Hjortsæter, & Østlie, 2007). However, from an educational point of view, I propose

that for schools to realize their social mandate in relation to multiplicity, globalization and digitalization, interprofessional collaboration may be an important contribution and is in fact needed (Pihl, 2009). Professional challenges are complex. It is hardly conceivable that the teaching profession alone can meet all the demands that society puts on teachers. High-quality teaching requires high qualifications in many fields, including literacy. Collaboration between professions and institutions with expertise and resources relevant to schools and the teaching profession may contribute forcefully to professional and institutional development. The social and health sectors recognize the value of interprofessional collaboration (Almås, 2007; Edwards, 2004; Edwards, et al., 2009).

In education, theory is being developed that addresses interdisciplinary and interprofessional collaboration (Edwards, Gilroy, & Hartley, 2002; Pihl, 2009). However, teaching is traditionally disciplinary and concentrated on work with standard textbooks. This is problematic in heterogeneous classrooms that include students with diverse abilities, diverse social, linguistic and cultural backgrounds, and varying lengths of residence in the country. In literacy education, so-called 'tracked reading' is used quite extensively to cope with multiplicity in the student population (van der Kooij & Pihl, 2009). Tracked reading provides students with books that are supposedly appropriate to a specific level of reading skills. Prior to tracked reading, students are tested and placed at a specific level of reading skills. Books provided for tracked reading are produced by publishing houses for this purpose. These books are not usually written by authors of fiction, and the literary quality of these books is not generally considered high.

### **Multiplicity and demands for interprofessional collaboration**

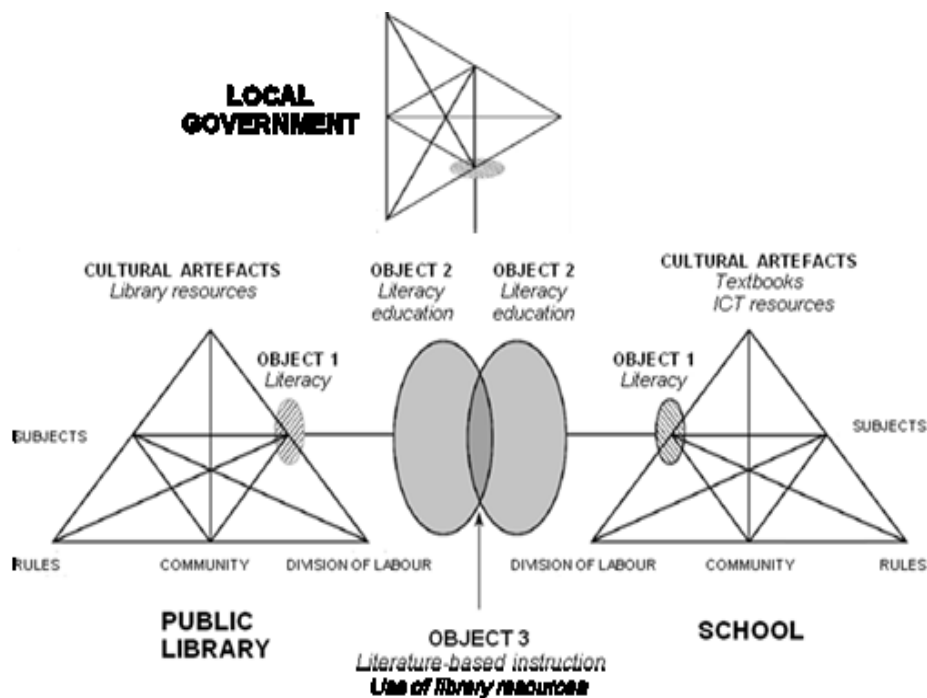
Faced with multiplicity (Deleuze, 2004) in the student population, a range of cultural content is required for teachers to assist all pupils to obtain qualifications in multilingual and multicultural classrooms (Pihl, 2009). This is an alternative to pedagogy that requires adjustment of given content for individual students (Jenssen & Lillejord, 2009). It is at this point that intercollaboration becomes important. The complexity of library resources corresponds to the cultural complexity of the student population. This is an important argument for use of library resources in teaching and learning and collaboration between teachers and librarians in literacy education. In knowledge-based societies, library resources constitute potentially valuable resources for teachers and education, provided that teachers use them. At best, library resources can be substituted for textbooks in teaching and learning. Several research projects document successful teaching in 'book flooding' programs in the language of instruction in multicultural classes, where students read fiction on school subjects (Axelsson, 2000; Elley, 1991, 1992). Teaching based on student reading of fiction is a radical proposition in educational research. Although extensive reading of textbooks has proved unsuccessful in terms of development of student literacy among all students (Limberg, 2003), teachers are expected to adapt the content of standard textbooks to the needs of the individual child. This does not take into account the need for diversity in content. Extensive use of library resources in teaching and learning stimulates student motivation and reading engagement, facilitates acquisition of cultural capital from a national and international perspective, and enhances literacy (Audunson, 2005; Barstad, et al., 2007; Dressman, 1997; Limberg, 2003; Pihl, 2009; Rafste, 2005).

Expertise of librarians is highly relevant to education. However, it is primarily in library and information science that the digital revolution, pedagogical use of the library and collaboration between teachers and librarians have been addressed. The theoretical and empirical focus is primarily on school libraries and school librarians (Albrecht, 2002; Levy, 2005; Limberg, 1998, 2003; Montiel-Overall, 2006; Oberg, 2008). In educational research, collaboration between public libraries and schools,

and teachers and librarians has received little attention (Hoel, Rafste, & Sætre, 2008; Rafste, 2005). The most recent reform in primary education in Norway in 2006 does not include use of school and public library resources on teacher professionalism or pedagogy. Even in multicultural and intercultural educational research, inter-agency between public libraries and schools has received little attention (Ainscow, 2004; Gundara, 2000; Nieto, 2008). This is the empirical background for the exploration of interprofessional collaboration in literacy education in the research and development project ‘Multiplicity, empowerment, citizenship’ (2007-2011).

***Theory of expansive learning***

The theory of expansive learning pertains to learning and development at the level of collective activities, and learning between two activity systems (Edwards et al., 2009; Engeström, 2008; Engeström & Sannino, 2010). Expansive learning generates new dimensions of professional work that entail crossing of professional borders and institutional change (Daniels et al., 2010; Edwards et al., 2009; Engeström, 2008; Engeström & Sannino, 2010). Engeström defines object-oriented joint practice as the unit of analysis in activity theory. The object of activity is the driving force in development of expansive learning. The theory of expansive learning is a dialectical theory in which theoretical concepts, contradictions, internal tensions, ambiguity and surprises are conceptualized as sources of potential change. Identification of contradictions and collaborative work on them are central to the development of the object of activity and of theoretical concepts. In the research project ‘Multiplicity, empowerment, citizenship’ (2007–2011), schools and a public library collaborated. Relations between the activity systems and the object of activity can be visualized as follows.



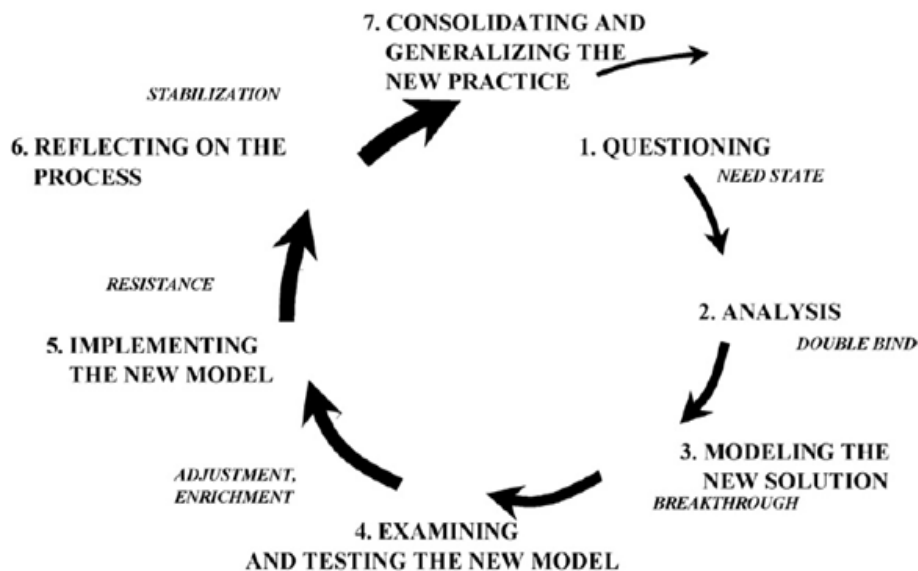
**Fig. 1** The figure shows relations between two activity systems in the Multiplicity project: the public library and schools.

The public library and schools had literacy as the object of activity prior to collaboration (object 1). Teachers and librarians decided to collaborate on a shared object of activity: literacy education (object 2). They developed a new shared object of activity in literacy education: literature-based education and use of the



library as a learning arena (object 3). The local government was a related activity system but was not directly involved in the project.

According to Engeström & Sannino, the formation of an expanded object and corresponding new patterns of activity require and bring about a collective distributed agency, questioning and breaking away from the existing activity. This implies ‘embarking on a journey across uncharted terrain of the zone of proximal development’ (Engeström & Sannino, 2010:7). Expansive learning develops in interaction and has the following stages.



**Fig. 2** Sequence of learning actions in an expansive learning cycle (Engeström & Sannino, 2010:8).

The expansive learning cycle was the framework for analysis of collaboration between teachers and librarians in the Multiplicity Project. ‘Expansive learning is an inherently multi-voiced process of debate, negotiations and orchestration’ (Engeström & Sannino, 2010:5). It is a non-linear development over a lengthy period of time that involves analysis of contradictions and interaction between theory and practice. Expansive learning manifests itself in changes in the object of collective activity. In successful expansive learning, this eventually leads to qualitative transformation of all components of the activity systems—in this case, the public library and the school. An outcome of expansive learning is change in professional practices and qualitative transformation in the ways in which participating institutions work.

### **Methodological design and analytical framework**

The ‘Multiplicity, empowerment, citizenship’ project (2007–2011) was a research and development project that included teachers, librarians and researchers. Two schools, a public library and two Faculties of Education were engaged in the project. Its theoretical framework for analysis of interprofessional development and expansive learning was cultural-historical theory of activity (Daniels et al., 2010; Edwards, et al., 2009; Engeström, 2008; Engeström & Sannino, 2010). The project was initiated by research. The researchers invited the leader of a public library and the leaders of two multicultural schools to collaborate in literacy education. The participating public library and schools financed collaboration from ordinary budgets. The only exception was a grant to the public library from the County

Director ('Fylkesmannen') of 500,000 Norwegian Crowns (NOK) (€ 62,000) in 2008.

As researchers, we proposed literacy education as the collective object of activity in the project. The overall aim was to contribute to research-based school development and to enhance student literacy in the language of instruction in inclusive educational provisions in multicultural schools. The researchers proposed formative intervention in terms of literature-based education and interprofessional collaboration between teachers, librarians and researchers (Engeström, 2009). At a pedagogical level, literature-based education was proposed in terms of a 'book-flooding' program and use of school and public libraries as learning arenas in literacy education (Axelsson, 2000; Elley, 1991, 1992; Pihl, 2009). The school leaders and library director supported these aims and involved their staff in the project.

School A was situated in the poorest socio-economic area of the city, measured in terms of people on welfare, mortality rate, unemployment rate and average level of education (Espevoll, 2009). Altogether, 77 per cent of the student population had minority backgrounds. Participants from school A included the rector, the teacher team at grade three (four teachers) and 84 students in grade three. School B was located in a middle-class area, and 11 per cent of the students had minority backgrounds. Participants at school B included the rector, the teaching team for grade four (three teachers), the 53 students in grade four, and the school librarian. A team of researchers collaborated with each school. Six researchers, one PhD student and four master students were involved. The researchers had an interdisciplinary background in pedagogy, philology and linguistics. At the public library, the library director, the leader of the pedagogical unit and a librarian at the library branch participated in the project.

### ***Formative intervention***

Formative intervention was conducted according to Change Laboratory methodology (Engeström, 2007). Researchers collaborated with teachers and librarians regarding literacy education, joint educational planning and use of the public and school library in literacy education. We introduced theoretical concepts, empirical studies and methods related to implementation of literature-based education (Axelsson, 2000; Elley, 1991, 1992; Morrow, Pressley, Smith, & Smith, 1997), New Literacy Studies (Barton, 2007; Barton, Hamilton, & Ivanic, 2000) and interprofessional collaboration and expansive learning (Daniels, et al., 2010; Engeström & Sannino, 2010).

Formative intervention was discussed at the schools, in network meetings, in steering group meetings and in research seminars (Engeström, 2009). From August 2007 until June 2011, there were 16 network meetings, 21 steering group meetings and 23 research seminars. Network meetings included all 19 participants in the project. The steering group comprised the three institutional leaders and two researchers, including the project leader. In the network and steering group, the participants presented and discussed their work with all participants (Engeström, 2007). This involved questioning and identifying needs, analysis of contradictions, modelling and implementation of new practices and 'tools' as well as theoretical reflection related to outcomes. Discussions in steering group meetings focused on contradictions and relations between theory and practice, and the role of institutional leadership in the project.

Researchers engaged in participant observation, conducted interviews with teachers, librarians, institutional leaders and students, and conducted a survey of students' reading engagement and literacy practices, including use of the school and public library. At the institutional level, the researchers analysed institutional change, professional development and use of the public and school library in the project (Bakke, 2011; Bueie & Pihl, 2009, 2011; Espevoll, 2009; Mahmoud, 2009;

Michaelsen, Bueie, & Pihl, 2010; Pihl, 2009; Saggar, 2011; Tonne, 2009; Tonne & Pihl, 2009; van der Kooij & Pihl, 2009).

## **Professional development and expansive learning in the Multiplicity Project**

### *Development of a shared object of activity*

What facilitates interprofessional collaboration and expansive learning? In the initial phase of the Multiplicity Project, the development of a shared object of activity was the main objective. The institutional leaders defined the needs that motivated them to involve their institutions in the project. They also articulated their expectations for the future.

The teachers work very hard, but nevertheless our students perform far below average on national literacy tests. We need to find new ways to enhance student literacy (rector at school A).

I see collaboration with researchers, who analyse our work, as a wonderful opportunity to develop our school. We have already had literacy projects, and we have a very good school library and librarian, but we want to become even better at this (rector at school B).

The library shall take care of the whole population, including children... The public library's role in relation to enhancement of voluntary reading among children, development of good readers and children's relation to literature is important. It is a good thing that the researchers collaborate with the teachers and librarians. Then we can adjust the project as we go along... The library should understand that the teachers have a goal: to teach the children as much as possible. The librarians have another goal, to motivate as many children as possible to read what they wish. These two goals are quite different. If one can build a bridge between these fields and professions, the children will benefit the most (public library director).

The library director identified differences between teaching and librarianship, and a need to bridge these differences.

In interventionist and collaborative studies in the workplace, there are a number of contradictions that need to be addressed to develop a new shared object of activity: development of common aims, recognition of the competence of other professions and joint activities with new cultural artefacts. Formative intervention takes the form of 'dual stimulation' in which work with new theoretical concepts and cultural artefacts interacts (Daniels et al., 2010; Edwards, et al., 2009; Bueie & Pihl, 2009, 2011; Pihl, 2009; van der Kooij & Pihl, 2009).

## **Contradictions, professional autonomy and outcome**

Work on primary contradictions was related to elements within schools: limited time and resources for discussion and interprofessional collaboration (Engeström, 1987). Research-based professional and institutional development takes time. To address the problem of limited time, the participants decided to extend the project period from three to four years (Bueie & Pihl, 2009). That provided time for discussions, joint planning and development of new collaborative professional practices and institutional changes. Secondary contradictions were conflicts over division of labour within schools—for example, lack of library staff at the school library—prevented exploitation of the possibilities opened by advanced cultural artefacts. Tertiary contradictions were conflicts over traditional ideas, concepts and practices versus those introduced by formative intervention. Quaternary contra-



dictions materialized between activity systems: local government on the one hand, and schools and public libraries on the other.

These contradictions were addressed to develop a shared object of activity and expansive learning. The multivoiced process was articulated by teachers: some supported 'tracked' reading, some supported literacy education based on fiction, some advocated literacy education based on fiction and prose, and some were interested in use of the library while others were less interested. Formative intervention initially met with resistance from some teachers. This was primarily related to tertiary contradictions: conflicts between literacy discourses in schools, libraries and research. In schools, a skill concept of literacy is strong (Barton, 2007). 'Tracked reading' was used at both schools to some extent. Teaching was traditionally based on textbooks. Teachers were under immense pressure to provide good results on national literacy tests. The national tests were 'tools' developed outside schools, which teachers were obliged to implement even if they regarded the tests as counterproductive to teaching and learning. "From August until October we used all lessons in Norwegian, math and English to prepare the students for the national tests in the beginning of October (teacher at school A)."

Time spent on 'teaching to the test' hindered implementation of the 'book flooding' program. Formative intervention in terms of voluntary reading of fiction was substantiated by research (Axelsson, 2000; Elley, 1991; Morrow, et al., 1997), but researchers could not promise immediate effects in terms of higher results on national literacy tests. Contradictions between a 'skill' concept of literacy and one founded on New Literacy Studies (Barton, 2007) were discussed and negotiated. Simultaneously, teachers and librarians implemented the 'book flooding' program, which gave students extensive access to books and voluntary reading of fiction and prose in the classroom, at the public and school libraries and at home.

Formative intervention by researchers was guided by respect for professional autonomy. Teachers defined their professional needs and pedagogical priorities, and decided whether, how and to what extent they would adopt potentially shared objects of activity: literacy education based on fiction, use of the public and school library, and interprofessional collaboration. Initially, teachers at school A exercised their autonomy by only taking students with critically low literacy performance to the public library. They regarded this as a compensatory pedagogical measure for students 'at risk' (van der Kooij & Pihl, 2009). This was not in line with the formative interventions that emphasized inclusive education in terms of non-segregated teaching. However, as researchers, we respected the teachers' decision and discussed it with them. After some time, the teachers decided to include all students in visits to the public library. We attribute this to a combination of factors: teachers' experiences with students' positive reading engagement at the library, in classrooms and at home, as well as theoretical discussions in the project (van der Kooij & Pihl, 2009).

To provide for professional autonomy is important but may also be met with ambivalence. The teaching profession is subject to government guidelines and prescriptions that teachers are accustomed to following (Bueie & Pihl, 2009; Edwards et al., 2009). When teachers take charge of professional development, they enter uncharted and challenging terrain. 'We would like to know what you (the researchers) want from us', said one teacher after two years of collaboration. We responded that we did not want anything from the teachers. It was up to the teachers to decide whether they wanted to engage in new literacy teaching practices and collaboration with librarians. Development of professional autonomy takes time and involves theoretical reflection. Expansive learning sometimes takes a sudden turn, when professionals engage in new practices without having previously articulated a need for change. This occurred when teachers first took 'children at risk' to the library and then suddenly changed the practice and brought all students.

Against the background of research interventions and negotiations in the project, teachers and librarians engaged in the development of new shared objects of activity: literature-based education in school subjects and use of the library as a learning arena. This was a non-linear process from August 2007 until June 2011. The teachers at school A decided to work with fiction and library resources in thematic projects that integrated language, social science topics and aesthetics. Librarians suggested literature, and teachers and librarians planned which books the students would receive in the classroom, taking into account their level of proficiency in the language of instruction and their interests. School B prioritized integration of reading, writing and digital publications (Bueie & Pihl, 2011; Michaelsen, et al., 2010). During the 2008/2009 school year, the students engaged in extensive reading at school. Majority and minority students with different levels of literacy proficiency enjoyed reading. They were excited by the access to books and reported having read an average of approximately 36 books in the language of instruction during the school year (79 per cent response at school A, N = 66, 98 per cent response at school B, N = 51). The researchers analysed the relationship between library use, quantity of reading and reading speed at the school with a high percentage of minority pupils (school A) and found a strong positive correlation (Tonne & Pihl, 2009). The positive outcome of the 'book flooding' program and interprofessional collaboration influenced the subsequent pedagogical priorities at the multicultural school A.

### **Institutional development and student literacy**

New literacy practices among teachers and students and research interventions generated a radical change in school A's pedagogical priorities. This amounted to professional and institutional development. When the Multiplicity Project began in 2007, the relation between the public library and the multicultural school (A) was at a minimum. Pedagogical use of literature and library resources was not integrated into the school's concept of teacher professionalism (Mahmoud, 2009). The teachers did not use the public library regularly or collaborate with public librarians, despite the fact that a public library branch was located in the vicinity of the school. The school library contained books but no staff—a typical secondary contradiction. A retired person worked five hours per week putting books into place. There was no plan for the development of the school library, for staffing the school library, or for systematic use of the school library in the teachers' work with literacy education.

Early in the project, the researchers proposed that the rector at school A develop the school library, appoint a school librarian and include the library as a learning arena in literacy education. The rector responded: 'We must have the right person as school librarian'. He communicated implicitly that 'the right person' was not available. However, in 2008/2009, the rector appointed one of the teachers at the school as school librarian in a part-time position and subsequently extended it to a full-time position. The school renovated the school library and bought new books for approximately 70,000 NOK (€ 9000) to meet student demand for literature. This was financed from the ordinary school budget and was a qualitative shift in the rector's and the school's pedagogical priorities. The shift in practice came without prior verbal articulation of the need for change. The school librarian developed an annual plan involving all classes and teachers in the use of the school library in literacy education. The 650 students borrowed approximately 650 books each week at the school library. What facilitated the shift in pedagogical priorities and school leadership?

The project has contributed to these changes. It is very difficult to be in a project with *that* focus on books, without a framework around it. Someone must 'hold the rope' and see to it that this benefits all students at the school. We want

to move from project to new literacy teaching practices on a permanent basis (rector at school A).

The rector wanted to extend literature-based literacy education to all classes at the school and to provide all teachers and students access to the school library as a learning arena on a permanent basis. It is interesting that the rector implemented the institutional changes without having articulated the need for institutional changes in network and steering group meetings. We attribute these changes to expansive learning in the project based on collective work with new concepts and cultural artefacts, interprofessional collaboration and the positive outcome of research interventions and collaboration. The school librarian played an important role as change agent at the school, in terms of including the school library as a learning arena in literacy education.

In June 2009, a total of 97 per cent of the students at the multicultural school A read books regularly and appreciated reading, and 42 per cent of the students read every day because they enjoyed it. Altogether, 89 per cent used the public library alone or with others once a week or more (N = 66). The students engaged in extensive voluntary reading. The researchers documented that the students had read on average approximately 1400 pages each during the school year. This is a lot of reading among fourth grade students by any standard, and particularly when we take into consideration that the majority were linguistic minority students from predominantly low socio-economic backgrounds, who read books in their second language, Norwegian. Boys read as much as girls, and the teachers and rector noted positive and qualitative changes in students' reading engagement and use of the public library.

The public librarians collaborated directly with the teachers and school librarians. This involved planning of literacy education, 'book talks' and teaching of information literacy. They provided interesting and relevant books to the classes, contributed to development of the school library and acquisition of new books to the library. The public librarians reported learning about the purpose and content of pedagogical work and appreciated participating in the early planning of pedagogical projects. The librarians argued that this was an important precondition for providing library services of high quality for literacy work in specific classes. Public librarians and teachers who worked as school librarians developed an annual plan for literacy work at the schools: in classes, at the school and public libraries. The public librarians developed a new cultural artefact: a 'learning model' for the public library based on the expansive learning cycle (Engeström & Sannino, 2010). They identified needs for collaboration with teachers and schools, contradictions, activities and a plan for collaboration in 2011/2012 that included reflection and evaluation. They defined two needs in relation to schools: to strengthen collaboration with teachers in literature work, and to strengthen school librarianship in the municipality. We interpret this as a manifestation of expansive learning and professional autonomy among the librarians.

Lack of support for interprofessional collaboration at a political level is a typical external constraint that can hinder interprofessional collaboration (Edwards, et al., 2009). The Multiplicity Project proposed that the local government extend the project's model for collaboration between libraries and schools to the municipality. At this point, a quaternary contradiction materialized between the public library and the schools on the one hand and local government on the other. The local government prioritized screening and testing of literacy skills as well as tracked reading. Literacy education based on extensive reading of fiction and use of the public and school library was not integrated into the local government's conception of literacy education. Thus, the local government prohibited extension of the model of school and library collaboration to other schools in the municipality. This was a manifestation of organizational professionalism (Evetts, 2003). However, the participating institutions—schools, the public library and the

local faculty of education—defined a need for future sustainable interprofessional collaboration after the Multiplicity Project ended in June 2011. These institutions developed a new cultural artefact—a contract and new steering group that formalized future collaboration for two years, based on the principles of the expansive learning cycle (Engeström & Sannino, 2010). The participants took on leadership of intersectoral and interprofessional collaboration and exercised professional autonomy without support from the local government.

## Conclusion

This article has explored interprofessional collaboration between teachers and librarians in literacy education. In the research and development project, development of interprofessional collaboration was a collective learning process in which research interventions and work with new theoretical concepts and cultural artefacts played a crucial role. Interprofessional collaboration contributed to qualitative improvements in literacy education and institutional development which supported development of student literacy.

The study indicates that professionals engage in interprofessional collaboration when they develop a shared sense of purpose and object of activity as well as experience that collaboration improves the quality of professional work. The participating teachers, librarians and institutional leaders exercised professional autonomy. They challenged organizational professionalism promoted by the state and local government, which was an obstacle to development of interprofessional collaboration.

Complexity of educational challenges in the present era creates a need for collaboration with professions and institutions that have expertise and resources which are relevant for realization of the educational mandate. Collaboration between teachers and librarians is a case in point. If teachers and librarians learn to collaborate in their professional training, it is likely that they will collaborate in the workplace. That can become an important contribution to development of occupational professionalism in the present context. It may enforce realization of the shared democratic mandate of both the teaching and library profession, which is to contribute to literacy and democratic citizenship regardless of the person's gender, ethnic background and socio-economic status.

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