Åbo Akademi University

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Information Literacy Conceptions in Comprehensive School in Finland

Curriculum, teacher and school librarian discourses

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INFORMATION LITERACY CONCEPTIONS IN COMPREHENSIVE SCHOOL IN FINLAND

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Abstract

Information literacy skills are essential in an information-rich environment and constitute an important part of lifelong learning. The grounds for comprehensive information literacy skills are built in school. Finnish comprehensive school is undergoing a curriculum change. Libraries are named as both partners and learning environments. Thus, there is a prompt on collaboration between teachers and librarians, which would be based on activities from both sides. Consequently, understanding the related terminology is important, and explains the focus of the present research on terms *information literacy*, *information management skills* and *multiliteracy*. All these terms are relevant from the point of view of both professional fields. All comprehensive schools use the renewed core curriculum from 2014 autumn term onward.The research is based on three research questions: what kind of conception of information literacy can be found in the Finnish Language and Literature in 2004 and 2014 secondary school core curricula; what are the information literacy conceptions of 7th grade teachers in Finnish Language and Literature and school librarians; and what differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the core curriculum of 2014.

Research material consisted of two text entities (the core curricula of 2004 and 2014) and of the interview data from five teachers of seventh-grade Finnish Language and Literature and five school librarians in five teacher training schools. The theoretical framework was based on information literacy. Both text and interview transcriptions were analysed in similar fashion, following discourse analytic approach and using both qualitative and quantitative methods. The results were first presented as separate units and then in a combined analysis, focusing on the 2014 core curriculum and the interviews. All data were divided into three sections inside the process: Planning, Activity and Reflection. These three process representations were then compared and the density of findings in every section was calculated, thus representing the emphasis on each particular section of the process.

Results showed a change in the information literacy conception between the core curricula of 2004 and 2014. The 2004 core curriculum emphasised Activity phases such as Information Seeking and Critical Thinking, whereas the 2014 core curriculum emphasised Reflection phases, such as how to Work with Information. While teachers emphasised Planning phases with a penetrating focus on text and reading skills, school librarians' emphasised Activity phases focusing on information seeking and critical thinking. Teachers were unfamiliar with the term information literacy, which was only vaguely known to school librarians as well. Furthermore, school librarians were hesitant concerning the meaning of the term multiliteracy. It can, therefore, be

concluded that both professional groups emphasise different issues than the 2014 core curriculum.

Thus, this research contributes to the study of information literacy in the context of cooperation between teachers and school librarians within the Finnish school system setting, with a focus on the problematic understanding of the relevant terminology.

Keywords: information literacy, schools, teachers, school librarians

Abstrakt

Informationskompetens är en väsentlig del av vår vardag. I en värld rik av information behöver alla kunskaper att få stöda i livslångt lärande. Grunderna för bra informationskompetenser byggas upp i skolan. Den finska grundskolan går igenom stora förändringar. I den nya läroplan 2014, är bibliotek nämnd som en del av inlärningsomgivning och har en roll som partners för skolor. Det finns ett behov för kollaboration mellan lärare och bibliotekarie, som är planerad i samverkan. Av den anledning är det viktigt att alla har samma konception av termer, som ligger nära båda fälten, nämligen informationskompetensser, informationshantering och multiliteracitet. Från och med höstterminen 2019 är den nya läroplanen i bruk i hela grundskolan.

Denna doktorsavhandling består av tre forskningsfrågor: hur koncept informationskompetensser syns i 2004 och 2014 läroplaner i högstadiet inom ämnet finska som modersmål; hurdana konceptioner skolbibliotekarie och högstadielärare av finska språket har om informationskompetens; och sist, vilka likheter eller olikheter kan man se i konceptioner angående koncept informationskompetens. Forskningsobjekt bestod av grundskolans läroplaner 2004 och 2014. Intervjupartisipanter bestod av fem lärare av årskurs sju i ämnet finska som modersmål och fem skolbibliotekarier i samma fem skolor med likadan profil. Den teoretiska referensramen i denna doktorsavhandling bestod av teorin i informationskunskap. Syftet var att studera konceptioner och ytterligare forska, om dessa konceptioner är förstådda på olika sätt och i så fall, hur.

Materialet bestod av fyra olika enheter: läroplan 2004, läroplan 2014, intervjuer av lärarna och skolbibliotekarierna. Metodologin följde den diskursanalytiska ramen. Alla empiriska enheter analyserades enligt samma stil och jämfördes med hjälp av kvalitativa och kvantitativa metoder. Resultat presenterades först som en process för enstaka empiriska enheter och i slutet en kombinerad process framställning av 2014 läroplan och intervjuer av lärare och skolbibliotekarie var presenterad. Faser i processen av alla empiriska enheter delades till tre större totaliteter; planering, aktivitet och reflektion. Med kvantitativ metod uträknades vikten av olika faser i jämförelse med andra faser.

Resultat visade, att föreställning av informationskompetensser har ändrats mellan de två sista läroplan. Läroplanen 2004 betonade faserna i aktivitet som informationssökning och kritiskt tänkande, medan läroplanen 2014 la mer vikt på faserna i reflektion som hur man arbetar med information. Intervjuade lärarna betonade faserna i planering med mer fokus i generell förståelse i text och läsandet, medan skolbibliotekarierna betonade faserna i aktivitet med tyngd i informationssökning och kritiskt tänkande. De intervjuade lärarna hade svårigheter

att förklara termen informationskompetens, fast skolbibliotekarierna hade likadana svårigheter med samma term. Dessutom, skolbibliotekarierna var tveksamma gällande termen multiliteracitet. Man kan sammanfatta att båda professionella grupper har olika tyngdpunkter i informationskompetensser än den man hittade i läroplan 2014. Avhandlingen bidrar till forskning av informationskompetensser i sammanhang med kollaboration av lärare och skolbibliotekarie inom det finska skolsystemet med fokus i problematiken av förståelse av relevanta termer.

Nyckelord: informationskunskaper, lärare, skolbibliotekarie, skolor

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As a lifelong learner, I have always been intrigued by questions 'why' and 'how'? I have an urge to understand how the world works, and it is this desire for learning that has driven me forward. My thesis path has been bumpy, and it has forced me to face a number of personal shortcomings, but eventually it made me a better researcher.

School libraries came into my life quite unexpectedly in 2003. I took a job as a school librarian in Stockholm, Sweden. The job was meant to be only temporary until something else turns up. However, when leaving the school after four years, I missed the school community, pupils, and the work immensely. I realised that this is what I want to do: work with pupils and teachers to enhance the information literacy skills as a whole. A year after returning from Sweden, a very rare opportunity knocked on my door: a full-time school librarian position in Lieto.

After a year in Lieto I called the Information Studies department in Åbo Akademi University and arranged a meeting with Professor Gunilla Widen. I am truly thankful for the opportunity to acquire my doctoral degree in Åbo Akademi University. I want to extend my deepest gratitude to Professor Gunilla Widén, who has always given me the best possible support, and gave me an opportunity to explore the Information and Library Science field.

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With overwhelming gratitude, In Turku, 16.8.2019
Anu Ojaranta

Abbreviations

ACRL =	Association of College and Research Libraries
CC =	Core curriculum
CC2004 =	Finland's national core curriculum 2004
CC2014 =	Finland's national core curriculum 2014
FNBE =	Finnish National Board of Education,
ICT =	Information and communications technology
ISP =	Information search process
MIL =	Media and information literacy
OECD =	Organisation for Economic Co-operation and Development
PISA =	Programme of International Student Assessment
UNESCO =	United Nations Educational, Scientific and Cultural Organization

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1. Introduction

The last decades have brought changes to society; mobile technology has become a constant feature of our daily lives, placing us significantly closer to information than we have ever been before. Furthermore, the educational level of people worldwide has increased and the European Union, as one of the main decision-making organizations in Europe, has accordingly reacted with different statements and strategies:

> The massive increase in the global supply of highly skilled people over the last decade puts Europe to the test. The time when competition came mainly from countries that could offer only low-skilled work has come to an end. The quality of education and supply of skills has increased worldwide and Europe must respond. (European Commission, 2012, p. 2)

The European Commission document "Rethinking Education: Investing in Skills for Better Socio-Economic Outcomes" states the goal that 40% of young Europeans will complete higher education. However, results are still lacking in several European countries and "nearly 20% of 15 year olds lack sufficient skills in reading" (European Commission, 2012, p. 2). Working life is becoming increasingly demanding, with an ever uncertain political and economic future for which we, however, must prepare our pupils to face their future.

Finland is in the middle of a core curriculum change, with further demands to apply digital solutions to teaching and learning. It will be increasingly important in the future to discern relevant information from irrelevant, as well as false information from facts. All this is closely related to issues such as reading skills, education levels and the necessary skills for the future of the pupils. Hence, this research investigates the understanding of the term information literacy within the Finnish secondary school setting. The two national core curricula are the present research objects: the 2004 core curriculum (hereinafter CC2004) and the 2014 core curriculum (hereinafter CC2014). Furthermore, teachers and school librarians were interviewed with the purpose to understand how they conceptualise information literacy.

The educational policy in Finland states that all its inhabitants must have similar possibilities and equal access to education regardless of ethnic origin, age, wealth, socioeconomic status, or the place of residence. Additionally, the Finnish educational policy is about lifelong learning. In 2012, the Finnish National Board of Education (FNBE) published a document, which studies the education and training demands for Finland towards the year 2025. According to the document, Finland's high standards of education translate into international competitive abilities (Hanhijoki, Katajisto, Kimari, & Savioja, 2009). The aim of the government was that by 2020, 90% of the

people between the ages of 20 and 24 would have a post comprehensive school degree (Hanhijoki et al., 2009).

The European Commission gives "key competences" a central place in its educational policies. Key competences are described to include "literacy and languages; maths, science and engineering; digital competence; personal, social and learning competence; civic competence; entrepreneurship; and cultural awareness and expression." (European Commission, 2018). Access to information has become easier due to factors such as open information networks and easy access to mobile devices. False news and "alternative truths" have become current issues in recent times. Strong information skills are needed to navigate the 21st-century information world. This has brought about important changes in educational skills requirements.

The concept of information literacy has taken an important role in higher education since the Association of College and Research Libraries (ACRL) established the first guidelines for information literacy in 2000 (American Library Association, 2000). Soon after this, in 2001, these guidelines were translated to Finnish by the Helsinki University Library (Helsingin yliopiston opiskelijakirjasto, 2001). Fifteen years later, Syvälahti and Asplund (2015) looked back and stated that Finland successfully implemented those learning goals in university studies.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has been studying the development of the terminology of literacies and has coined the term *media and information literacy* (MIL), combining the two most often used terms in the field of literacies. For MIL, UNESCO states the following goals: "Empowerment of people through Media and Information Literacy (MIL) is an important prerequisite for fostering equitable access to information and knowledge and promoting free, independent and pluralistic media and information systems" (United Nations Educational Scientific and Cultural Organization, 2017).

Donald Leu et al. (2011) state that, "[T]o be literate today often means being able to use some combination of blogs, wikis, texting, search engines, Facebook, Foursquare, Google Docs, Skype, Chrome, iMovie, Contribute, Basecamp, or many other relatively new technologies, including thousands of mobile applications, or "apps." (Leu et al., 2011, p. 6). Not only has literacy changed, our information environment has changed dramatically as well. In the same article, Leu et al. define literacy as deictic and as continuously and increasingly changing (Leu et al., 2011, p. 6).

In Finland, different governmental departments have reacted to this changing situation. The Ministry of Education and Culture produced a report titled "The Development of Education in the Information Society 2020" (Ministry of Education and Culture, 2010), concerning the challenges related to the so-called information society. The report raises issues such as the challenges of promoting the use of

information and communications technology (ICT) and the changes needed to make ICT better correspond to learners' needs and learning styles. Pupils' ICT use is mostly focused on social and leisure activities, while technical, media, and effective information search skills is lacking at university entry level (Ministry of Education and Culture, 2010).

Furthermore, the Ministry of Education and Culture launched a nation-wide reading campaign in August 2012 entailing collaborative projects between schools and libraries to enhance reading skills of children between 6 and 16 years of age. The campaign continued until 2015. Moreover, a large debate concerning literacy skills that started in the autumn of 2016 was an initiative by the Ministry of Education to form a Literacy Forum in 2017, which had over 30 members from the fields of reading and literacies and which worked until the end of August 2018 (Ministry of Education and Culture, 2017). The results and actions resulting from the group's work were presented 14th of September, the Reading Movement was launched.

Information skills have been established as the key competencies for the 21st century and high-quality teacher education programmes have been pointed out as one of the strengths of the Finnish school system (Lavonen, 2016). In order to improve its education system, Finland launched a completely new national core curriculum, which is under the purview of the Finnish National Board of Education (FNBE).

Furthermore, the current educational reform calls for more collaboration between the school system and society at large, with libraries appointed as one of the cooperative companions of comprehensive schools. Since school libraries are nearly non-existent in Finland, most of the services provided to schools are offered by local public libraries. Lindberg (2014) points out that, since schools and libraries have similar values, there should be more and better planned collaboration programmes, as well as joint discussion of common goals and functions that would translate into a win–win situation (Lindberg, 2014). However, even if the concept of information literacy is present in higher education and the role of the academic library in teaching information literacy is widely recognised, the term *information literacy* has never reached the comprehensive school context in Finland.

Teachers in Finland enjoy a high level of autonomy. They can plan their teaching according to the curriculum quite freely. However, the literature indicates that teacher education programmes can be deficient in terms of teaching information literacy (Tanni, 2013). Research also shows that teachers find it difficult to transfer the information searching skills they have to their own teaching practice (Pilerot & Hedman, 2009). Moore (1999) has confirmed this by showing that the teaching of information literacy skills is dependent on teachers' own abilities in information literacy.

Moreover, librarian education in Finland does not include studies in pedagogy. Studies suggest that librarians' may be too technical in their instruction, thus resulting in their preference for some materials over others (Limberg & Folkesson, 2006). Streatfield et al. (2011) found that qualified school librarians tend to emphasise information seeking and information evaluation, which are more familiar to them. Thus, whose responsibility is it to teach information literacy—as prescribed in the core curriculum—in the comprehensive school setting, and how should it be done?

Research conducted by the FNBE (Uusitalo, 2003) studied the communication skills of secondary school graduates and teachers. In the FNBE study, information seeking was considered part of communication skills more broadly. Results suggest that pupils' information-seeking skills were good in seeking answers, compared to critical evaluation of web pages, thus indicating that evaluation and deducting skills were weak. Thirty-nine percent of teachers mentioned that the problem in teaching information seeking related to practical arrangements such as having enough time to go to the library and seek information. Teachers self-evaluated their communication skills as good (Uusitalo, 2003).

In the present doctoral research, there are two different data sources: text and interviews. These materials are substantially different in form but both of them have their roots in society. That is, the two core curricula were developed in collaboration with Finnish society—with elements, structures, knowledge, trends and interests represented by an array of organisations and actors. Society is the framework for everything we do, and everything we do is affected by it. School is an example of a "small society" within society at large, with its own set of rules, organisations and ways of working and behaving.

National core curricula are designed by the FNBE in a complex, collaborative process with several participating groups—researchers, education officials, teachers, interest groups, parents and members of the general public (Kauppinen, 2010). The 2014 core curriculum proposal was opened for comments in 2013, thus ensuring the final document was widely agreed upon by all stakeholders.

In this study, the concept of focus is information literacy. The interviewees' conceptions about this term represent their understanding of it and constituted the data corpus from which to analyse how these conceptions are represented not only in their oral descriptions but also in their actions. There are three terms, and their relation, that are important to understand. In a study on Swedish university students' conceptions of physical motion, Svensson (1989) gives a descriptive explanation of the terms *concept*, *conception* and *conceptualisation*. According to Svensson, a concept is an abstract and general meaning or structure that is present in language; conception is the experienced meaning of the concept in a particular environment or field; and

conceptualisation refers to the cognitive activity of a person according to his/her conceptions that is realised as action (Svensson, 1989).

Furthermore, Anderberg (2000) investigated *meanings of words* and *conceptions* in a phenomenographic study of the semantic expressions of phenomena by students of two different fields, nursing and mathematics, where nursing represented a practical profession and mathematics a theoretical one. The author used contextual analysis and categorised the results according to participants' understanding of the concepts. Anderberg further studied the relationship between the terms *concept*, *conception* and to *conceptualisation*, and found that people have different patterns of association with different concepts, and a certain concept can have different meaning to different people. She further states that "The normative aspect of a word meaning is not seen as identical to the subjective thought, therefore the relationship can *[sic]* cannot be taken for granted" (Anderberg, 2000, p. 92).

Thus, the aim of this research is to contribute to a better understanding of how information literacy is present in the Finnish secondary school context—both in the core curricula and in teachers' and school librarians' conceptions. This understanding is necessary to make possible the collaboration between schools and libraries to develop students' information literacy skills in a context where problems in information management skills[1] related to schoolwork have been reported for the past 20 years (Niinikangas & Niinikangas, 1999).

[1] Information management is the term used of *tiedonhallintataidot* in the English translation of the National Core Curriculum for Basic Education. However, this is not a term used in Library and Information Science. This issue is examined in more detail in section 2.2, p. 20. The term information managing skills is used throughout this study instead of information managing.

2. Research questions

The present research aims to answer the following research questions:

1. What information literacy aspects can be found in Finnish Language and Literature Subject in the national comprehensive school core curricula of 2004 and 2014?
2. What are the information literacy conceptions of 7th grade teachers of Finnish Language and Literature and school librarians?
3. What differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the national core curriculum of 2014?

Through these research questions, the present study aims to gain a better understanding of how information literacy skills are present in the Finnish comprehensive school. This was investigated by using three different aspects: (a) the Finnish core curricula of 2004 and 2014, (b) interviews with five teachers and (c) interviews with five school librarians. The interviewees were from five different schools. In order to contribute to the aforementioned collaboration between schools and libraries—whose importance has been established in previous Finnish studies (Arvo, 2015; Hopia, 2014; Kurttila-Matero, 2011)—it is crucial to know how the actors involved understand information literacy.

2.1. Reliability, validity and research ethics

This dissertation is a qualitative and inductive. The results are an interpretation of the research material, which might have been different if carried out by a different researcher. The reliability of the study was, however, ensured by analysing all data units in a similar way, using the same methodology. Thus, the results concerning different aspects of the study are comparable with each other.

The interview instruments were validated by conducting pilot interviews with one teacher for the teachers' interview guide and one librarian for the school librarians' interview guide. Quotations from the research material were used to validate the results.

Research ethics guidelines were followed to ensure the neutrality and honesty of this study. Ethical use of information and citation of work by other authors was done complying with research referencing standards (Tutkimuseettinen neuvottelukunta, 2012).

Interviews were conducted and transcribed in Finnish. Participants' anonymity was ensured by using pseudonyms and omitting content and dialects that could reveal their identity. Recordings and transcriptions are securely preserved by the researcher, as are the informed consent agreements signed by all participants.

2.2. Terminology

Since this study uses a discourse analytic approach to study conceptions of information literacy, language and terminology issues play a significant role. The study was conducted in Finland and texts were analysed in Finnish, thus acknowledging that the use of language is culturally bound and analysis in the original language is necessary to fully capture the nuances. Furthermore, all texts and interview quotations presented in this study were translated into English. Quotations from the core curricula are from the official translation of the documents provided by the Board of Education.

The term *information*, although extensively studied e.g., Case (2002), is complex; for example, the terms *information* and *knowledge* mix in the Finnish language in the word *tieto*. There is a specific word for knowledge in Finnish, *tietämys*, but it is rarely used in everyday spoken language. Therefore, no specific differentiation between the terms information and knowledge is made in this study. In what follows, a list of the main terms on which this research focuses is provided:

Literacy (in Finnish, *lukutaito* [reading skill])
Literacy is a complex term in Finnish (Kupiainen, Kulju, & Mäkinen, 2015, p. 14) since its meaning involves reading and text interpretation (Luukka, 2013), whereas the English term, according to the Oxford English Dictionary (Oxford Dictionary of English, 2018), means being able to both read and write. Furthermore, to be literate also means to be educated in some field, to be cultivated. Thus, information literacy, media literacy and multiliteracy can be understood to be specific kinds of literacies, each with their own purpose.

Information literacy (in Finnish, *informaatiolukutaito* [information reading skill])
When information literacy is translated into Finnish, it means *information reading skill*. This term is analysed more closely in Chapter 3.

Information seeking and searching
In information science, the terms *seeking* and *searching* have different meanings (Wilson, 1999). Information seeking is understood as the variety of methods people use to gain access to needed information (Wilson, 1999), whereas information

searching is explained to involve the interaction between individuals and computer-based information systems meant for information retrieval (Wilson, 1999). However, in non-specialist common speech, these two terms melt together without meaningful difference. This was reflected in the interviews and in the vocabulary of the CC2014, which interchangeably uses *seeking*, *searching* and *to look for*.

Information management skills (in Finnish, *tiedonhallintataidot* [information management skills])
Tiedonhallintataidot is commonly understood to refer to information skills in general. This term is broadly recognised in the field of education. Furthermore, term information management is present in the literature since the early 1990s (e.g. Niinikangas, 1993) and is, moreover, used as a translation for *tiedonhallintataidot* in the 2014 Core Curriculum. However, the term has not been defined in academic literature. Aaltonen and Rissanen (2002) in a publication by The Finnish Board of Education defined information management skills as learning, seeking, adopting and using new information as a part of problem-solving processes. They also stated that libraries, databases, the Internet and other information sources are merely a means of learning. The term is very similar to information literacy.

The Finnish corresponding word for *information management skills* is *tiedonhallintataidot*. The word *hallinta* is directly translated as "managing," although it could also be translated as "mastery", "handling", or even "controlling." The term has been in use for over 14 years, since it was introduced already in the 2004 core curriculum. Information management is also the translation of the term *tiedonhallinta* in the official English version of the CC2014, however a term information managing skills is used in this study.

The National Board of Education published the book *Koulu kirjastossa* (*School in a Library*) in 2000. Leena Aaltonen (2000) discussed the term information management skills in the context of schools and libraries. Aaltonen takes the Finnish term of information management skills to the context of information seeking and information use.

The successor of *School in a Library* was a book titled *Kirjasto koulussa* (*Library in a School*), where Aaltonen and Rissanen (2002) further study the issue of information management skills.

> At the beginning of the 1990s, no one in Finland had heard of the term information management. At the turn of the millennium, the term already seemed to be relatively familiar at least amongst library professionals. As a concept, information management is encountered in library law and in several strategies and plans that contemplate the cooperation between schools and libraries. Information management and the teaching of those skills are seen as an answer from the library to the challenges of the information

> society. This gives libraries the possibility to profile themselves as learning centres in a whole new way. (Aaltonen & Rissanen, 2002, p. 49, translation by the author)

Aaltonen and Rissanen (2002) further point out that deep reflection on the content and meaning of information management skills has been scarce. They assert that information management skills is often conceived of as related to library use skills and to information technology. They further argue that reflection on a broader perspective of information management skills has remained in governmental speeches and strategies only.

Aaltonen and Rissanen (2002) summarise the skills and elements related to information management skills: learning, seeking for, adopting and using new information as part of a problem-solving process. They go on to assert that libraries, databases, the Internet and other sources of information are merely means of learning. They draw from Christine Bruce's (1997) perspective to present their conception of information management skills. They particularly use this term, not information literacy, hence presented in Bruce's model, *the seven phases of information literacy*.

The sources Aaltonen and Rissanen used are prominent researchers of information literacy; the term had just not yet reached public discussions in Finland at that time. Thus, in the present research, information management skills is considered to be equivalent to information literacy.

Multimodality

The National Centre for Research Methods' "Glossary of Multimodal Terms" defines multimodality as an interdisciplinary approach to communication and its representation to be about more than mere language (National Centre for Research Methods, n.d.).

Kress and van Leeuwen (2001) addressed the issue of multimodality focusing first on monomodality, which has been long present in texts, novels, documents and reports containing only text in the form of letters (of alphabets). Times changed and documents started to have pictures, graphs and drawings to add to their contents. The Internet age revolutionised everything by combining mass media, hypertext, comics, magazines and audiovisual elements (Kress & Leeuwen, 2001). The CC2014 describes the elements of multiliteracy as systems of symbols in visual, auditive, numeric and kinaesthetic modes.

Luukka (2013) writes that multimodality is connected to the broad definition of text, but refers to skills to work with different forms of texts such as notes, mathematical formulas, signs, audiovisual material, maps and other representations of information. Albers and Harste (2007) write that there are different forms in which meaning can be represented or made, for example, language, or spatial, digital and

visual materials. Multimodality refers to the forms in which information can be presented; multiliteracy refers to the skills to interpret those modes.

Multiliteracy (in Finnish, *monilukutaito [multiple reading skill]*)

Multiliteracy was introduced by the CC2014 at the national educational level. The FNBE defines multiliteracy as the production, interpretation and evaluation of texts. Text can mean words, pictures, audio, or numeric or kinaesthetic material and symbols. Multiliteracy refers to the necessary skills to combine multimodal materials for learning. Luukka (2013) states that multiliteracy is a set of skills to both interpret and produce texts, as well as to be able to use textual material in different situations and for different purposes. It is additionally a skill for acquiring, processing, producing, presenting and evaluating information with different tools (Luukka, 2013).

When monomodal publications started to change towards multimodal forms, that is, when purely textual publications started to include elements such as pictures, graphs and maps, a change occurred (Kress & Leeuwen, 2001). A further change happened when the Internet brought along hypertext and, thus, a considerably different information environment. In 1996, a group called the New London Group, consisting of 11 scientists and researchers from the fields of education, language, literacy and technology presented a manifesto for the pedagogy of multiliteracy (The New London Group, 1996).

In their manifesto, the New London Group referred to the changing environment in the educational arena and the challenges the multitude of new communication channels had brought. The group further attributed these changes to the cultural and linguistic diversity that the Internet brought closer to everybody, and that constituted reasons to consider pedagogical issues in new ways. In their manifesto, they supported this notion by reflecting on the contexts in which students would have to find employment. Their main argument concerned the use of multiple modes—text accompanied with elements of visual, auditive and spatial and behavioural modes (The New London Group, 1996, p. 64). The research group furthermore considers we all are meaning-making designers. Based on this idea, the group suggest five elements that intervene in the design of our meaning-making when we communicate: linguistic meaning, visual meaning, audio meaning, gestural meaning and spatial meaning. These five elements constitute multimodal meaning-making. In their text, they refer to mass media, multimedia, as well as hypertext as elements that have reshaped our use of language, which has led to different language uses in different fields and work settings (The New London Group, 1996).

Furthermore, the New London Group suggests four elements that should guide pupils' understanding of the new forms of language, reading and literacy: situated practice (meaning-making is situated in a specific context), overt instruction (learn to develop the necessary skills), critical framing (how to interpret the context and its

meaning) and transformed practice (how to become a meaning maker in their everyday lives (The New London Group, 1996).

Thirteen years later, in 2009, two of the group members, Cope and Kalantzis (2009), revisited the idea of a pedagogy of multiliteracies, since the technological advancements had yet again reshaped the terrain. They conclude that the concept of multiliteracies is still relevant due to the continuous changes in the communication environment (Cope & Kalantzis, 2009).

In the Finnish CC2004, the idea of pedagogy of the multiliteracies presented by the New London Group was included; however, the term used was "broad understanding of text" (Kupiainen et al., 2015, p. 14). Kupiainen at al further acknowledge that information literacy was another option, when this issue was under discussions during the core curriculum process. Any background information for this decision was not elaborated in the article. The concept *multiliteracy* as such was first used in the CC2014. Although the original concept of multiliteracies presented by the New London Group concerned people's work life, it did not directly involve information skills, but merely suggested changes in the different professional languages and jargons.

Lankshear and Knobel (2007) studied the concept of new literacies. Furthermore, they point out that language use has a discursive nature. From this perspective, the concept of new literacies is connected to multiliteracy.

The original conception of multiliteracy referred to the understanding of different messages carrying information in various modes; however, the CC2014 presented a broader understanding. Multiliteracy, according to the CC2014, includes information management skills and even information literacy. The CC2014 states that,

> The pupils need multiliteracy in order to interpret the world around them and to perceive its cultural diversity. Multiliteracy means abilities to obtain, combine, modify, produce, present and evaluate information in different modes, in different contexts and situations, and by using various tools. (Finnish National Board of Education, 2016, p. 23)

Kupiainen, Kulju and Mäkinen (Kupiainen et al., 2015, p. 16) conclude that multiliteracy, as defined in the CC2014 is[2]:

- Related to interpreting, producing and evaluating different texts.
- The ability to acquire, modify, produce, present and evaluate information
- (Serves) to build identity, critical thinking and to learn.
- Enables ethical reflection in a multicultural world.
- Connected to a broad definition of text.

[2] Translation by the author.

The four elements proposed by the New London Group (1996) to guide students' understanding of the new forms of language, reading and literacy are also reflected in the above list.

3. Information Literacy

Information literacy as such originated in the 1970s. It was first mentioned by Paul Zurkowski in 1974; at that time, its use was financial in nature but spread to education in the late 1980s due to the cultural and economic developments brought about by the information society (Webber & Johnston, 2000). In 1987 the American Library Association's Presidential Committee on Information Literacy appointed a group to define the emerging concept (Association of College and Research Libraries, 1989). The concept has since been widely discussed in the library and information science contexts, as well as in the educational field.

One of the starting points for this research is the possible differences between teachers' and librarians' conceptions of information literacy. There is a preconception that members of these groups may have different conceptions of the information literacy due to possible discourse divergences. In this Chapter, research relevant for this study is presented to clarify the complex nature, user dependency and different approaches towards the concept information literacy which will in part help to understand the conceptions during the empirical part of this study.

Information literacy is a complicated concept that has been defined and discussed by many researchers (Virkus, 2011) and organisations ever since it was first used by Paul Zurkowski in 1974 (Bruce, 1997, p. 4). There is an array of definitions that vary according to the perspective of the actor, researcher or organisation, which presents them. As Eisenberg writes; "there is more agreement than disagreement among the models, as is true of IL research itself" (Eisenberg, 2008, p. 40).

Bruce and Hughes (2010) write that information should always be understood from the perspective of the user. They point out that research has shown that information varies in form according to the discipline or community of practice in question (Bruce & Hughes, 2010). Further, information always depends on the receiver and its understanding depends on the cultural and social environment in question and the community of practice.

Recently, Stordy (2015) proposed a taxonomy of literacies. He studied 685 documents during three years and compiled a list of 35 different types of literacies. Stordy states that each of them was developed by people with different motivations and in certain social, historical and organizational contexts. In Stordy's statement, discursive practice thinking is seen. From his perspective, literacy can be connected to language game[3] and different discourses; he further affirms that "being maths literate

[3] Ludwig Wittgenstein turned the prevalent picture metaphor of language into a game metaphor (Gergen, 2009). Wittgenstein stated that, to function in a certain social environment, in a certain discipline, people provide meaning to words. Presenting his language game theory

or environmentally literate meant that a person knew how to operate the language of the subject well enough to make sense of it" (Stordy, 2015, p. 457).

The teaching of information literacy has been a part of the higher education curriculum in Finland since the ARCL standards were translated into Finnish in 2001 (Helsingin yliopiston opiskelijakirjasto, 2001). Also, a major project conducted by Helsinki University called "Standardizing the Management of Information Literacy 2001–2003" helped to further advance this issue in Finland (Juntunen, Lehto, Saarti, & Tevaniemi, 2006). In Finland, information literacy teaching in higher education is organised by university libraries; however, the comprehensive school and upper secondary school systems are outside regulated guidelines for information literacy education. Therefore, if pupils have not acquired the necessary information literacy skills by the time they finish upper secondary school, this may result in difficulties for pupils in the next educational level (Sormunen & Poikela, 2008).

Olof Sundin (2008) outlined four approaches to information literacy—a source approach, a behavioural approach, a process approach and a communicational approach—as the result of an analysis of the web-based information literacy tutorials of 31 Scandinavian university libraries. The study is valuable because it is an empirical study of the models used in information literacy education, although only higher education libraries were included.

In the *source approach*, the emphasis is on information and sources as such, which represents the traditional expertise of librarians. Sundin states that this approach is not focused on the subject and has a "pervasive cautionary tone" in relation to Internet resources. He considers this to be more related to protecting the traditional tools of library professionals than to being cautious and thus exercising critical thinking (Sundin, 2008).

The *behavioural approach* focuses on providing a behavioural model of information literacy. Students are introduced to a step-by-step model of information seeking in which they are required to perform a detailed search on a database. This model also presents potential information sources in a certain order: libraries' own resources first, and Internet resources second. This practice of placing an order on information sources is found in other studies as well (Bruce, 1997; Limberg & Folkesson, 2006; Limber & Sundin, 2006; Merchant & Hepworth, 2002).

In the *process approach*, the focus is shifted from source to user. Here, information seeking is presented as a process "in chronological order" (Sundin, 2008, p. 34).

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in philosophical investigations, Wittgenstein argued that we are players in different games (Wittgenstein, 1992) in which, he explained, we learn the meaning of items, issues and phenomena like a child who learns to conceive the surrounding world (Wittgenstein, 1992, p. 14).

Constructivist learning theory informs this approach, which focuses on how the information seeker should think. According to Sundin, "information literacy is thereby, partly, a question of becoming aware of the different elements of the process" (Sundin, 2008, p. 34). This approach is also influenced by Carol Kuhlthau's information search process in relation to its emphasis on understanding affections during the process.

The *communicational approach* was the least used approach in Sundin's study. This approach emphasises the social connections and social practices while seeking and structuring information. Here, the interaction between the information seeker and the information and information sources is emphasised which makes this approach different from the previous ones.

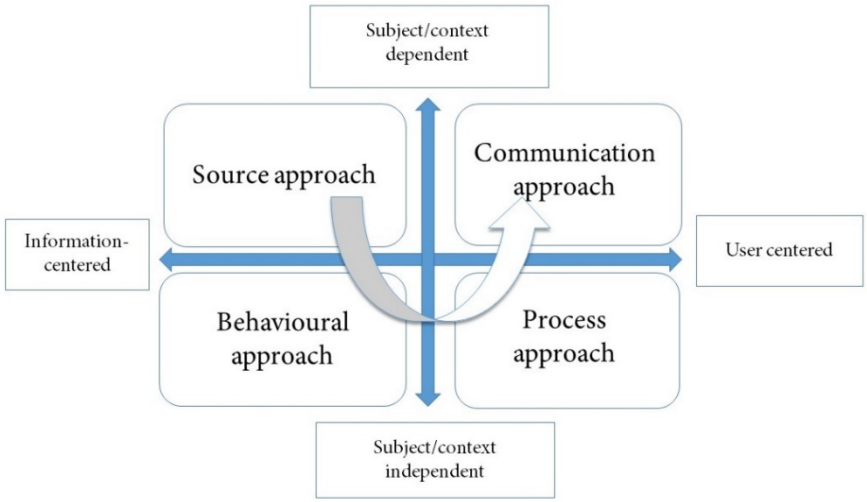

Figure 3.1. An illustration of four approaches to information literacy. (Sundin, 2008)

Sundin states that these four approaches are better used together so they support each other. Variation between the models relates to a focus on information versus a focus on information user, and whether there is subject dependency or not. Figure 3.1 illustrates the perspectives of the different approaches.

Mandy Lupton studied the relationship between information literacy and learning among university students of music composition and of tax law. One of her major findings is that there are elements in information literacy which are generic and others which are context-specific. She created a GeST model in which there are three windows through which to look at information literacy. Through the generic window, information literacy is seen as a set of skills to find and manage information and information is considered completely external. The situated window presents

information literacy as an array of "contextualised information practices" based on different disciplines, communities and fields (Lupton, 2008, p. 32). Lupton claims that knowledge, which is the outcome of an information process, has different meanings depending on the professional context in question. In the situated window, as opposed to the generic one, information is considered internal and subjective. The transformative window combines aspects of the generic and situated windows. Lupton describes the transformative window as information practices that transform the person as well as society as a whole (Lupton, 2008).

As a general conclusion it can be claimed that information literacy conceptions can be contents and subject based, situational, behavioural, based on a professional background or a personal conception formed during the years. Information literacy is therefore claimed to be a highly complex concept influenced by a multitude of factors.

3.1. Four information literacy models

One way to approach information literacy is by investigating different models. The models presented here do not necessarily go by the title *information literacy*; they were chosen because they are the most prominent representatives of their respective perspectives to information literacy: conception-based, process-based, skills-based, and one model from the educational field. The purpose is to highlight the different starting points to studying information literacy. The model from education field was included to include perspective to models used in pedagogy. By analysing these models together, their differences can be seen more clearly.

Information literacy models often have different starting points and they may reach for different target groups (e.g., according to education level), but what is often similar is the process nature of the models.. The Association of College and Research Libraries (ACRL) model describes the skills the information seeker should possess or acquire in order to succeed in his/her mission.

3.1.1. Kuhlthau's information-seeking process

Carol Kuhlthau's well-known model *information-seeking process* (ISP) (Kuhlthau, 2004) has been widely used and can be characterized as a process approach that describes how information seeking should be properly done while securing learning. She has also defined it as a sequential model: "The ISP is experienced as a sequence of one thing after another in a period of time" (Kuhlthau, 2008, p. 67).

The phases of Kuhlthau's ISP model are:

1. Initiation
2. Selection
3. Exploration
4. Formulation
5. Collection
6. Presentation

Emphasis in Kuhlthau's model is placed on the first four phases of the information-seeking process, which are the planning phases. The ISP model is based on a research of 25 upper secondary school pupils acting on an enquiry-based learning unit. The results are the outcome of several methods employed during the initial and four verification studies to understand the experiences pupils have during information-seeking processes.

Results showed that particular emotions emerge in certain phases which, in turn, affect studying and learning. Furthermore, the results depict the activities, cognitive as well as psychological, and the emotional experiences that occur during the information-seeking process. In verification studies with the research participants of the initial study the feelings of inadequacy, uncertainty, and discomfort in the beginning had mitigated and replaced by tolerance towards uncertainty, and awareness of seeking meaning. (Kuhlthau, 2004, p. 53)

The ISP model has been further developed as a working model for schools, Guided Inquiry Design (GID™) (Kuhlthau, Maniotes, & Caspari, 2007); whereas ISP depicts what happens during the process, GID guides the process from the beginning in order to avoid problems encountered in the ISP model, such as difficulty to find relevant information or feelings of inadequacy in information seeking.

The Guided Inquiry Design supports the pupil along the information seeking process, with emphasis on the beginning of it to ensure that the pupils are prepared to enter the path of information seeking and management. With the help of inquiry groups, inquiry journals and inquiry logs, pupils document their learning during the process and, with the help of the inquiry team (teachers, librarian and a specialist), learn to manage difficult phases better and improve their skills. The GID has its roots in Vygotsky's Zone of Proximal Development (ZPD) (Kuhlthau & Maniotes, 2010); to help pupils forward with series of interventions when they feel unable to proceed on their own. The purpose of interventions is to help the pupils to raise their level of achievement; to create a zone where pupils can perform better than what they could have performed on their own (Cheyne & Tarulli, 2005).

3.1.2. ACRL's information literacy competency standards

The ACRL's information literacy perspective is contained in its "Information Literacy Competency Standards" which, in turn, are based on standards for libraries in higher education. The model is considered as a normative model. In 1987 the presidential Committee of Association of College and Research Libraries commemorated a group of experts to see what actions should be taken to tackle the challenges of the information age. (Association of College and Research Libraries, 1989)

The ACRL model is a generic-skills-based normative model that describes the skills one should possess in order to perform well in studies and in any task requiring information literacy skills. ACRL defined information literate people as follows:

> Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (Association of College and Research Libraries, 1989)

This definition is also provided by ACRL in the form of a list (American Library Association, 2000):

1. Able to determine the extent of information needed.
2. Able to access the needed information effectively and efficiently.
3. Able to evaluate information and its sources critically.
4. Able to incorporate selected information into one's knowledge base.
5. Able to use information effectively to accomplish a specific purpose.
6. Able to understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

In 2015 the standard was modernised to encompass the ever proceeding information world, technological ecosystem and education. The Framework for Information Literacy for Higher Education consists of six frames: authority is constructed and contextual, information creation as a process, information has value, research as enquiry, scholarship as conversation, and searching as strategic exploration (Association of College & Research Libraries, 2015). The new framework has stepped away from a process like description and moved towards a cluster of carefully considered concepts to support information literacy learning.

In Finland, ACRL standards—which were translated by Finnish university libraries at the turn of the millennium (Helsingin yliopiston opiskelijakirjasto, 2001)—have become the basic duties of university and college libraries on a broad scale.

3.1.3. Christine Bruce's seven faces of information literacy

Christine Bruce's model (Bruce, 1997) differs from the two previous ones. Bruce's S*even Faces of Information Literacy* model is interesting from a constructionist point of view. With this work, she proposed "a relational model of information literacy to stand alongside the 'behavioural' model which presently dominates information literacy scholarship" (Bruce, 1997, p. 1). Bruce's model was created from a study of 60 higher education faculty members' conceptions of information literacy. She described it as a "phenomenography of information literacy" (1997). Bruce, quoting Marton, proposes that these seven faces form an "anatomy of awareness" (Marton, 1995 cited in Bruce, 1997) of information literacy whose categories are formed by how people conceive information literacy.

The major difference between Bruce's model and those existing at that time was that most of the other models emphasised one or a limited number of ways to experience information literacy. In her model, she includes elements such as technological aspects, computer literacy and media literacy (Bruce, 1997, p. 163).

The seven faces of information literacy (Bruce, 1997, p. 110)

1. The information technology conception – IL is seen as using information technology for information retrieval and communication.
2. The information source conception – IL is seen as finding information.
3. The information process conception – IL is seen as executing a process.
4. The information control conception – IL is seen as controlling information.
5. The knowledge construction conception - IL is seen as building up a personal knowledge base in a new area of interest.
6. The knowledge extension conception – IL is seen as working with knowledge and personal perspectives adopted in such a way that novel insights are gained.
7. The wisdom conception - IL is seen as using information wisely for the benefit of others.

Limberg stated in 2000 that the model by Christine Bruce was richer than other available models at that time because it extended information literacy understanding to knowledge construction and ultimately to wisdom (Limberg, 2000).

3.1.4. Online reading comprehension

In 2004, Donald Leu et al. presented a model of new literacies. Their reason to propose a new theory was related to the changes in literacy in the context of new technologies. This theory takes a clearer stand on knowledge acquisition than that of multiliteracy, even if their origins are somewhat similar. The researchers state that in the age of multitude of information it is crucial to educate pupils on new literacies related to information use and access to knowledge (Leu Jr, Kinzer, Coiro, & Cammack, 2004). The model was a result of an empirical study with 11pupils of the 6th grade in the United States. They were selected from amongst over 150 pupils by their teachers according to a set of requirements (Coiro & Dobler, 2007). The model stages are built to process model according to a specific learning task.

The model from pedagogical studies chosen to be included in the present study alongside the models from information science is the *Online Reading Comprehension model* by Donald Leu et al. (2011), which is closely connected to the model of new literacies. Thus, this can be considered to be a continuation of the tradition of reading comprehension. Leu et al. describe online reading comprehension as follows:

> Online reading comprehension, on the other hand, consists of a process of problem-based inquiry across many different online information sources, requiring several recursive reading practices: a) reading online to identify important questions, b) reading online to locate information, c) reading online to critically evaluate information, d) reading online to synthesize information, and e) reading online to communicate information. (Leu et al., 2011, p. 7)

Snow (2002) advanced a definition of reading comprehension stating that it entails an interaction of three issues: the reader, whose purpose is to comprehend; the text, which is the object of comprehension; and the activity where this comprehension takes place. All of these are situated in the context where reading comprehension takes place. Snow proposes that reading comprehension is "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (Snow, 2002, p. 11). Relatedly, Almasi affirms that readers use the clues in the text and their prior understanding of the issue to create meaning while reading (Almasi, 2003, p. 74).

Carita Kiili (2012) studied online reading in individual and social reading situations. Kiili studied how secondary school pupils in Finland locate information on the Internet, how they evaluate the material, and how they work together during a collaborative writing assignment. Her study showed that reading as an activity in learning situations is affected by poor online reading comprehension; for example, the pupils paid more attention to relevance of the information than to its credibility.

3.2. Comparison of the presented IL models

Four models have been presented to give a general picture of them, the perspectives they adopt and their contents. All the models cover a wide area of different issues related to encountering, seeking and working with information. These models are revisited in the discussion (Section 13.5.).

All presented models have different backgrounds. Two of them are results of research which have, additionally, used different kinds of methods and research subjects of different ages and roles. Because of this, a comparison of the models is neither possible nor justified, and is, furthermore, not the purpose of this study. However, what can be studied are the issues which are repeatedly present in the models, such as information need, searching, accessing information, and being critical, and whether there are issues which are absent for some reason. Furthermore, it is stated that no particular model is used as a framework for the data analysis. The overall theoretical background in this study is based on the concept of information literacy.

These models have different perspectives on information literacy and all of these perspectives are essential, none of them is more irrelevant than other. A skills-based understanding is needed just as much as the process-based understanding. Since the aim is to study conceptions, which, according to Svensson (Svensson, 1989) mean "the experienced meaning of the concept in a particular environment or field" (see Chapter 1.), the experienced meaning in persons' oral expressions does not necessarily come in a form of a well manifested listing or as a well contemplated straightforward process.

There are certain issues that has had an effect on data collection and analysis. One such issue is the initiation phase in the ISP model. In Guided Inquiry Design, which has been adopted from ISP, it is important to stir curiosity, which in turn will activate motivation for a task or a learning assignment. Another issue is the last part in the ACRL model which accentuates the legal and ethical issues of information use, and which can also be seen as understanding the use of references and copyright issues. All models accentuate issues related to working with information and learning. Furthermore, Kuhlthau's ISP brings out the importance of evaluation, and ORC presents the importance of reading in order to deal with information in the first place.

Table 3.1. Comparison of four different types of information literacy models.

7 faces, Bruce	**ISP, Kuhlthau**	**ACRL**	**Online Reading Comprehension (ORC)**
1. The information technology conception 2. The information sources conception 3. The information process conception 4. The information control conception 5. The knowledge construction conception 6. The knowledge extension conception 7. The wisdom conception	1. Initiation 2. Selection 3. Exploration 4. Formulation 5. Collection 6. Presentation	1. Able to determine the extent of information needed 2. Able to access the needed information effectively and efficiently 3. Evaluate information and its sources critically 4. Able to incorporate selected information into one's knowledge base 5. Able to use information effectively to accomplish a specific purpose 6. Able to understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.	1. Reading online to identify important questions, 2. Reading online to locate information, 3. Reading online to critically evaluate information, 4. Reading online to synthesize information, and 5. Reading online to communicate information.

However, there are issues that can be said to affect data analysis outside of these particular presented models that nonetheless still belong in the field of information literacy. Louise Limberg claims that the way pupils interact and communicate in connection to learning tasks is often defined by the school context and the discursive practises of schools. She urges schools to distance themselves from the fact-finding practise, to challenge this practice and to shift to more genuine research-based learning (Limberg, 2005), or rather enquiry-based learning. Hence, it is important to see what kind of learning environment the core curriculum encourages the teachers to adopt to.

Another issue is the understanding of the broad information environment. The breadth of our current information universe is not as such present in these models, but actors, whether they are pupils, students or teachers, need to possess an understanding of their information environment; what is available and what can and should be used, depending on the situation.

4. Information seeking, use and learning

In Chapter 4 the connection between information seeking, information use and learning is examined. There is a large body of literature establishing the connection between information seeking and learning, which is relevant in this study since this research takes place in an educational setting. Section 4.1. examines the professional groups—teachers (Section 4.1.1) and school librarians (Section 4.1.2.)—in light of information literacy issues. There is extensive literature on the relationship between librarians or school librarians and teachers, using different perspectives. The studies included in this section were selected because of their relevance to the subject matter of this research or because of their focus on the comprehensive school level.

The concepts of information seeking, use and learning come from the field of information science. Information use is an extensively researched subject in information science; there are, however, several interpretations of this concept, especially regarding when information use takes place.

Kari discussed the relation between information seeking and information use and concluded that this issue is rather complicated and, furthermore, there are situations when information seeking may not lead to information use at all (Kari, 2007). According to Kari, information use can be understood to take place at different points of an informational process (Kari, 2007, p. 5). The author suggests that information use can only take place after a person has absorbed the information (Kari, 2007). This study will lean towards this interpretation.

Furthermore, Hilary Hughes states that the connection between learning and information literacy has been acknowledged (Hughes, 2006). She describes information use as a complex experience where three issues merge: (a) behaviour and information seeking manifested in users' context, needs and actions; (b) cognitive, cultural, linguistic and affective responses and influences; (c) insight and knowledge construction as learning outcomes. Thus, it can be concluded that information use is a complex issue connected to learning and knowledge construction.

The idea of constructivist learning refers to building new knowledge on top of existing knowledge structures. The information found does not develop into knowledge if pupils do not work with it. This is a question of cognitive processes. In other words, pupils need to understand how the information relates to their pre-existing knowledge structures and then make sense of it; otherwise, the information will not necessarily become knowledge. Learning from the information perspective has been equally explicated by Hakkarainen et al. (2005).

Several library and information science researchers have studied information seeking, use and learning, for example, Christine Bruce in Australia with undergraduate students (1997) and in her book *Informed Learning* (2008), as well as

Mandy Lupton (2008). Carol Kuhlthau studied learning in the context of an information-seeking project with high school students in the United States (2004), and Louise Limberg (2001) together with Mikael Alexandersson (Limberg, Alexandersson, & Lantz-Andersson, 2008) with secondary and upper secondary school students in Sweden, among others.

Pedagogical perspectives

Christine Bruce introduced the concept of informed learning (2008), which is based on her seven faces of information literacy model (1997). In the book (2008), she aims to establish a connection between learning content and effective use and interaction with information. She establishes a dual model of interaction:

1. Learner's view and approach to content of learning appear to influence information use, and
2. Learner's approach to information use appears to influence the content of learning. (Bruce, 2008, p. 2).

Furthermore, Bruce presents six frames, or lenses, of informed learning, which she suggests to be useful to understand the different aspects of learning: content frame, competency frame, learning to learn frame, personal relevance frame, social impact frame and relational frame (Bruce, 2008, pp. 22–37). Pupils have to understand the content of what is being studied, they have to possess the skills to carry out their assignments as well as an understanding of the necessary skills to learn how to learn. Personal relevance refers to pupils' previous knowledge structures. Social impact means that issues are studied and then acted on among social connections and within a context. The relational frame emphasises the relational nature of information.

Mokhtar, Majid and Foo (2008) studied four secondary schools in Singapore. They discovered that one-session information literacy teaching is not enough, that there is a need for closer coaching and mediated learning in relation to information literacy skills. Pupils need to learn to recognise their learning gaps and improve their learning processes (Mokhtar et al., 2008).

The quality of learning results has been reported to be higher if pupils have good information literacy skills (Limberg, 2001). Alexandersson and Limberg (2009) found that learning results are better when the assignment relates to an authentic problem and it is meaningful for the pupil (Alexandersson & Limberg, 2009). They indicate the importance that pupils receive support from teachers and librarians during their assignments. This is also the idea of Kuhlthau's Guided Inquiry model, which promotes interventions by teachers and librarians in certain phases of information-seeking and learning processes (Kuhlthau, 2010).

Kuhlthau and McNally (2001) report on a three year extensive development programme—"Library Power"—for school librarians. The aim of the programme was to improve pupils' learning opportunities. School librarians' responses were coded according to different levels according to their perception towards pupil's learning: the levels varied from *input*, where school librarians merely present resources and give instructions, to *utilisation*, where school librarians emphasise information use for learning purposes. Altogether five different levels were found. During the study, school librarians also participated in further education events. Results showed improvement in the understanding of the value of school libraries for learning and not only as places for resource consultation.

Sormunen and Heinström (2015) state that the challenge will inevitably be to recognise, develop and act on information literacy issues, and to find the pedagogical means to do it.

Librarians and teachers role

Louise Limberg (2001) studied the information-seeking processes of upper secondary school students in the context of an assignment to research the advantages and disadvantages of Sweden joining the European Union. Results showed that more evolved information-seeking skills resulted in a more in-depth analysis of results in the assignment.

Limberg, Hultgern and Jarneving (2002) conducted a review in connection to information-seeking and learning research. They concluded that, in order for learning to take place in connection with information seeking and using, the pupils require a set of sophisticated skills, including reading skills and ability to do independent work, plan, analyse, summarise and present findings (2002, p. 166).

Carol C. Kuhltau's learning approach, Guided Inquiry Design (GID™), was developed from her research on the information search process. Guided Inquiry has strong roots in constructivist learning theory (Kuhlthau et al., 2007, p. 13). Several studies have shown that pupils often try to find "right answers" in their information search to complete their assignments (Limberg et al., 2008; Limberg & Folkesson, 2006; Limberg & Sundin, 2006). According to Kuhlthau et al. (2007), many pupils consider the assignment to write an essay as extra work, additional to regular homework, and see it only as an exercise to complete a bibliography—they see these assignments as having nothing to do with "real life" (Kuhlthau et al., 2007). Thus, these assignments are not being used as learning situations in schools—pupils find information from various sources to understand the issue at hand. According to Kuhlthau et al., working with information in learning situations is about "investigation, exploration, search, quest, research, pursuit, and study" (Kuhlthau et al., 2007, p. 2).

Another point noted by Kuhlthau refers to the affective changes that students experience during the information search process. She saw that certain stages were more challenging for the pupils. The main element of the Guided Inquiry Design refers to the points of intervention by the Guided Inquiry team—teacher, librarian and possibly a subject specialist. The purpose of these interventions is to support pupils' inquiry processes and help pupils to reorganise when they encounter obstacles in any of the stages of the process. In this way, pupils are supported during the enquiry process and not left to manage problems and feelings by themselves.

Savolainen and Kari (2008) examined information use and learning and found seven different relationships between these issues: (a) information use is related to learning, (b) information use means learning, (c) learning is a part of information use, (d) information use is a part of learning, (e) learning affects information use, (f) information use affects learning, and (g) information use and learning interact. They concluded that the difficulties in this field lie (due to conceptual issues) in the definition of terminology. Furthermore, there is the challenge of studying how the received and interpreted information really changes learners' conceptions (Savolainen & Kari, 2008).

Alamettälä and Sormunen (2015) used Guided Inquiry to analyse the results of an assignment in an upper secondary school context in Finland. The project combined Finnish language and history subjects. The aim was to write an article for Wikipedia, and the results were analysed using Guided Inquiry as a framework. The researchers state that, since there are both generic and subject-related skills, a comprehensive understanding of information literacy cannot be reached in information literacy instruction for one school subject alone.

4.1. Two perspectives of information literacy in the school environment

In this section, two different perspectives on information literacy in a learning environment are discussed—teachers' and librarians' perspectives. These groups, while both working in the learning context, have different backgrounds and roles within the educational environment. Teachers are the executives of education, which is legislated by the Ministry of Education. Librarians may have a different view on schools and learning, depending on their position as permanent school librarian or visiting librarian from the municipal or city library. Whatever that situation is, librarians and libraries can be seen as having a supportive function in schools.

The following sections describe how these two groups working in the same learning environment conceive information literacy. Section 4.1.1 on teachers' relation to information literacy also includes some studies with teacher education

students. Section 4.1.2. examines librarians from a similar perspective. Not all of the studies presented here contribute to the research on information literacy conceptions, but are important for understanding the challenges related to information literacy in the education context. Moreover, Hughes argues that "definitions of information behaviour, information seeking, information use and information literacy overlap and vary in interpretation" (Hughes, 2006, p. 3). This varied terminology is present in the following sections.

4.1.1. Teachers

There is a large body of literature that contributes to the understanding of information literacy from the perspective of teachers. The research presented in this section not only concerns the understanding of the information literacy conception, but also information literacy in the teaching practice, which helps to understand the challenges related to the concept of information literacy from the perspective of teachers. How teachers conceptualise information literacy plays a significant role in how the concept is further taught in learning situations.

Annemaree Lloyd (2005) states that there are many ways to understand and experience information literacy. For her, this reflects the complexity surrounding the concept; hence, the diversity of terms presented in the following literature review (e.g., information skills, information seeking and information search process). Although these studies do not include the term information literacy as such, they are all considered to contribute to the present research. Information seeking and searching have a central role in information literacy.

Pupils in the school setting are part of all activities. In the literature, the understanding of information literacy is often studied in connection to teaching; therefore, pupil populations are included in some of the presented studies. Whether there are challenges in teachers' understanding of the obstacles students face when working with information, these challenges may not be resolved without a more comprehensive understanding of their information literacy.

Teacher education

The professional picture of a school librarian is often conceived from a traditional point of view. Wolcott, Lawless and Hobbs (1999) studied preservice teachers' beliefs about the profession of school library media specialist; they concluded that the teachers in their study held a traditional view of this profession. They also found that more emphasis was given to tasks associated with information access and delivery than to issues associated with learning and teaching (Wolcott et al., 1999).

Mikko Tanni (2013) studied information-seeking behaviour of teacher trainees and their conceptions of information literacy instruction. He found that participants

were lacking in strategies to teach information literacy skills. He also realised that participants were not able to transfer their advanced information literacy skills to their pupils. They tended to use information channels based on trustworthiness and convenience. Internet played a significant role in information access but was, however, used scarcely. The participants mentioned mostly procedures instead of concrete instruction or guidance.

Nielsen and Olofsson (2002) conducted research on teacher education students in Sweden. They found that the more a teacher has an interest in information-seeking issues, the more they are implemented into teaching. The reason for this lack of emphasis on information-seeking issues could be that the subject matters are given priority. Furthermore, they found that teachers do not make the connection between information seeking, school library and research-based learning. They did connect the first two elements, but when learning was added, the connection broke. The researchers also concluded that if information seeking had a more advanced role during teacher education studies, teachers might have a different stance on libraries and school libraries (Nielsen & Olofsson, 2002).

Duke and Ward (2009) conducted a review of 39 articles published after 1998. They wanted to examine the role of information literacy in teacher education in the United States, Australia, Canada, New Zealand, Taiwan and the United Kingdom. They concluded that there were some advances made, but there were still issues to be addressed. They claimed that still many teachers graduated with insufficient skills to teach information literacy and that many of them "spoon-fed" information instead of "offering their students active learning experiences that facilitate knowledge construction and promote critical thinking skills and problem solving abilities" (Duke & Ward, 2009, pp. 254–255).

Lundh and Sundin (2006) studied how social practices make a difference in how teacher students function in the information-seeking context, compared to how they function after they have moved to working as teachers. The study shows that teachers' information needs change; when they are studying, their information needs are their own, whereas when teaching pupils information management skills, their pupils' needs must be taken into account (2006, p. 11). They found that the information strategies they learned during their education were not that useful anymore when working as teachers. Lundh and Sundin also found that teachers have difficulties finding didactic and teaching methods for topics such as information searching, source critique and using the found information (Lundh & Sundin, 2006, p. 12).

Lee, Reed and Laverty (2012) studied the knowledge of information literacy of 524 preservice teachers. Their results showed that 77% of the respondents felt that they did not have the necessary skills to teach information literacy. Respondents further elaborated that they had not received any prior training to teach information literacy

or the skills associated with it. Furthermore, respondents held traditional views on school library functions.

Ola Pilerot and Jenny Hedman (2009) studied whether information literacy skills are transferable. They reviewed three articles to analyse this issue from different perspectives. They concluded that there are difficulties transferring information literacy skills from one academic field to another, and from an educational context to work settings. One of the causes of these difficulties in teachers' professional practice is that they have earlier experience in searching for information from high-level academic materials while they were students, whereas as teachers, they have to look for materials fit for pupils (Pilerot & Hedman, 2009). The researchers further note that teachers' work involves the didactics of information seeking, both learning information-seeking skills and carrying out information seeking for learning.

The problematics regarding teacher training is related to moving from the education setting—as students themselves—to the professional field, adjusting their own information literacy skills to instruct pupils. Another problem appears to be that these skills are not thoroughly taught in teacher education. Unfortunately, no studies exist of the state of information literacy instruction and the Finnish teacher education.

Teachers' information literacy conceptions

Williams and Wavell (2007) studied teachers' information literacy skills. They concluded that people approach all learning situations by relating these situations to their prior knowledge. This is also the case with information literacy teaching. Teachers related their prior experiences to teaching, for example in terms of priorities and knowledge of information literacy skills. Williams and Wavell categorized their findings into different dimensions of conceptions, similar to Christine Bruce's study (1997). They found six dimensions: finding information conception, linguistic understanding conception, meaning-making conception, skills conception, critical awareness conception and independent learning conception.

Merchant and Hepworth (2002) studied the attitudes and conceptions teachers and pupils had towards information literacy in two secondary schools in the United Kingdom. They found that teachers were information literate, but that there were problems regarding the transmission of those skills to pupils. The study also revealed disagreement between teachers on how much of their job was to guide pupils through independent information seeking and learning in relation to their role as providers of knowledge (Merchant & Hepworth, 2002, p. 83).

Smith (2013) studied information literacy understandings in Canada with a sample of eight secondary school teachers. Results showed that there is confusion around the concept information literacy; Smith states that this was the case even though information literacy aspects were present in the local curriculum. Furthermore, he,

among other researchers, concluded that teachers consider these skills to be the responsibility of pupils themselves and that these skills could be acquired even in a passive way (Smith, 2013).

O'Connell and Henri (1997) researched Australian teachers' perspectives on information search processes. They discovered that when teachers are unsure of their abilities to use certain information-seeking tools or media, they cannot or do not teach these skills to their pupils either. They also concluded that the poorer the understanding teachers have of information seeking in general and the information-seeking process in particular, the more likely they are to think that pupils are acquiring these skills somewhere else (O'Connell & Henri, 1997, p. 134). This same assumption was made in a study by Moore (1999), where children were even expected to learn the skills without teaching—the expectation was that the skills would just naturally emerge (Moore, 1999). Williams and Wavell (2007) found that teachers admitted making assumptions of pupils' information literacy understandings and abilities.

Elizabeth Probert (2009) conducted a study in two secondary schools and one upper secondary school in New Zealand to examine how teachers understand information literacy and how they conceive of classroom practices. Results showed that only five percent of the respondents had a good understanding of information literacy. This research also revealed that these five percent had previous information literacy studies. It was also found that some head teachers and heads of department had a more evolved understanding of this subject than their teachers. Furthermore, 82% of the respondents felt that these skills should nevertheless be taught either at previous school levels or in other classes; however, half of the respondents thought that these skills come naturally (Probert, 2009).

Kulmala (2008) interviewed 11 Finnish eight grade teachers in her master's thesis. She discovered that teachers did not feel they were significantly lacking in their own information literacy skills but were able to detect several faults in pupils' skills. Teachers neither felt they needed to cooperate with the library in preparing teaching.

In a study among Greek secondary school teachers, the researchers (Togia, Korobili, Mallari, & Nitsos, 2015) found that there was a tendency to concentrate on lower level skills such as information searching, but not progressing to higher level skills such as how to incorporate the information found to existing knowledge structures. Furthermore, understanding of information literacy as a concept was not clear.

The literature shows that the term, as well as the concept, of information literacy present difficulties to teachers. The practice of teaching these skills is related to teachers' own personal understanding of information-seeking related issues and to their clarity about the topic as a whole. Furthermore, there is a tendency to believe that these skills are endogenous to pupils or that they have been taught by someone

else in previous schools or by another teacher. Thus, there are challenges in teaching or imparting these skills.

Challenges in transferring information literacy to classroom practices

Teaching and teachers' ways of working have changed over the last decades. Even if teacher-centred teaching still may prevail, there have been changes occurring in learning philosophies and pedagogical methods. Alexandersson and Limberg (2009) argue that during the 1990s, the move from teacher-centred teaching to pupil-centred teaching became more common. This was meant to emphasise pupils' own unprompted way of doing schoolwork to trigger their own knowledge construction. It was, furthermore, intended to give teachers more freedom to guide pupils through their own efforts. New pedagogical innovations, such as problem-based learning, aimed to take pupils to situations where they were required to solve real-life problems, where they would be able to see the meaning of the class subject matters outside of the school environment (Alexandersson & Limberg, 2009, p. 93).

According to Kuhlthau et al. (2007), there are two general approaches to learning: the transmission approach and the constructivist approach. The transmission approach happens when a teacher or a textbook transmits facts to a learner. The emphasis is on learning right answers, memorizing things and repackaging information (Kuhlthau et al., 2007, p. 14). The constructivist approach prompts pupils to construct their own knowledge by finding information and learning, and through this, to build on their existing knowledge. Several studies (Bruce, 1997; Limberg, 2002; Limberg & Folkesson, 2006; Limberg & Sundin, 2006; Tanni, 2005) have shown that when teaching information seeking, teachers are actively directing pupils to use specific sources, selecting certain types of sources over others—for example, print material over electronic resources.

Alexandersson and Limberg (2009) report on seven research projects they have been involved in during the years 1998–2007. They found that if the teachers and librarians leave pupils with too much freedom and too little guidance, the task of finding information becomes more important than that of learning the issue at hand (Alexandersson & Limberg, 2009). They state that, in order for pupils to perform well in their assignments, they have to master the basic skills to do their job or assignments (2009).

Alexandersson and Limberg also found that teachers are often more keen on procedures in learning assignments than process. According to them, a procedure is easier to handle since it is about, for example, finding the right book, getting the right information from the Internet, and facts; these facts are then gathered into a presentation. This is why pupils see also information searching as a procedure and an assignment, not as creating knowledge (Alexandersson & Limberg, 2009, pp. 94–95).

Williams and Wavell came to the same conclusion that information literacy should be seen as a process planned and managed together with knowledge building. According to Williams and Wavell, teachers considered information literacy more as a process and as basic skills to read and understand texts. Furthermore, teachers emphasised the process over the outcomes in pupils' work (2007).

Limberg, Hultgren and Jarneving (2002) conducted a research overview of information searching and learning. In their book, they concluded that teachers have a vague understanding of what information searching is. The same conclusion was reached by Moore (1999), as she found that teachers had confused ideas about information literacy and only merely half of the teachers in her study were able to break the information process into units. Evaluating and interpreting information were not among those units (Moore, 1999).

Moore found no evidence of teaching information skills being consistently integrated into school policies. Furthermore, she found that the headmasters and teacher librarians interviewed considered that there was room for improvement in teachers' information skills (Moore, 1999). She also found evidence that teaching information skills had not been part of participants' teacher training (Moore, 1999).

Further, the information-searching skills learned in teacher training seemed to be difficult to transfer to teaching information-searching skills to pupils (Tanni, 2005). This same finding was obtained in studies by Merchant and Hepworth (2002) and by Lundh and Sundin (2006).

Williams and Wavell (2006) identified confusion in the complexity of information literacy. Moreover, Tanni (2005) found that teachers saw flaws and shortcomings in pupils' understanding of critical thinking or source criticism, and a lack of general higher order thinking, but they had no educational means or tools to solve these problems. Limberg and Folkesson (2006) and DaCosta (2010) report on similar findings. According to these studies, it can be concluded that teachers as well as teacher trainees had difficulties addressing the flaws they saw in their pupils' information literacy skills.

From this literature review, it is evident that there are important consequences when information literacy cannot be adapted to the classroom situation in the form of instructional practice. Teachers' weak understanding of the concept is reflected in their instruction practices. Information literacy is seen as a procedure and this, furthermore, reinforces pupils' behaviour of aiming to finish the assignment with not enough consideration given to learning.

A weak understanding of information literacy results in problematic teacher–student encounters

There were a number of studies that related the understanding of information literacy issues to teachers' work context. Evidently, these activities take place in teachers' work environment in schools and are performed in collaboration with pupils. This section presents a set of studies in which teachers' information literacy understanding is linked to classroom activities.

O'Connell and Henri (1997) studied teachers' perspectives on information processes. They found that teaching information searching is dependent on teachers' own capabilities and skills in the matter (O'Connell & Henri, 1997). This suggests that teachers' own abilities and skills have a distinctive role in the teaching practice of information searching in schools. (O'Connell & Henri, 1997).

Similar findings were obtained by Ladbrook and Probert (2011). In this research, it was the pupils who reported that they received minimal help, apparently because of teachers' assumptions that these skills would have already been taught to them elsewhere. Furthermore, 92% of the teachers thought pupils knew more in terms of Internet access and navigation than pupils actually knew.

Hongisto and Sormunen (2010) studied a group of secondary school pupils working on a cultural geography assignment. Their main finding was that 85% of the questions expressed during the course were connected to problems in the research assignment process, information seeking and use and technical issues. In their observations and in the answers to their questionnaire, the researchers found that when pupils presented problems, the challenges were solved for them by the teacher instead of them being guided towards the solution. The pupil was found to have a rather passive role in problem-solving situations (Hongisto & Sormunen, 2010). This left somewhat little room for pupils to improve their skills.

Teachers have a tendency to guide pupils' information searching as if trying to control the situation in class. Teachers have a very strong tendency to present possible sources in a certain order (Limberg & Sundin, 2006). Controlling information searching in teaching situations even goes to the point of telling pupils which web pages should be used (Bruce, 1997; Limberg & Folkesson, 2006; Merchant & Hepworth, 2002). Tanni was able to draw similar conclusions in his study of teacher trainees (Tanni, 2005). This phenomenon is explained similarly in the aforementioned studies: as a general time saver, saving pupils from unorganised, time-consuming Internet searches, and as a general way to control the teaching situation in the classroom.

Limberg and Sundin were able to draw the conclusion that the teachers very often tended to focus on the procedure and on "choosing the 'right' source, finding the 'right' answer or using a tool in the 'right way'" (Limberg & Sundin, 2006). This is an

interesting finding, as literature on pupils' information behaviour often explains this as a typical way of pupils to conduct information searches (Limberg et al., 2008; Limberg & Folkesson, 2006; Merchant & Hepworth, 2002).

Limberg, Alexandersson and Lantz-Andersson (2008) draw the conclusion that there is a strong sociocultural factor influencing information searching in schools: finding facts, focusing on procedure more than process and getting things done. Limberg has also pinpointed that teachers rarely challenge the interpretation of information seeking as fact-finding (Limberg, 2005). Ideally, however, pupils should be expected to be more independent in doing school assignments and do their own information seeking and build knowledge (Limberg & Folkesson, 2006). Teachers also see that pupils have limited online information evaluation skills and lack critical thinking skills; however, teachers' own teaching practice does not address these problems (Ladbrook & Probert, 2011).

Limberg concluded that, in order to develop and strengthen pupils' information literacy skills, they need to experience diversity in teaching (Limberg, 2005). By diversity, Limberg means educating pupils away from thinking of information seeking as fact-finding towards developing a repertoire of understandings of information literacy and information seeking. This line of reasoning is similar to Bruce's "seven faces," since these faces are also a kind of repertoire of understandings. This is also connected to Kuhlthau's study stating that the transmission approach does not support constructivist learning (Kuhlthau, Maniotes, & Caspari, 2007).

It can be concluded that teachers' conceptions, habits and experiences play a significant role in teaching the process of information literacy.

4.1.1.1. Summary

The summary presents some of the main themes found in this section. First of all, the terminology in the field of information literacy is somewhat vague. Second, teachers seem to find it challenging to transfer the skills they acquired during their education to their students. So-called lower order thinking skills are taught, including information searching, but higher order skills are more difficult to transfer to pupils, including how to work with the information they find. One of the reasons presented in the literature is that the teaching of how to impart these skills in the teacher education possibly needs improvement.

Furthermore, the evidence shows that it is difficult to know how information literacy skills should be acquired or where and by whom. There is the belief that these skills just emerge or are a result of passive learning, or that they are attributes a pupil either has or has not. There was also the belief that these skills could have been taught at some other school level or in other contexts.

One major issue found in the literature is that teachers see the difficulties pupils have working with information, but evidently lack the tools to tackle these challenges. Additionally, there were signs that procedure was preferred over process. Poor enquiry learning has the disadvantage of easing the information-searching process for pupils by providing them with sources and limiting their use of information, solving problems for them, and encouraging a "finding answers" mind-set.

These issues are possibly related to poor presentation of information literacy and instructing skills during teacher training. This could also be related to teachers' conceptions. It is understood that teachers teach these issues according to their knowledge and personal conceptions, possibly even according to their interest in these issues. There are several challenges in this field that have been present since the end of the 1990s, according to the reviewed literature.

4.1.2. School librarians

School libraries in Finland are rare but not non-existent entirely. The Finnish school library model does not fit into the American, British, or Danish models presented by Rebecca Knuth (2002). The literature presented in this section relates to cases from around the world, since there is scarcity of literature on information literacy in primary and secondary education in the Finnish context. Around the world school libraries have different management systems, operate in different educational environments, and do so with different employee profiles. Development can, however, take place across models and across cultures and continents. Therefore, it is justified to use a worldwide variety of previous studies to present a picture of school librarians and their relation to information literacy issues.

Emphasis on information seeking

Ash-Argyle and Shoham (2014) studied the self-efficacy of school librarians and their impact on teaching information literacy skills to pupils in primary and secondary schools. The researchers used the Big6™ model as an analysis framework to compare their empirical findings to. Big6™ is an approach to information skills developed by Eisenberg and Berkowitz (1990). The results demonstrate that school librarians concentrate on the middle phases of the information literacy process.

Grigas, Mierzecka and Fedosejevaite (2016) conducted a study of information literacy teaching of school librarians in Poland and Lithuania. They also used the Big6™ model (Eisenberg & Berkowitz, 1990) to evaluate their results. The study revealed that school librarians in both countries focus their work on the phases of locating and accessing information, information-seeking strategies and task definition. According to these researchers, school librarians direct their attention to information sources and tools instead of focusing on activities to teach information

literacy skills (Grigas et al., 2016). They concluded that "librarians are not confident in their role of being teachers, but are proud of being named as teacher" (Grigas et al., 2016).

Streatfield, Markless and Rea-Scott (2011) conducted a study to probe the state of information literacy teaching in schools in the United Kingdom. The study included 10 semi-structured interviews and a survey with 1,044 respondents—a sample of both qualified and nonqualified school librarians. The study found that qualified and nonqualified school librarians use terminology differently. All preferred the term "information literacy," but nonqualified librarians had "library skills" as their second choice, whereas qualified librarians preferred to use "information skills." Furthermore, the term "research skills" was used more among nonqualified participants; this was told to be due to choosing the term according to the situation (Streatfield et al., 2011)—nonqualified librarians accommodating to different situations.

Additionally, the same study reported a focus on the information literacy teaching process. The researchers do not mention using any particular model in their questionnaire (OR in their analysis), but they divided the process into six different phases: find information, select information, evaluate information, make sense, answer questions, solve problems (Streatfield et al., 2011, p. 16). In this section, the results were divided into qualified librarians, teachers with librarian qualification and others, which refers to nonqualified librarians. The results showed that qualified school librarians had a strong emphasis on finding and selecting information, whereas among nonqualified school librarians, the same emphasis was found but the overall division of occurrences along the process was more even. There were, however, indications that nonqualified school librarians more or less solved questions for pupils instead of guiding them into discovery (Streatfield et al., 2011, p. 16). The researchers further report that the field of educational librarianship has a tendency to emphasise the phases that are most familiar to librarians; therefore, information seeking is accentuated in daily activities.

Pedagogy aspects of IL teaching

There is a wide variety of school libraries around the world and of models on which they function. The literature shows that school libraries and librarians can truly have an effect on pupils' learning and can promote reading (Lance & Hofschire, 2012). However, this effect does not happen without paying attention to how the functions and resources of a school library are organised.

There are studies showing that school libraries, through their pedagogical role, have an effect on pupils' learning. William, Coles and Wavell (2001) conducted a review of the literature on school libraries' impact on pupils' learning. They found that

school libraries do have an effect on learning but only if certain conditions are met: a high-level library collection that is discussed and maintained together with the teaching faculty; a good level of library staffing; adequate financing; collaboration between teachers and the librarian in learning situations and also in designing instruction materials. Further education was found to be important for both professional groups to develop a mutual understanding of their roles and for libraries' and librarians' contribution to pupils' learning process (Williams et al., 2002). Other studies also report on the impact of school libraries, for example, in Australia (Lonsdale, 2003). Another example is the publishing company Scholastic that, since 2006, has published a series of documents titled "School Libraries Work!," which present several ways to which school libraries promote learning in schools in the United States (Scholastic, 2016).

Streatfield, Shaper and Markless (2011) in their study built three approaches related to how information literacy interventions are implemented in schools. The first approach was labelled "sporadic opportunism," which meant that the school librarian has no particular responsibility but takes the opportunities for information literacy instruction as they come along, focusing on retrieving information. The second approach was titled "systematic development," which is characterised by a dynamic school librarian who reaches for the support of the school leadership, showing the possibilities for his/her contribution to the students' learning process, and who participates in the school's everyday life. The third approach was called "strategic orchestration" and it is the most evolved approach, one in which the school librarian even persuades teachers to include information literacy issues in their schedule as a cooperative endeavour, not only as something the school librarian is asking them to add to their teaching programme (Streatfield et al., 2011).

Louise Limberg (2002) has studied school libraries' pedagogical role. She found that in many earlier studies, librarians considered that most of their time was spent teaching and guiding pupils to find information (Hedenström, 1997; McCracken, 2001; Turner, 1993 in Limberg, 2002).

Thus, how do librarians conceptualise the information searching and information literacy teaching process? Limberg and Folkesson (2006) reported on an information-seeking and teaching project in schools in Sweden (Informationssökning, didaktik och lärande (IDOL) [Information searching, didactics and learning]). They found that, like teachers, librarians tried to correct students' inefficient use of time by advising them on relevant information sources. Both groups also directed pupils to printed sources rather than those on the Internet in order to save time, since pupils' searching strategies were found to be inefficient (Limberg & Folkesson, 2006).

In the same study, Limberg and Folkesson were able to conclude that the study participants emphasized the importance to be able to form relevant questions, to use

time efficiently, to critically evaluate information sources, and to analyse information from several sources. However, these issues did not seem to be efficiently included in teaching programmes (Limberg & Folkesson, 2006).

Table 4.1. Contents of teaching and items identified as important to learn. (Limberg, 2005)

Teaching on information seeking:	**Difficulties for pupils related to information seeking:**
To direct pupils to the right source, channel or site	Reading ability and reading strategies
To recommend a certain order to follow between types of sources	To reflect on knowledge and actions
To teach about the process of information seeking	To formulate questions
	Search queries and search strategies
	Critical evaluation of sources
	Use of information (interpreting, analysing and synthesizing)
	Effective time use

Table 4.1. is a summary of findings in three different studies by Limberg (2005). The table outlines the situation of information-searching teaching for both teachers and school librarians, and the problems identified in this context. Limberg writes, "the descriptions of desired knowledge content touch upon various dimensions in students' tasks which together constitute the entire learning process, from topic to question, through information seeking and use to substance and meaning in presentation" (Limberg, 2005, p. 46). Limberg also states that these findings are in line with Christine Bruce's (1997) and point to a need for the evaluation of information literacy curricula (Limberg, 2005).

In Section 4.1.1 on teachers' views in relation to information literacy, it was concluded that information literacy teaching is a reflection of teachers' own skills and understanding of the subject. Table 4.1 depicts the same phenomenon in school librarians' work. The teaching of information literacy can be concluded to be a reflection of their own understanding. The challenges are clearly listed and reflect a lack of methods to work with pupils and help them overcome their difficulties in relation to information seeking.

In 1999, Tallman and Hendersson conducted research on how librarians use mental models in teaching database usage and information searching. They concluded

that many of the mental models taught were created to teach searching in printed sources. The authors thus pointed out that the transition to a pervasive electronic environment for information searching would require some changes (Tallman & Henderson, 1999). Limberg and Folkesson also showed that librarians tend to have a technical point of view to teaching information searching (Limberg & Folkesson, 2006).

Alexandersson and Limberg (2009) took a language game perspective in their article covering seven studies from 1998 to 2007. Their research shows that librarians focus on presenting available resources, on searching databases and on teaching search strategies with Boolean terms. They concluded that teaching (by both teachers and librarians) should concentrate more on information use, critical analysis and understanding the information instead of just seeking it (Alexandersson & Limberg, 2009).

Kuhlthau and McNally (2001) reported on a three-year programme where the aim was to study school librarians' perceptions of pupil learning within a school improvement programme. The results showed that when school librarians received further education, their view of how they could contribute to learning rose from merely providing resources and instructions, to actually using information for content learning. This reflects a widening view of information literacy processes conceptions.

4.1.3. Summary

There are three issues that dominate this chapter on literature review. Librarians tend to concentrate on the information literacy process phases related to information-seeking. This happens even if they recognise that the whole process is important. Thus, a diverse perspective in this context could not be accomplished—there were signs of using a teaching approach too technical in nature.

What is common for both school librarians and teachers is their tendency to limit the material provided to pupils, and the value they give to books and printed sources over electronic ones. Both professional groups justify this approach by arguing it saves time and helps to control the classroom situation.

5. Finnish schools

The purpose of this chapter is to present the environment and situation where this study took place. The educational arena of Finland has been a subject of admiration since the 2000 PISA result. In this chapter, the Finnish school system is explained, as well as issues affecting learning and teaching in this context. First, Finnish schools are in accordance with the 2014 core curriculum moving towards phenomenon-based learning. Second, this learning model has great implications for information literacy issues in schools.

Thus, in Section 5.1, the Finnish school system is briefly explained, as well as a perspective on its educational philosophy and recent trends, such as phenomenon-based learning. The PISA phenomenon is also elaborated upon from the perspective of what the publications show us about the current situation in Finnish schools. In Section 5.2, the history and construction of the national core curriculum (CC) is analysed, as well as how the CC is dealt with in cities and municipalities and implemented at the local level. Lastly, Section 5.3 presents a perspective on the school library in Finland.

The Finnish school system is based on an obligatory 9-year comprehensive school. This is usually preceded by day care and preschool 1 year before first grade. Preschool is mandatory. Pupils usually start school at the age of 7. Primary school consists of grades 1–6 and secondary school of grades 7–9. After this 9-year basic education, pupils are urged to seek to either vocational school or upper secondary school, after which pupils either graduate in a profession or take their matriculation exam. Upper secondary students apply to higher education (universities). The Board of Education is responsible for managing basic education "to ensure the equality and high quality of education and to create favourable conditions for the pupils' growth, development and learning" (Finnish National Board of Education, 2016, p. 9).

5.1. Learning

Given that this research focuses on information literacy and the school context, it is in place to analyse some aspects of learning, and particularly the learning philosophies in use in the context of focus. The constructivist learning philosophy has been the prevailing learning philosophy at least since the 2004 core curriculum was created. Within constructivist learning, there is a model called research-based learning. The 2014 core curriculum launched a new model, phenomenon-based learning, which is largely based on the methods of research-based learning. Both methodologies are analysed in the following sections.

According to Hakkarainen et al. (2005), most pupils will work in professions requiring seeking, organising, communicating and creating information. They point out that not only seeking information is important, but also what one does with the information as well as where and how the acquired information is used.

5.1.1. Inquiry-based learning and phenomenon-based learning

Scardamalia and Bereiter (1999) developed a constructivist model of knowledge building in education in the late 1990s. They considered that schools were mere bureaucratic organisations even if they clearly were learning organisations (Scardamalia & Bereiter, 1999). Their model accentuated pupils' role as active learners and the importance of collaboration. The model furthermore emphasised that knowledge building is about setting goals, asking questions, explaining issues and evaluating the existing knowledge and what information still needs to be found (Hakkarainen et al., 2005, p. 29).

Hakkarainen et al. (2005) wrote a book presenting inquiry-based learning in practice. They explicate that, in inquiry-based learning, information is not just something one takes in without consideration, but rather the information has to be broken down and synthesis built by solving problems that will lead to a better understanding of the topic in question. The starting point is to form questions about the issue under study. The learning process has no end or beginning, since learning always creates new information needs (Hakkarainen et al., 2005, pp. 30–31).

Hakkarainen et al. (2005, pp. 63–64) presents examples of studies and describes situations along the process. The authors point out that pupils have to understand the model according to which they are working, which entails understanding its phases. Furthermore, they point out that the success within the learning environment requires the creation of social structures that support learning. What they mean is that, with this kind of work methods, an open conversation culture is applied in the classroom, which results in room for inquiry and astonishment.

Hakkarainen et al. (2005) furthermore state that the skills behind inquiry-based learning are not developed on their own or spontaneously. One of the contexts where this is discussed is that in which pupils acquire information while studying a research-based learning unit. The writers state that only on rare occasions can pupils master these skills on their own (Hakkarainen et al., 2005, p. 122). They further note that the teacher cannot function as a know-it-all source every time, and that the teacher has to realise how to deal with the anxiety of realising that he/she does not know the answer to the pupils' question (Hakkarainen et al., 2005, p. 120). Noteworthy in this publication is the fact that there are references to library resources, but no mention of a librarian or of using library personnel's knowledge as a resource in learning situations.

Rauste-von Wright, von Wright and Soini (2003) write that in comprehensive school settings, phenomenon-based learning refers to people experiencing the world around them as different kinds of phenomena. The writers accentuate that the world is a wholeness of multiple disciplines affecting each other's understanding. The purpose in phenomenon-based learning is to present the world as pupils see it, not merely as pure mathematics, biology and geography, but as happenings, situations, phenomena as a whole (Rauste-von Wright, von Wright, & Soini, 2003).

The inclusion of phenomenon-based learning into the CC2014 raised international curiosity in 2015, as news about Finland abandoning all school subjects were widely spread (Independent, 2015). This news was shortly shown to be false by Pasi Sahlberg (2015), who was at the time a visiting professor at Harvard University. The 2014 core curriculum states that a pupil should be entitled to at least one phenomenon-based learning unit during each school year. There are several ways to implement this. The term *phenomenon-based learning* has gained much attention; however, the actual term describing these learning units in the 2014 core curriculum is *integrative instruction*. This learning model is connected to multidisciplinary learning modules. The core curriculum states that this integrative instruction can take place as follows:

- Parallel study that is studying a single theme in two or more subjects simultaneously.
- Sequencing, that is organising topics related to the same theme into a sequence.
- Functional activities, including theme days, events, campaigns, study visits and school camps.
- Longer multidisciplinary learning modules, which are planned and implemented in cooperation between several subjects and which may contain some of the aforementioned integrative instruction techniques.
- Selecting content from different subjects and shaping it into integrated modules.
- Holistic, integrated instruction where all instruction is provided in an integrated form similarly to pre-primary education.
  (Finnish National Board of Education, 2016, p. 33)

From the previous list, it can be concluded that there are several ways to organise multidisciplinary learning modules. Juho Norrena, in his book about innovative school change, points out that when practising transversal competencies, learning takes place in pupils' thinking and actions (Norrena, 2015, p. 27).

Limberg (2005) combined three of her research projects in this article and concluded that there are three things that should be understood in order to strengthen the position of information literacy in schools. First, there needs to be more diversity in the learning; second, the knowledge content of information literacy education has to be recognised; third, the discursive practices in schools have to change to include

more genuine research-based activities into learning practices (Limberg, 2005). This suggests that there are issues in the Finnish school culture that need revision.

5.1.2. Programme for International Student Assessment (PISA)

Finland is known for its high-quality education and its success in the PISA (Programme for International Student Assessment) studies. The PISA study has been conducted by the Organization for Economic Co-Operation and Development (OECD) six times (Organisation for Economic Co-operation and Development, 2018). Finland has achieved high scores in all of the six PISA studies and in all of its areas (Kupari & Nissinen, 2015). The first PISA study was conducted in 2000 and focused mainly on reading skills, while the 2003 study concentrated on mathematics, the 2006 study on natural sciences, and the 2009 study concentrated again on reading skills. In 2012, the focus was again on mathematics, and in 2015, science was its focus.

According to the OECD, reading has been defined as a "cognitive process (aspects) involved in reading that are assessed, the types of texts and response formats used in the assessment, and how student performance in reading is measured and reported" (OECD, 2016, p. 49). The 2009 study gave the opportunity for the first time to compare results and see changes in reading skills on this scale (Sulkunen et al., 2010). The three first studies placed Finland on top, but since the 2009 study, there has been a drop in results (Välijärvi & Kupari, 2015).

The 2009 PISA study showed a slight downward trend in comparison to the study of 2000, when reading similarly was the main subject. The report analysing the results from 2009 states that the drop is not statistically significant, but the trend should be taken seriously from Finland's point of view (Sulkunen et al., 2010). What makes it significant is the distribution of pupils; the number of weak readers has increased and the number of excellent readers has decreased (Sulkunen et al., 2010). The changes can be seen especially in two areas in reading: reading comprehension has decreased 17 points and information-seeking skills have decreased 27 points; these changes are statistically significant. As the report states, these changes are serious even if Finland is still among the top countries in the PISA study (Sulkunen et al., 2010). To specify, the information-seeking skills, which are measured in PISA, test pupils' ability to find information in text which provides more knowledge of the level of reading comprehension than of information-seeking abilities as such.

The results showed the same trend in the 2015 study. In these studies, a national literacy average is calculated for participating countries. The OECD average in 2009 was 495, while the Finnish average was 546. Finland's scores dropped 11 points in science, 5 points in reading and 10 in mathematics between 2009 and 2016 (Organisation for Economic Co-operation and Development, 2016b). Even though

the drop was small (Vettenranta et al., 2015, p. 25), the results raised great concern among the general public.

Thus, even though Finland still kept its fifth place among the countries included in the study, the results had severe implications nationwide. The PISA results from 2015 showed that, in total, 20% of pupils among all participating countries did not attain the baseline level reading proficiency. The results also showed that this percentage had remained the same since 2009 (Organisation for Economic Co-operation and Development, 2016b, p. 4).

Furthermore, the 2015 study showed something that originated a massive discussion in Finnish society and in the media in the autumn of 2017. The document states that pupils in comprehensive education should reach Proficiency Level 2. PISA measures reading proficiency on a scale from below 1 (least proficient in reading) to 6 (most proficient in reading). In Finland, there are thousands of pupils—more accurately, 11%—who graduate from comprehensive school with literacy skills so poor that they cannot manage in society and in further studies without facing important challenges; this according to the reading proficiency levels system (Vettenranta et al., 2015, p. 27). In the 2000 PISA study, the number of pupils who graduated from comprehensive school with low literacy level was 7%: 2% of them were below Level 1B and 5% in Levels 1A (PISA, 2001, p. 69).

5.2. Curriculum

Erja Vitikka (2009) writes that the Finnish core curriculum is created in a decision-making process by different officials, groups and at different educational levels. She points out that the document is the most important guideline for teachers. Although the document has significant impact on teachers' work, it still allows flexibility in practice (Vitikka, 2009). The roots of the Finnish education system goes far in history, but the first national curriculum was implemented in comprehensive school in 1970 (Vitikka, 2009, p. 62).

Since that first core curriculum, Finland has renewed it approximately every 10 years. The core curriculum represents the national educational guidelines, and the municipalities have the obligation to adjust it for their use. The curriculum is a tool that relies heavily on the independent character of teachers' work. It is a plan, not a list of individual things that need to be learnt (Kauppinen, 2010).

In the curriculum of 1994, the learning philosophy changed from cognitive to constructivist, placing the pupil at the centre of the learning. At the same time, the curriculum gave more freedom to the municipalities to decide the emphasis they want to give to the curriculum's content and the learning goals they want to set (Kauppinen, 2010).

The curriculum of 2004 deepened the constructivist ideology with ideas such as problem-based learning, shared knowledge construction and open digital learning environments. Both earlier curricula—1994 and 2004—have been criticized for having too large subject synopses, concepts difficult to grasp, subject contents not evenly considered, goals too demanding and unclear grading guidelines (Kauppinen, 2010).

The core curriculum renewal project consisted of several work groups focusing on different parts of the curriculum. The groups started to work in August 2012. The main work group for the whole CC2014 consisted of officials in the Board of Education, experts from the Ministry of Social Affairs and Health and one representative from the National Institute for Health and Welfare. Furthermore, there were members from several head teacher and teacher associations, representatives of two minority groups (Sami and Romani), one trade union representative, one representative from the Confederation of Finnish Industries and an association representing parents (Finnish National Board of Education, 2014b).

The Finnish language core curriculum planning group consisted of teachers, two researchers and one representative from the National Board of Education. Of all nine persons in the group, teachers were in a majority with six representatives (Finnish National Board of Education, 2014a). None of these groups had representatives from the library and information science field.

The curriculum consists of two parts: a general part on the values and structure of teaching, as well as the learning philosophy, school culture, special education, assessment and wellbeing. The general part consists of general teaching guidelines concerning all subjects. The second part is subject-specific.

The core curriculum is implemented at the local level, in municipalities and in individual schools. Teaching can have a special emphasis, for example, on natural sciences or arts, but the core curriculum is still the general teaching guideline. Saarinen (2016, p. 49), in her master's thesis, interviewed 29 teachers about their experiences with the 2014 core curriculum implementation process. Saarinen found that the work was unevenly organized and that there were differences in allocated time to planning, in whether the planning time was compensated for or not, in which methods were used, and in whether participation in planning was voluntary or not. There were also differences in whether there was planning involved at the municipality and school levels (Saarinen, 2016).

5.2.1. Roles of teachers and head teachers in implementing the curriculum

Implementing the curriculum requires extensive interpretation and adaptation from teachers and also from manufacturers of school books and materials, which makes the

implementation process a challenging one. Another critical phase, according to Kauppinen, is the one related to changing from an emphasis on goals to one on learning situations and pedagogies (Kauppinen, 2010). In the 2000s, the curriculum started to emphasise the teaching of basic skills. According to Kauppinen, one of the things that have led to a curriculum emphasising skills is the changing concept of information: it is more important to learn information skills and acquire competences to evaluate and develop one's own learning than to acquire singular facts (Kauppinen, 2010, p. 33).

After the CC2014 was signed and accepted, the implementation work started in the municipalities. The municipalities had 18 months to implement and adapt the CC to their context, which was obligatory. Even school-level adjustments were possible if the school had an emphasis on science or arts, for example. Schools were allowed to decide how to resolve the issues in the CC; thus, the responsibility of the implementation lies in the local school management and the headmasters.

5.3. School library

One of the aims of this research is to study how teachers and school librarians understand information literacy. It is, thus, important to describe the Finnish school library situation. Fully functioning school libraries are currently rare despite their long history in Finland. Since school libraries are so few, in most schools, school library services are organised by local public libraries. It is, therefore, further relevant to elaborate on the collaboration between schools and public libraries.

The International Federation of Library Associations (IFLA) has done important work to establish a set of international guidelines for school libraries. The first guideline, The School Library Manifesto, was published in 2000 in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO; (International Federation of Library Associations, 2002). The second version of the document was published in 2015 (International Federation of Library Associations, 2015). This document provides guidelines for school libraries in areas such as mission and purpose, legal and financial issues, human resources, material resources, programmes, activities and evaluation. The document also provides a ratio of how much material the school library should host per pupil.

Rebecca Knuth (2002) studied different school library models. She identifies an American model, a British model and a combined model. The American model is characterised by being managed by both schools and school districts. The model is more focused on educational than on reading goals. The British model is characterised by being more culture-focused and includes substantial involvement with public libraries. Knuth identifies the following characteristics of the British model:

- Links to public libraries.
- Text book oriented education system.
- Personnel with inadequate training and role conflicts (staff members are either teachers or library professionals).
- A cultural/recreational reading mission.
- School libraries as book depositories.
- Underdeveloped or split leadership.
- Underdeveloped professional literature and publishing / ineffective standards.
- Inadequate governmental support.
- Slow implementation.

Knuth suggests that when both schools and public libraries tend to a school library, there is a risk that the involved school libraries become a lower priority. She further elaborates that the affiliation of a public library with schools could represent a risk that the school libraries will never become an integral part of the schools' functions and learning systems. She draws this conclusion from her observation of the Norwegian context, where school libraries are mandatory but organised by public libraries. She considers that libraries in that context are a kind of "foreign body" in the school (Knuth, 2002, p. 267).

Regarding the American model, Knuth considers that it is "firmly rooted in educational structures" and identifies the following as their characteristics:

- School libraries within school districts.
- School libraries within resource-based education systems.
- Staff with dual training.
- An educational mission.
- School libraries as media centres.
- Strong professional leadership.
- Extensive collections and accepted standards.
- Financial and/or statutory government support.
- Significant implementation.

The Finnish school libraries are similar to the British model in relation to their affiliation to public libraries. Several school libraries in Finland are situated somewhere in between the British and American models.

5.3.1 School library history and situation in Finland

Kirsti Kekki (2013) writes that the development of libraries and of the library law was connected to the Law of Compulsory Education of 1921. The common goal at that

time was literacy and education; however, the fields (schools and libraries) did not collaborate to their full potential during the following decades. Kekki, thus, raises the question whether there are historical reasons as to why there still are challenges in cooperation between schools and libraries. In the 1990s, the term school library was left out from official documents (Kekki, 2013; Kekki, personal communication).

In 1999, Vilho Hirvi (1999) wrote in a document of the Association of Finnish Local and Regional Authorities that school libraries should be developed as a part of the pedagogical development in schools. He also wrote that official reports in the 1960s the school library was referred to as the heart of the school. Furthermore, the Committee for Education and Culture stated that, "[A]s a part of basic education the pupils have to learn versatile information seeking and management skills and methods. It is a question of teachers' and pupils' access to these services and development. As the digitalisation progresses and the use of information networks is becomes more common, there is a need to appropriately develop school libraries as a part of municipalities' libraries"[4] (Hirvi, 1999, p. 7).

In 2001, a library policy programme from the Ministry of Education stated that the school library situation in Finland was weak and lacking in coherent structures, partly because of unclear governmental structures, responsible parties and inadequate expertise (Ministry of Education and Culture, 2001).

After the turn of the millennium, the Board of Education launched a project called Reading Finland. In this project, school libraries were especially targeted. The project lasted from 2001 to 2004 (Finnish National Board of Education, 2004a). One of the reasons for this project was the difference in reading skills between boys and girls. During this project, the cities of Oulu and Espoo developed well-established working methods for school libraries.

There are three legislative instances where schools and library functions are bound together at some level. The Basic Education Act (Basic Education Act, 1998, sec. §47) prescribes that schools may organise library activities for the pupils to support teaching. The section pertaining to learning environments in the CC2014 states that library services should be organised in such manner that they ensure pupils have the opportunity to engage in independent learning. The Public Libraries Act (Public Libraries Act, 2016) states that to fulfil the legislative missions of public libraries, these activities may also take place in co-operation with schools.

The International Federation of Library Associations (IFLA) published a study in 2002 concerning the relationship between the school library and headmasters. Finland was also involved in the study, the results of which were reported by Liisa Niinikangas. A total of 86 schools participated in the study, the response rate being 49% (Henri,

[4] Author's own translation.

Hay, & Oberg, 2002, p. 52). The school librarians in this study were all teachers, none of whom had qualifications in library services. Moreover, there is a tradition in Finland in which Finnish language teachers often take care of the school library, which means emphasis on reading and reading fiction in particular. The data for this study was gathered in 1997 and the main purpose was to support reading and pupils' independent information seeking. The study revealed a weakness due to lack of vision and competence. As yet, this study is the only study conducted in Finland in recent history where at least some mapping has been done concerning school libraries.

In Finland, a school library can be anything from a small room with decades old classic Finnish literature to well-established learning centres with qualified school librarians. Oftentimes, the school library collections may be old and the responsible teacher may have only a few hours a week to take care of the library; furthermore, many of these teachers have no qualifications in library work. As Kurttila-Matero (2011) writes, a notable feature is that very few school libraries have a professional librarian to take care of the library.

A very fundamental challenge concerning school libraries lies on the government - the development and financing of school libraries is complicated. The Ministry of Education and Culture is divided into two parts. The Ministry of Education governs the administration of all education in Finland, whereas the Ministry of Culture governs the public libraries. School libraries do not fall under either ministry, nor is there any official governmental body responsible for developing them. Their development is very dependent on the discretion of individual schools or municipalities, i.e. an active person or active library chooses to develop school library activities on their own.

According to Kurttila-Matero (2011, p. 22), after 1993 there are no references to school libraries in official texts, but there was real effort to invest in school libraries around the turn of the millennium. There are, indeed, some municipalities which are seriously developing and maintaining a school library infrastructure and activities, e.g. Lieto (Missilä, 2016) and Kaarina (Heiniö, 2017) in Finland Proper. The types of school libraries in Finland are those organised by public municipal libraries, those in privately owned schools, and in teacher training schools with teachers' education. The number of schools with a full-time school librarian are estimated to be around 20, although this is a pure estimate as no official statistics or records exist.

5.3.2. Co-operation between public libraries and schools in Finland

Since there are so few school libraries in Finland, the task of encouraging pupils to use the library lies with the public municipal libraries. Finland is known for its innovative libraries and Finns as a reading nation. According to Lindberg's licentiate study (2014), comprehensive schools are the second most important collaborating partner

after the libraries' own network. The Finnish Parliament approved a new library law in December 2016, which took effect in January 2017. The law states that to fulfil the legislative duties, libraries may operate also through schools and school collaboration.

Throughout the years, there has been a number of national library strategies. The Library Strategy 2010 was finalised in 2003 (Ministry of Education and Culture, 2003). The strategy premised that the school library concept had become blurred and most of the teachers at that time had had no education in information management skills (Ministry of Education and Culture, 2003). This was at a time when, for instance, the city of Oulu was a part of a national programme, Reading Finland, to create school libraries. Additionally, the whole construct of teaching information skills for educational purposes has lacked perseverance in development and the abilities of public libraries to respond to these growing needs. As the first phase of action, the strategy suggests introducing pedagogical information specialists to municipalities, creating new models for co-operation with schools and involving an actor on the national level. Information management skills should be integrated in teacher education.

Library Strategy 2015, compiled in 2009, states that school libraries have difficulties in responding to the current demands in information management skills. The strategy, therefore, suggests that information services be arranged in collaboration with public municipal libraries. Once again, the strategy mentioned the limited information management skills of teachers. After Library Strategy 2015, the term 'school library' seems to be absent in subsequent public library strategies.

Public libraries work in collaboration with schools. However, in the newest document from public libraries on a national level, The Way Forward for Public Libraries 2016–2020 (Yleisten Kirjastojen Neuvosto, 2016), the word 'school' only emerge in the context of multiliteracies. This reflects the vacuum in which the Finnish school libraries are working, also in relation to the vast public library network.

The first doctoral dissertation in Finland concerning school libraries in the field of information science was defended in December 2011 by Eeva Kurttila-Matero (2011). During the last years of the 20th century, there has been one licentiate-level study (Lindberg, 2014) concerning cooperation between schools and public libraries and several master-level dissertations concerning school library activities or collaboration with schools (Arvo, 2015; Heiniö, 2017; Hopia, 2014; Laakkonen, 2015). Additionally, there were five bachelor-level theses, pertaining to school libraries or school and public library collaboration, conducted in universities of applied sciences during 2011–2013.

The nationwide Joy of Reading project (2012–2015) was financed by the Ministry of Culture and Education and hosted by the University of Oulu. The focus of the project was on collaborative partners in municipalities: a school and a library. There

were 30 partners from all over Finland and in three languages: Finnish, Swedish and Sami. The pilot projects promoted their methods and innovations all over Finland during a tour and through a publication.

5.4. Summary

Chapter 5 provides a larger picture of the context for the study. Finnish educational system has been and still is of interest to educators worldwide. Part of this admiration has occurred because of PISA results. The latest core curriculum change together with its phenomenon-based learning has been the most recent boost to educational tourism to Finland.

This chapter also takes a closer look at curriculum history and how core curricula are created and implemented. It is important to realise that implementation at a local level is a crucial phase consisting of introducing the new methods and tools to teaching. The CC2014 emphasises inquiry learning and teaching pupils also through phenomena, thus creating a real world lens for learning in a complicated world.

Since schools with school libraries are the target of this study, Finnish school library situation is explicated. Finnish people are keen library users and the country's library culture also has been a subject of admiration. However, school libraries have not developed in unison with education, and therefore the current school library culture is quite weak.

6. Material and methodology

This chapter presents the methodology and empirical material used in the present study. The organisation and analysis of the research data are also explained in this chapter.

6.1. Material

6.1.1. National Core Curriculum for Basic Education 2004 and 2014

The present study involved an analysis of the National Core Curriculum for Basic Education 2004 and 2014 (hereinafter CC2004 and CC2014). This part of the dissertation aims to find answers to research question 1: What information literacy aspects can be found in Finnish Language and Literature subject in the national comprehensive school core curricula of 2004 and 2014?

The structure of the National Core Curriculum for Basic Education 2014 differs from that of 2004, and for this reason, the 2014 text was restructured to resemble the 2004 text to facilitate a comparison of the two texts. The CC2004 was analysed first and compared to the CC2014 to discern any differences between the two consecutive texts and whether there are any changes. However, the presented information literacy representation only involves the CC2014. The justification for this is that the core curriculum is the one which will be in use for all from 2019 onwards.

At the final phase of the analysis and in an attempt to discern an emerging information literacy conception, the research material comprised the texts pertaining to the general part, the 7th–9th grade level and the subject of Finnish Language and Literature. The general part was included because this section applies to all teaching and all subjects and, furthermore, the general part contains issues for all subjects on a general level, including school culture, working methods, learning environment and integrative instruction. Subsequently, all of the occurrences to texts regarding the 7th–9th grades and Finnish Language and Literature were collected and organized into a linear process representation. Since the Finnish Language and Literature teachers interviewed for the study taught the 7th grade, analysing the curriculum texts pertaining to that age group is justified.

A second reason for choosing only Finnish Language and Literature as opposed to all of the subjects is the vast amount of material it would entail. Additionally, there are reasons to believe that the information literacy conception in some other subjects can, in fact, be very different, for example:

- In Finnish as a Second Language, the curriculum states, "*They [pupils] enhance their ICT-competence in information acquisition, learning, and the assessment of learning*".

(Finnish National Board of Education, 2016, p. 340). In the text concerning Finnish Language and Literature, ICT skills are not mentioned in association with information seeking but with producing texts.

- A similar type of emphasis was found in the text pertaining to the learning environment in Biology concerning learning environment: "*Guiding the pupil to also use electronic learning environments in acquiring, handling, analysing, and presenting biological information is essential in achieving the objectives of the instruction of biology*."
- The objectives in Chemistry state, "*Research skills: to guide the pupil to use information and communication technology for acquiring, processing, and presenting information and research results and to support the pupil's learning by using illustrative simulations."* Furthermore, the term and concept of research was emphasised in the natural sciences, not in language studies.

Therefore, during school years pupils' understanding of information literacy is not constructed only in the Finnish Language and Literature subject. By the time they graduate from comprehensive school, their knowledge in information literacy is a result of teaching in all subjects, despite differences between the subjects, such as the above-mentioned.

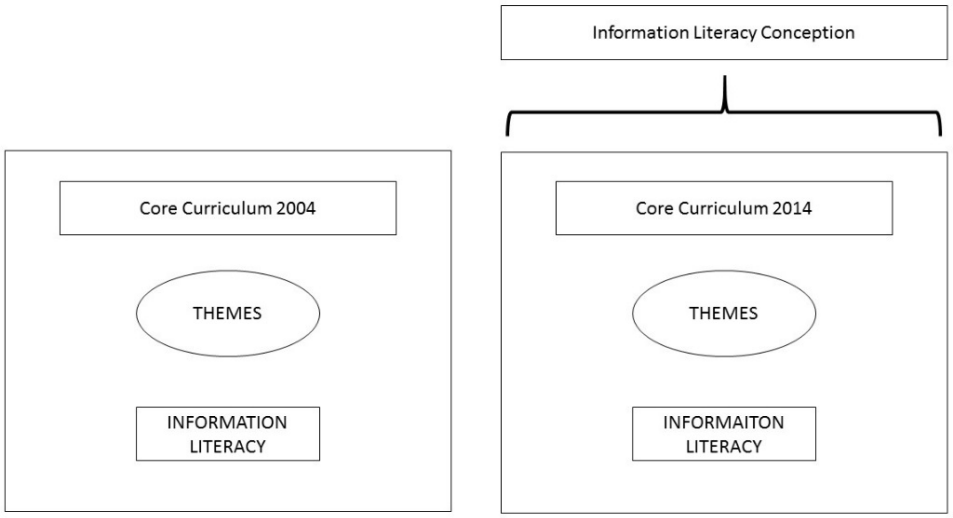

Figure 6.1. Structure of textual research data.

6.1.2. Interviews

The selection of the participating schools began with consideration of the following criteria: 1) schools with a full-time professional librarian, 2) secondary schools of a similar type and 3) both the librarian and a Finnish Language and Literature teacher would volunteer to be interviewed. An advert for the interview was posted on the Kirjastot.fi website and in the Facebook group for the School Library Association in Finland. However, only one person notified her interest in partaking in an interview. After this, the possible schools were contacted directly by sending emails to the head masters.

The problematic issue in choosing participating schools was the low number of schools with school libraries and with educated school librarians. School libraries exist in just a few public schools, the few existing private schools and teacher training school. Choosing the participating schools from the same type of schools was important, as the profiles between these school types are somewhat different. Choosing the same type of schools provided more leverage for comparison.

To ensure that the interview results are roughly comparable, one type of school was chosen to represent the schools: teacher training schools. Certain times of the school year are dominated by the training periods. In these schools, the student teachers are also in contact with the school libraries. All but one of the selected teacher training schools fulfilled both requirements. One school had a school librarian present only for four days a week and did not have a professional degree in librarianship. This was a known decision and is based on being able to include similar types of schools in the study. This was a concession that needed to be done in order to keep other requirements, even if the desicion may have a slight impact on results.

Because of the requirements mentioned earlier, it was obvious that the only school librarian at the school was interviewed. Choosing a teacher to be interviewed was left to the school. The headmasters forwarded the names of the participating teachers. One school only had one teacher who taught the seventh grade at that time. In other schools, the teachers seemed to have been chosen because of their enthusiasm about the Finnish Language and Literature subject or the school library.

The headmasters all gave their permission to conduct the interviews, and the participants and the researcher signed an agreement concerning participation in the study as well as confidentiality and anonymity. A total of ten people were interviewed for the study, five representing each profession. The teachers were in different stages of their careers. Tables 6.1 and 6.2 give a closer picture of the age structure and working years of the interviewed persons. One had a doctoral degree and the rest had master's degrees. The quotations in the results section are presented in English only. In discourse analytic approach, interviews are transcribed exactly as they were conducted. The interviews were conducted in Finnish and this could have revealed

too much about the interviewees due to the dialect they spoke. For this reason, the original spoken text was left out and the quotations are only presented in English.

Table 6.1. Interviewed teachers' age structure and years of working. Names are pseudonyms.

	Age	**Years from graduation**	**Years in this school**
Teacher 1 / Johanna	57	31	30
Teacher 2 / Sara	35	10	6
Teacher 3 / Hilda	58	36	8
Teacher 4 / Eveliina	38	10 years and 5 months	4 months
Teacher 5 / Elisa	41	15	1 year 4 months

Table 6.2. Interviewed school librarians' age structure and years of working. Names are pseudonyms.

	Age	**Years from graduation**	**Years in this school**
School librarian 1 / Ville	41	15	8.5
School librarian 2 / Kasperi	37	8 years 10 months	8
School librarian 3 / Anneli	63	33	12
School librarian 4 / Liisa	58	37	18
School librarian 5 / Pentti	59	25	19

The interview questions (Appendices 3 and 4) were piloted on one teacher and one librarian who currently collaborates with a school. Changes to the questions were made based on the issues that arose during the pilot. The average length of an actual research interview was 1 hour and 12 minutes, whereby the average length of an interview with a teacher was 56 minutes and with a school librarian 1 hour and 41 minutes. The participants did not receive the interview questions in advance. All the interview questions were provided on paper during the interviews. The participants had the liberty to think about their answers quietly before answering and even draw and write notes if they wished. The interviews were not conducted in a rush.

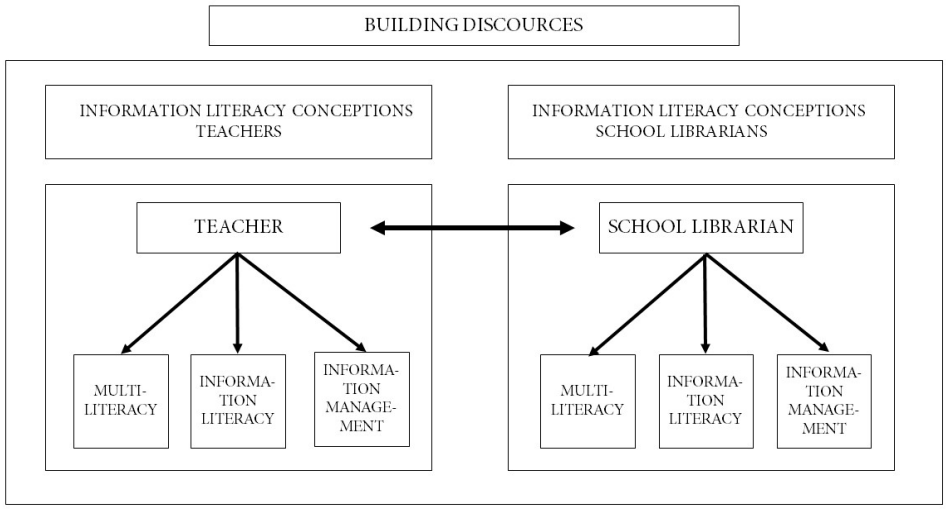

Figure 6.2. Analysis structure of the research interview material

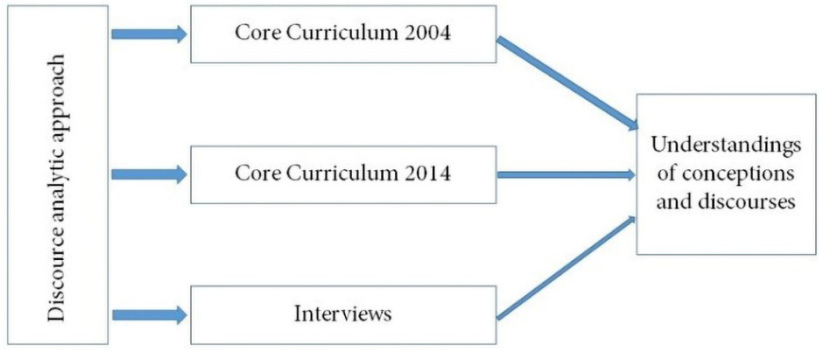

Figure 6.3. The overall construction of the dissertation.

6.2. Methods

This section provides an overview of the methodology employed in the present study. To start, the researcher's knowledge in library and information science should be taken into consideration. This knowledge has affected the choices made in the present study. The researcher recognises the earlier theoretical knowledge and understanding of e.g. the presented models in Section 3.1. The elements extracted from the National Core Curriculum do not refer to any one particular model, but to the researcher's previous understanding that has risen from a broad theoretical understanding of information literacy.

6.2.1. Discourse analysis as a method

Due to the nature of the research methods, i.e. text and interviews, a discourse analytic approach was chosen as the methodological instrument. This section examines the different aspects of the method used in this dissertation to analyse the curricula as well as the interview data.

The word *discourse* has several meanings. For linguists, it generally means "sequence of sentences" (Gee, 2014, p. 18) i.e. the structure, the syntax of a sentence. Other meaning can be understood as "language-in-use" (Gee, 2014, p. 19)—how issues are expressed in linguistic structures, whether it is in text or in speech. Potter and Wetherell state, that language is importantly related to thinking and reasoning (1987, p. 9).

Gee further states that there are different approaches to discourse analysis; in one of them, the focus is in the content and in the use of language, and in the themes that can be found in the text, document, or material. The other major approach refers to the study of language structure, where the interest lies in linguistic matters (Gee, 2014, p. 8). In the present doctoral dissertation, the former approach of discourse analysis was adopted.

Gee (2014, p. 2) argues that language has several roles in people's lives: language enables us to inform, do things and act and be who we are. Furthermore, language is born in social interactions, which allows us to be social actors with different social and individual identities. In this research, two different professional groups, with different backgrounds, are studied. The interviewed individuals have different educational backgrounds, personalities, work experiences and personal histories. The interviewees can be seen as complex representations of different levels of self and representatives of different roles:

1. As a person with a history and personal characteristics and capabilities.
2. As a representative of a certain profession.
3. As a representative of a certain working culture, workplace, social context and with certain habits.

According to Gee (2014), in language, there is a connection between saying (informing), doing (action) and being (identity). In order for us to understand each other, we need to understand what the other person is expressing and, more importantly, what we are trying to say. When considering communication from the teachers' perspective, we need to understand each other in order to function in our different social circles. Changes in organizations, cultures, or societies often leads to changes in discourses. In today's modern society, the nature of work has changed, importantly emphasising communication skills (Fairclough, 1992). Discourses in

present-day teaching have gone through significant transformation with the prevalence of information technology in education, for example, in terms of vocabulary (evident if we compare it with that of the learning environment in the 1980s and older core curricula from the 1980's and 1990's).

Fairclough (2003, p. 124) writes that "I see discourses as ways of representing aspects of the world—the processes, relations and structures of the material world, the 'mental world' of thoughts, feelings, beliefs and so forth, and the social world." Therefore, it can be assumed that the core curricula represent aspects of the educational context in which they were created. Fairclough (2003, p. 124) further writes that "Different discourses are different perspectives on the world." Thus, the core curricula represent the educational discourse and language.

Fairclough states that "The relationships between different discourses are one element of the relationship between different people—they may complement one another, compete with one another, one can dominate others, and so on" (Fairclough, 2003, p. 124). According to this, there is reason to believe that teachers and librarians may have different conceptions, and that differences may also exist between the strategic official educational discourse of the core curricula and those of teachers and librarians.

Jørgensen and Phillips (2002) define discourse as a changing organism. They point out that discourses change in contact with other discourses, thus presenting the idea of a "discursive struggle" where one discourse tries to win over the other. The winner of the battle would have hegemony, would be dominant (Jorgensen & Phillips, 2002, pp. 6–7). Curricula are formal, neutral instruments with which teachers work adding their previous experience, knowledge, and understanding, all of which affect their teaching practice. Librarians have different experiences due to their different education and professional practises. Therefore here is an underlying expectation to find some difference in conceptions between the two professions.

Budd and Raber (1996) name discourse analytic method as interpretative. They give an example of the word *information*; the word information is relative since it does not point to a "single, unitary, agreed-upon substance or idea" (Budd & Raber, 1996, p. 217). There is always the possibility of interpretation and situated understanding. They furthermore connect language to communication and state that "a producer of a message has a receiver on mind" (Budd & Raber, 1996, p. 218). Therefore it can be claimed that, like in this study, the core curriculum writers have been writing the text to mainly teachers. The purpose of discourse analytical approach is to frame the research data in the chosen theoretical framework, which in this case is information literacy.

Limberg, Sundin and Talja (2012) consider discourse analysis as one of the most important methods for studying information competencies and information

practices. Discourse analysis aims to study the socially and culturally formed understandings about an issue (Limberg et al., 2012).

Sanna Talja (1998) used discourse analysis in her dissertation to study the conceptions and definitions of tasks, and in the selection of materials in the music library setting. Furthermore, she studied what kinds of interpretations can be found in the background. She found several interpretative repertoires in the material she studied, which consisted of interviews with 28 library users and several documents. She analysed these materials and searched for similarities and intersections. (Talja, 1998)

After her dissertation, she further studied discourse analytic approach as a method in Library and Information Science and makes a solid statement for using discourse analytic approach as method; it is an interpretative practice. The combination of text and speech (interview transcriptions) support each other and enhance generalisability (1999). Talja states that in discourse analytic approach the researcher has to understand that there are several versions of interviewees actions and beliefs, since people make interpretations; they often produce their version of the issue at hand. Her example is the word library, which for another can be "'a cradle of counter culture" or "an institution above shopping centers'"(Talja, 1999, p. 464).

Susanna Nykyri (2010) studied the vocabulary related to family in multilingual thesauri in her dissertation. She studied the translatability of British English indexing terms into Finnish on three levels—concept, term and indexing term—as well as the objective of translation. The study had a linguistic as well as sociological background and used discourse analysis as its method of analysis (Nykyri, 2010). Nykyri writes that "The discourse analytic approach offers a possibility to study differences and similarities both on the individualistic and community level." (2010, p. 114). This perspective on discourse analysis on community level applies to the current dissertation, as its purpose is to study conceptions held by two professional fields, however, leaving individuals in the background.

Gergen (1999) argues that there are certain truths inside groups and their discourses. Discourse analysis is closely related to social constructionism. Languages and discourses are created in social actions and collaborations within specific settings. Gergen writes that "the world importantly depends on how we approach it, and how we approach it depends on the social relationships of which we are a part." (Gergen, 2009, p. 2).

Limberg, Alexandersson and Lantz-Andersson (2008) based their research on the argument that information-seeking activities and learning take place in social practices within the discursive practices of schools. They also argue that the "sociocultural perspective also frames our understanding of information literacy, in this case, as tied to the particular context of education" (2008, p. 83).

Annemaree Lloyd (2007) studied newly qualified firemen in Australia and how they constructed their professional knowledge as well as workplace identity. She looked "into information literacy and workplace learning, [and considered that] an understanding of information literacy as a complex constellation of experiences and relationships with a range of information modalities is emerging." (2007, p. 181). Lloyd found that when entering work life, there are three different modalities of information: the textual, the physical and the social (Lloyd, 2007, p. 197).

1. Textual sources act as a site of conceptual knowledge.
2. Physical sources act as a site of embodied knowledge.
3. Social sources act as a site of community knowledge.

In the discourse analytic sense, these studied materials are very different, as one contains vernacular spoken language and the other official authoritative text. A similar type of comparable analysis of these materials was required to obtain similar conceptions from both material types.

Bryman and Bell (2011, p. 11) discuss the difference between the inductive and deductive approach to research. An inductive approach was taken in the present study, as it involved extracting data from different types of materials without comparing it to any existing theories or models. Even if the aim of the research is not to construct a theory, the lack of a theory as a comparative element in the results points to inductive research. This also supports open coding and open analysis and, therefore, the discourse analytic approach also.

In their book about theme interview analysis, Hirsjärvi and Hurme (2000) present a model and structure of analysis. Firstly, all three components of the material, the core curricula of 2004 and 2014 and the 10 interviews, were read several times during which categories and themes were formulated. Open coding was used because in this type of study the findings and themes emerge from the material. Categories were created and summarised after which a synthesis was done with every empirical part separately. Quotations are provided to verify the interpretations of the researcher. Subsequently, comparisons between the different materials and interpretation were made. The analysis results are presented in relatively large tables.

Visual representations in form of word clouds were created from the different conceptions. They are presented to give understanding of how these terms and their weight and significance are related in the minds of the interviewees. The word clouds also reveal the weight of the issues in the found conceptions.

6.2.2. Text analysis

Discourse analytic approach helps to map how various understandings and themes are constructed in the research data through speech (Hjerm, Lindgren, & Nilsson, 2014). In this research, both the 2004 (CC2004) and 2014 (CC2014) core curricula were analysed on separate occasions. The CC2004 was analysed first and afterwards the analysis continued to CC2014. In both cases, the analysis process began by reading the material closely. During the first reading, single words were underlined, words that have a central meaning in information literacy: information, searching, seeking, materials, search engines, databases, sources, problems, critically, evaluation, interpret and so forth.

Since the participants in the study were chosen because they represent seventh grade teachers of Finnish Language and Literature, a decision was made for the purposes of the present study to present the information literacy conceptions within the subject of Finnish Language and Literature in the secondary school context. The justification for this was the fact that the CC2004 placed emphasis on information and library skills in the seventh grade Finnish Language and Literature subject. Extracting one unified understanding of information literacy in the CC2014 proved to be impossible, as the various aspects and needs of different subjects dictated various understandings.

The occurrences for analysis were selected according to a three-level structure. First, selection began on the word level. Then on the next reading round, focus was given on the concept level (see Table 6.3.), in which context the underlined word was found. Then these findings were entered into a table. Once the data were entered into a table, the focus was placed on the sentence level. The occurrences in the CC2014 were generally long sentences containing several issues. Expanding the analysis to larger units of text, such as on the sentence-level, the context becomes clearer. The complex sentences made it, however, difficult to choose to which thematic category the issue could be placed. The decision was made according to the most dominant issue, since none of the data material was intended to be placed under analysis more than once. Table 6.3 is an attempt to make the process of choosing occurrences more open and understandable.

Table 6.3. The presentation of the method in choosing issues for further analysis.

Word level	**Concept level**	**Occurrence on the sentence level**
Information	Using information	"*Producing, interpreting, and communicating information…*"
Grades 7–9, transversal competencies, multiliteracy: "*Producing, interpreting, and communicating information are practised in ways characteristic of different subjects and in cooperation between subjects.*" (Finnish National Board of Education, 2016, p. 303)		
Searching	Searching for information	"*…opportunities for searching for, using, and producing information…*"
Grades 7–9, Finnish Language and Literature, objectives relating to learning environments and working methods in mother tongue and literature in grades 7–9: "*The objective is to create a collaborative learning environment that promotes the pupils' learning-to-learn skills and offers plenty of linguistic stimuli and opportunities for searching for, using, and producing information even in extensive texts, also in multimedia environments.*" (Finnish National Board of Education, 2016, p. 309)		
Criticism	Critical literacy	"*…to guide the pupil to develop analytical and critical literacy….*"
Grades 7–9, Finnish Language and Literature, objectives: "*…to guide the pupil to develop analytical and critical literacy, to practise making observations from texts and interpreting them using appropriate concepts, and to establish and expand his or her vocabulary and resource of concepts.*" (Finnish National Board of Education, 2016, p. 311)		
Sources	Information sources	"*…invite them to find information in different sources and assess sources of information.*"
General part, organisation of school work, school library activities: "*The purpose of the library activities is to encourage the pupils in their independent reading and personal choices of reading material, satisfy their need for information, and invite them to find information in different sources and assess sources of information.*" (Finnish National Board of Education, 2016, p. 45)		
Search	Search engines	"*… to use search engines…*"
Grades 7–9, general part, transversal competencies in ICT: *Information management and inquiry-based and creative work: The pupils are guided to use key search engines, try different tools, and complete small assignments of acquiring information on different topics and matters of personal interest.*" (Finnish National Board of Education, 2016, p. 107)		

The second step was to place all of the occurrences within the three different levels in an Excel document. The third step was to organise these collected data within ten thematic areas. Ten themes emerged from the chosen occurrences. These ten themes are slightly different in the CC2004 and CC2014 data. There were substantial differences in the number of occurrences in the different themes. The number of

occurrences, however, do play a role in pointing out the weight put on the phases by how many times the chosen issues were mentioned in the text and in the interviews. From these thematic categories, the information literacy conception was extracted into phases, after which the phases were then arranged in a process-like representation. The occurrences in each phase were counted to make it easier to perceive the weight put on every phase.

Table 6.4. Thematic division of IL themes in CC2004.

Expectation	**Skills**	**Action**
Researching	Critical thinking	Problem solving
	Media aspects	Process
	Information management skills	Using information
	Sources	Information seeking

Table 6.5. Thematic division of IL themes in CC2014.

Expectation	**Skills**	**Action**
Life-long learning	Critical thinking	Asking
Researching	Multiliteracy	Problem solving
	Information management skills	Process
		Using information
		Information seeking

The material was scrutinised several times during the different phases of analysis. The final analysis involved choosing certain parts of text to analyse, as was explained in Table 6.3. A synthesis was created from this thematic division and, thereafter, the analysis results were moulded and compressed into a final form: the conception of information literacy. The most natural way to arrange the entire information literacy material located in the CC2014 was to place it in a type of process representation. In a process, there are always things that should be done and actions to be performed before one can proceed to the next phase. Working with information requires the existence of meaningfully chosen information. The choice of the discourse analytic approach made it possible for the information literacy conception to emerge from those data. However, it should be acknowledged that a process representation is not

always straightforward; it was, however, the most representative way to present the findings.

The present study also made use of quantitative research methods as the occurrences, which were chosen for final analysis, were counted. This was done in a similar fashion with both texts. This was motivated by the need to obtain clarity in the issues emphasised in the texts. The numerical expressions represent the level of significance placed on the different issues in the different phases.

6.2.3. Interviews

According to Fontana and Frey (2000), the interview is one of the most common and the most powerful way to try to understand other people in a research situation. Nilsson writes that a qualitative interview gives a lot of room and freedom to express the interviewees' thoughts around the theme. They also present an opportunity to engage in deep interpretation and to find meaning in the material (Nilsson, 2014, p. 149). A semi-structured interview model was chosen as the method to gather data in the present study. The interviews provided answers to research questions 2 and 3: What are the information literacy conceptions of 7th grade teachers of Finnish Language and Literature and school librarians? What differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the core curriculum of 2014?

The semi-structured interview represents a type of interview where the subjects and questions are decided upon in advance, but progressing in a linear manner is not necessary (Dalen, 2007, p. 34). This type of interview gives the interviewed person more freedom in answering. Moreover, the interviewees are able to answer the questions in their own words, which is why this type of interview was chosen for the present study. In Hirsjärvi and Hurme, semi-structured interviews are associated with theme interviews and focused interviews (2000, p. 9). Focused interview was presented by Merton, Fiske and Kendall in 1956 (1990). Merton et al. present four characteristics for a focused interview. Firstly, participating persons have to be acquainted with the theme or issue faced in the interview. Secondly, the interviewee has acknowledged the themes and situations faced by the interview participants and is knowledgeable of these aspects through investigations of earlier scientific research. Thirdly, the interviewer needs to create an interview guide accordingly. Finally, the interview focuses on persons' subjective experience in these situations and aims at revealing the interviewees' definition of the situation (Merton et al., 1990).

The starting point for this type of interview is the interviewer's previous knowledge of the interviewees' experience with the interview theme which they are able to use to provide their own definitions and educated opinions of the thematic issues under

study (Hirsjärvi & Hurme, 2000, p. 47). The ten interviews in the present study warranted a deep analysis of the material.

The interviews were structured as follows (see Appendices 3 and 4):

- personal and basic information
- terminology (information literacy, information management skills and multiliteracy)
- working with pupils
- teacher/school librarian cooperation
- changes in understanding
- multiple choice task

Personal information provided knowledge about the age structure of the respondents and of the length of their careers. The section for terminology provided better understanding of the concepts.

The last part of the interview was a multiple-choice task comprising eight questions, which the interviewees answered quietly on their own as the last part of the interview. The questionnaire was a modification of Streatfield and Markless's (1994) model of Four Phases of School Development. The purpose was to ascertain the schools' divergent views of the functions and activities happening in the school library environment between different actors. However, this part of the interview did not yield information as rich as the actual interviews and therefore the results of this part were not reported.

The interview transcripts were handled in the same way as the CC2004 and CC2014 texts. After the transcriptions were made, the texts were read carefully, and the results related to the interviewees' personal understanding of concept and possible traces of information literacy conceptions were marked and gathered into one document. The understandings of the information literacy were composed on a personal level in the working phase. The comparison was then presented on the profession level. The information literacy conceptions of individual research participants are not presented in study results.

Information literacy conceptions were constructed from the answers to the questions in the section for terminology (see Appendices 3 and 4). There are three terms under investigation: information literacy, information management skills and multiliteracy. The analysis of the core curriculum did not separate these three terms and, therefore, the final representation of information literacy conceptions evident in the interviews will not make this separation either. However, the understanding of

terminology is reported separately in the results section of the present study, since the understanding of single terms is an essential part of the research as a whole.

A combined analysis of the CC2014 and the IL conceptions of the teachers and school librarians is presented in Chapter 10. In this chapter the conceptions regarding the three different terms are merged under the common domain of information literacy. The understandings of all three terms are combined under the title of information literacy conception. This decision was done while the data analysis progressed. The justification for this decision is found in discourse analytic approach. As earlier (p. 66) Annemaree Lloyd considered "understanding of information literacy as a complex constellation of experiences and relationships with a range of information modalities emerging". There was reason to expect the defining of different conceptions to be difficult for the research participants and this showed to be true. Drawing clear lines between the studied conceptions and their orally stated meanings lead to a combined analysis. It was already earlier discussed that information management skills is situated close to information literacy (see Section 2.2.). Furthermore, multiliteracy encompasses some of the features of information literacy according to the findings of Kupiainen et al (2015). For the user, there is no need to draw boundaries, and no one's conception is better than others', just different.

All of the transcribed interview material was used to present quotations and to construct the conceptions as a whole. Interview questions 14 to 17 provide further valuable insight into understanding the construction of discourses. See below:

14. Do you have discussions with the school librarian/teacher about which information management skills should be taught and why?

15. Which aspects or areas of information management skills are most often a subject of discussions in the school environment?

16. Do you feel that the school librarian / teacher understands the term information management skills in the same way than you?
    a) Why do you think this is?

17. Do you feel that the school librarian / teacher understands the term information literacy in the same way than you?
    a) Why do you think this is?

These questions provided further understanding of the issues during interviews from where the understandings of information literacy conceptions may arise and how information literacy is conceptualised in teachers' and school librarians' minds. These are studies in Chapters 11 and 12.

7. Information literacy conceptions in 2004 and 2014 core curricula

In Sections 7.1–7.3, both CC2004 and CC2014 are described separately and the identified information literacy conceptions are discussed. This analysis of the text gives us understanding of how issues are presented in the core curriculum. The comparison of the two latest core curricula adds to the understanding of whether information literacy conceptions have changed during ten years and, if they have, how they have changed. This part of the results section gives answers to the first research question "What information literacy aspects can be found in Finnish Language and Literature subject in the national comprehensive school core curricula of 2004 and 2014?" The differences are listed in a comparative analysis of these two texts in Section 7.3. In Section 7.4., a summary of the results for the first research question is provided.

7.1. Information literacy conception in the CC2004

The CC2004 has been used in Finnish comprehensive school system since August 2006 and the new CC2014 will completely replace the old one by August 2019 (Finnish National Board of Education, 2017).

The themes found during the CC2004 analysis are listed below. These themes emerged from the material. Organising the occurrences into these ten themes made structuring the results easier. All the material in the general part of the secondary school curriculum and the subject of Finnish Language and Literature, coinciding with these themes, was organised into an IL process representation. Similar occurrences were organised under appropriate phases.

Researching
Critical thinking
Media aspects
Information management skills
Sources
Problem solving
Process
Using information
Information seeking

The information literacy conception was divided into three (I–III) sections, I) Planning, II) Activity and III) Reflection. The justification for this is that information searching should be preceded by certain planning activities, information seeking activities and reflection on the found information before the information becomes an

added information construction. Table 7.1. presents the information literacy conceptions through samples from the actual CC2004 text.

Table 7.1 Information literacy conception in the CC2004.

Phase	**Content**
I Planning	
1. Preconditions and School Culture (6 occurrences)	- To work with the media - To learn to use information equipment programmes / applications and data networks for various purposes - To encourage the pupil to read and evaluate literature, including various media texts - To read texts, including various media texts, using the appropriate reading method - To recognise typical genres of everyday media, and literary texts - The learning environment must also be equipped so as to support the pupil's development into a member of today's information society, and provide opportunity for the use of computers, other media technology, and as possibilities allow, data networks.
2. Working Methods (4 occurrences)	- The function of the working approaches is to develop social, learning, thinking, working, and problem-solving skills, and to foster active participation. - The working approaches develop skills for acquiring, applying, and evaluating information. - The working approaches develop the pupil's learning strategies and skills for applying them in new situations. - The working approaches further the formation of an organised knowledge structure, the learning skills, and practice in those skills.
II Activity	
3. Information Seeking (5 occurrences)	- The pupil becomes used to the process of obtaining and using information and learns to use many types of sources. - Information technology and the use of data networks - Acquisition of information from different types of sources: information acquisition planning. - Pupils know how to use a library, orally transmitted information, data networks, and factual and literary works in obtaining information. - Use media and communication tools in information acquisition and transmission, and in various interactive situations.

4. Process (4 occurrences)	- Learning is an active and goal-oriented process that includes independent or collective problem-solving. - Develop skills for acquiring, applying and evaluating information. - Become used to the process of obtaining and using information and learning to use many types of sources. - Learning as an individual and communal process of building knowledge and skills.
5. Critical Thinking (12 occurrences)	- The pupils improve as critical interpreters of text. - Assessment of the dependability and usability of sources. - The pupils will improve as text analysts and critical interpreters. - Assessment of the text contents from the standpoint of impact. - Mission of basic education to create new culture, revitalise ways of thinking and acting, and develop the pupil's ability to evaluate critically. - The pupil learns to take a critical stance towards contents conveyed by the media, and to ponder the related values of ethics and aesthetics in communication - Data security, freedom of speech and critiquing sources. - The pupil will gain practice in active and critical reading. - Looking for and evaluating viewpoints, values, and attitudes concealed in speech, writing and illustrations. - Media's role and influence in society and the relationship between reality and the world depicted by the media. - Acquire a sense of the power of the media and texts to produce images, shape conceptions of the world and guide people in their choices - They [pupils] will know how to choose and state their sources.
III Reflection	
6. Working with Information (5 occurrences)	- Know how to hold a discussion with a variety of texts, to ask questions, summarise, comment, disagree, present interpretations and assessments and consider the text's connections to their own experiences and ideas. - Assemble adequate material for their presentation, organise them, and bring out what is essential to the matter - Learning to take notes and use simple source notations; selecting and grouping materials and assemble them into a presentation - Tools of communication technology, their diverse use, and internet ethics. - Analysis and interpretation of the content and purpose of messages, change in the communications environment, and multimedia communications.

7. Using Information (2 occurrences)	- Interpret the material to be learnt on the basis on their existing structure of knowledge - Learning results from pupils' active purposeful activity in which they process and interpret material.
8. Forming Opinions and Justification (3 occurrences)	- The pupils learn to form their own critical opinions, making use of various types of expertise. - Express themselves in a versatile, responsible way, and to interpret communication by others. - Feel encouraged to bring up and justify their viewpoints and to comment constructively on the ideas of others.
9. Production and Communication (4 occurrences)	- Produce and transmit messages and use the media appropriately. - The pupils are to practise media skills as both producers and recipients of messages - Are able to produce their texts both by hand and with a word-processing program, and to utilise information technology and the media in their work in other ways, too. - The goals of the cross-curricular theme, 'media skills and communication', are to improve skills in expression and interaction, to advance understanding of the media's position and importance and to improve skills in using media.
10. Self- assessment (1 occurrence)	- Assessment of one's own media-use, reading, and communication habits and skills.

Figure 7.1 is an illustration of how the phases and issues are exhibited in the CC2004. The larger the font of the phase expression, the more occurrences the expression had in the text. Critical thinking was mentioned most often in the CC2004, followed by expressions related to preconditions.

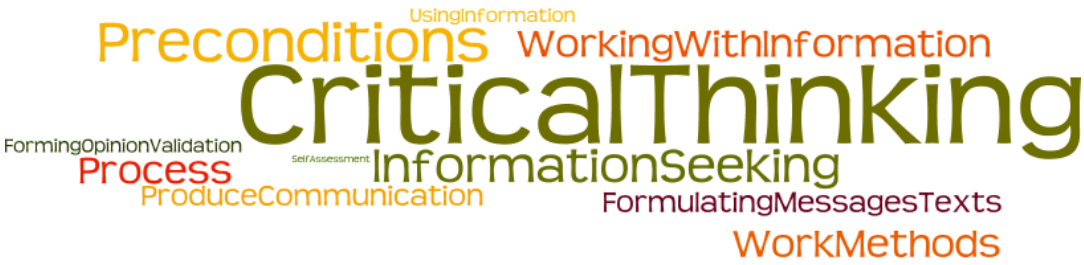

Figure 7.1. Illustration of the information literacy conception of the CC2004.

The Planning section was created from the first two phases: Preconditions and School Culture (phase 1) and Working Methods (phase 2). The preconditions depict the conditions needed to obtain a deep understanding of information literacy as well as the actions that enable information literacy in the school context. The Preconditions and School Culture phase has six occurrences related to reading and recognising different texts, co-operation with media, use of technical devices, programmes and data networks. Furthermore, the learning environment must support the pupils' development into members of the information society.

The second element of the Planning section is presented by occurrences concerning Working Methods, all in all four occurrences. Because they differ so greatly from the other material, they were arranged into their own phase. The working methods should develop learning, thinking and problem solving as well as skills in collaboration and active participation. In addition, they should develop pupils' skills in information seeking and utilising information as well as help in constructing knowledge. The working methods should also promote an understanding of learning strategies.

The Activity section includes three phases. The Information Seeking and Searching phase (phase 3) has five occurrences. This phase poses demands on the pupils to become accustomed to seeking information and understanding the process, as well as learning to use different types of sources. This phase also mentions library as a resource the pupils should know how to use.

Process (phase 4) contains four occurrences. The CC2004 text states that learning should be seen as an individual and collective building process of knowledge and skills based on information. Pupils should become acquainted with the process of information seeking and use and, in addition, learn to use different types of sources. The process could have been placed in the beginning of the information literacy conception, but because of these occurrences were associated with information seeking, it was placed in the Activity section.

The next phase in the Activity section is Critical Thinking (phase 5) and it has a total of 12 occurrences. There are issues describing how the pupils should be able to evaluate the contents of the information they encounter. The pupils should evolve as critical interpreters of information and they should be able to evaluate the contents of the information they obtain. In addition, the text requires that pupils respond critically to contents mediated by the media, as well as understand the role of the media in creating world views.

The third section, Reflection, comprises the rest of the six phases. Working with Information (phase 6) has five occurrences. This states that pupils will be able to take notes, write down sources and know how to discuss with different types of texts. Pupils should also know how to summarise information from various sources, comment, argue and present interpretations as well as contemplate on how texts may relate to their own experiences.

Using Information (phase 7) has two occurrences. The first is the notion that information must be studied from the perspective of the pupils' existing information constructions and through this process and to interpret the studied issue. The CC2004 text additionally states that learning is a result of the pupils' active and target-oriented activity where learning is a result of adding the newly learnt information to already existing knowledge structures.

When discussing producing written assignments, the CC2004 text concentrates on the formulation of texts and messages. There were three occurrences where pupils are expected to be articulate in expressing themselves and in interpreting messages from others. As regards messages, there is also mention that word processing and information and communications technology (ICT) should be employed.

In Forming Opinions and Justifying them (phase 8), pupils should be able to interpret the contents of a message and understand changes in the media environment. The pupils should to be able to form their own critical opinion with the help of using different expertise available. Pupils, furthermore, need to be encouraged to bring issues to discussion in a constructive manner and consequently comment on the views of others in the same fashion. Production and Communication (phase 9) has four occurrences. Media and media skills are greatly emphasised in this phase. Pupils should be able to produce and communicate messages and use media in a

purposeful way. Media skills need to be trained. The purpose of media skills is to develop self-expression and communication skills and to understand the meaning of media and its status in the society. The last phase, Self-assessment (phase 10), was also included in the analysis, even though it only has one occurrence. This is because this phase also has elements of self-assessment in association with media use and skills.

Table 7.2. Division of number of information literacy occurrences in the CC2004.

SECTIONS	**Division of occurrences (N) / %**
Planning	10 / 21.7%
Activity	21 / 45.7%
Reflection	15 / 32.6%
TOTAL	**46 / 100%**

The information literacy conception is a construction of 46 occurrences divided according to Table 7.2. Nearly half of the occurrences are situated in the middle section, *Activity*, in the Information Seeking, Process and Critical Thinking phases. The media's role is in a notable position in the CC2004 text. Furthermore, it introduces the term 'multiple media'. The word media is meant to represent a multitude of different media channels. Additionally, the importance of understanding the ways media work and how media can be used in a purposeful way are presented.

The phase Working with Information presents a set of tools with which pupils are supposed to process encountered information and construct knowledge. There is also a notion of using the pupils' own experiences and thoughts to build new knowledge. One noteworthy aspect is the reoccurring use of the term *message* as the products of pupils' literary work.

7.2. Information literacy conception in the CC 2014

The CC2014 was analysed in a similar way as the CC2004. The occurrences are from the general parts of the core curriculum, concerning all areas of education, from general issues concerning secondary school grade level to the subject-related part for the secondary school level of Finnish Language and Literature. The choice of occurrences for the analysis is explained in Section 6.2. The occurrences were organised according to the following ten themes, which emerged from the analysis material. The reasons for organising the data into phases is the difference in the themes and the structure of the information literacy conceptions compared to the CC2004 analysis.

Lifelong learning	Asking
Researching	Problem solving
Critical thinking	Process
Multiliteracy	Using information
Information management skills	Information seeking

The themes found in the CC2014 are presented are presented above. Similarly with the analysis of the CC2004, the found occurrences in CC2014 were first organised according to these themes (See list on p.77 for comparison).

The data presented are extensive, but they provide a view of the major aspects of the information literacy conception discovered. The left-hand column in Table 7.4. presents the phase. The right-hand column presents the actual occurrences as they exist in the text. The number of occurrences provides information about which issues were emphasised in the CC2004. The emerging conceptions encompass features of skills and process. The CC2014 text also stipulates the empowerment of pupils themselves by requiring them to make learning goals. However, the data were best presented in a process-like representation to exhibit all aspects of the information literacy conceptions in a logical order.

Table 7.3. presents the CC2014 information literacy conception with 12 phases in total. Similar to the CC2004, the phases can be divided into three larger sections: I) Planning, II) Activity and III) Reflection. Together, these sections comprise the entirety of information literacy, i.e. no single section can exist separately.

Table 7.3. Information literacy conceptions in the CC2014.

Phase	**Content**
I Planning	
Phase 1 – Preconditions and School Culture (7 occurrences)	- The pupils are guided to seek and use information as foundation for exploratory and creative work. - Instruction is provided in an integrated form using process and project work. - Inquiry-based and creative work. - The pupils are guided to act in different multimedia environments. - Providing the pupils with diverse opportunities of both independent and collaborative (and understanding of interactions and connections between different issues), thus systematic thinking. - Selecting working methods that allow a natural integration of the content areas of the subject.

	- Providing pupils with diverse opportunities of both individual and collaborative problem solving.
Phase 2 – Enquiring Mind (9 occurrences)	- The pupils are encouraged to use their imagination for inventive thinking - The pupils have the opportunity to make observations and improve their perceptions. - Opportunity to improve their perception - The pupils have the opportunity to make observations - The pupils are encouraged to express their own experimental knowledge. - Experimental knowledge and to consider its significance to their way of thinking. - The pupils need encouragement for confronting unclear and conflicting information. - To observe topics critically from different perspectives. - Space is given for their questions, and they are encouraged to look for answers and to listen to the views of others while also reflecting on their personal inner knowledge.
II Activity	
Phase 3 – Information Seeking (7 occurrences)	- Skills in acquisition of information. - Pupils are guided to seek information diversely. - The pupil knows how to search information - The pupil knows where to search information. - To search for information in many different ways. - Learning environment that offers plenty of linguistic stimuli and opportunities for searching of information. - To search for information in many different ways.
Phase 4 – Process (3 occurrences)	- They familiarise themselves with the stages of searching for information. - To familiarise with the stages of searching for information. - The pupil is able to identify the key stages of information acquisition.
Phase 5 - Critical Thinking (7 occurrences)	- Evaluate the usability and reliability of sources. - Evaluate the reliability of diverse sources of information. - The pupils practise source criticism. - The pupils evaluate the way different search engines and databases work and produce information. - To guide pupils to develop analytical and critical literacy.

	- The pupil is able to examine texts critically. - The pupil is able to recognise text genres.
III Reflection	
Phase 6 - Using Information (4 occurrences)	- The pupil knows how to use information acquired from other sources in his or her texts. - To develop the pupils competence in strengthening his or her skills in managing and using information. - A collaborative learning environment offers plenty of stimuli and opportunities for searching for, using and producing information. - Providing pupils with diverse opportunities of both individual and collaborative argumentation.
Phase 7 - Using Sources (8 occurrences)	- The pupil knows how to use sources in his or her own texts. - Strengthening the use of sources. - Diversifying the use of sources. - Guided to use sources of information in versatile ways - Familiarise with diverse sources of information. - To develop the pupils' competence in diversifying the use of sources. - The pupil knows how to cite his or her sources. - The command of citation techniques in his or her texts.
Phase 8 - Working with Information (10 occurrences)	- The pupil knows how to make notes. - The pupils need encouragement for dealing with unclear and conflicting information. - The pupil knows how to summarise the information he or she has acquired. - Interpret texts using appropriate concepts. - Interpreting information [is] practised - Skills in interpreting texts. - To practice making observations from texts. - To guide the pupil to practice making observations and interpreting them appropriately. - To encourage the pupil to develop his or her skills in evaluating information acquired from various sources. - Providing the pupils with diverse opportunities of both independent and collaborative deduction.
Phase 9 – Building Knowledge (7 occurrences)	- Different ways of constructing knowledge are explored together. - They are inspired to formulate new information and views.

	- Using the information appropriately. - Strengthening the pupils' competence his or her skills in using information. - The pupil is able to use information acquired from different sources in his or her own texts. - The pupil knows how to use sources in his or her own texts. - Providing the pupils with diverse opportunities of both independent and collaborative understanding of interactions and connections between different issues.
Phase 10 – Copyright and Ethics **(6 occurrences)**	- The pupil complies with copyright laws. - Ethical communication. - To instruct the pupil to act ethically online. - To instruct the pupil to act … respecting privacy and copyrights. - To instruct the pupil to act ethically online, respecting privacy and copyrights. - The pupil complies with copyright laws.
Phase 11 - Producing Information **(5 occurrences)**	- Producing information is practised. - The pupils improve their skills in producing texts. - Pupils are guided to produce information diversely. - The learning environment offers plenty of stimuli and opportunities producing information. - Providing the pupils with diverse opportunities of both independent and collaborative deduction.
Phase 12- Communication **(5 occurrences)**	- Skills in sharing information. - Communicating information is practised. - Presenting information. - Ethical communication. - The pupils are encouraged to use their multiliteracy when participating and being involved in media.

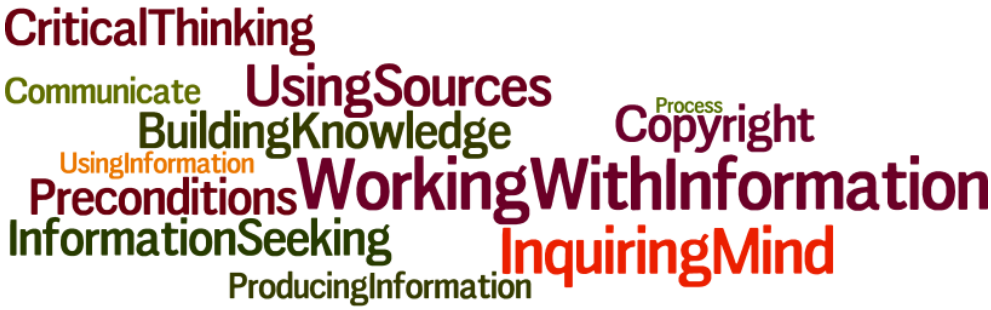

Figure 7.2. Illustration of the information literacy conception of the CC2014.

Figure 7.2 is an illustration of the phases and issues present in the CC2014; it provides a closer understanding at a glance. The larger the font, the more occurrences the expression had in the text. It is evident that the phases are rather equal in width, but there are more phases in the Reflection section.

Table 7.4. Number of information literacy occurrences (N) in the CC2014

SECTIONS	**N / %**
Planning	16 / 20.5%
Activity	17 / 21.8%
Reflection	45 / 57.7%
TOTAL	**78 / 100%**

From this division of occurrences, it can be concluded that the CC2014 allocates more than half of all the weight into phases of Reflection, which take place after the actual information seeking has been carried out. It can be concluded that substantial emphasis is put on how to work with the found information.

The first section, Planning, consists of three phases. The first of these is a list of issues, which emerged from the CC2014 text and are characteristic for preconditions. These issues concerning Preconditions and School Culture (phase 1) create a basis for

enquiry-related learning. In addition, collected occurrences play a part in creating conditions for problem-solving and phenomenon-based learning. The reason why these occurrences were not separated into school culture and working methods as in the analysis of CC2004 is that there are only two issues related to concrete working methods, exploratory and creative work as well as process and project work.

The second phase is depicting issues, which point to an idea of an Enquiring Mind (phase 2). Pupils should be offered opportunities to express their experiences, to be resourceful, ask questions, observe, and they should be encouraged to encounter information and, furthermore, information which is conflicting.

In the second section, Activity, Information Seeking (phase 3), Process (phase 4) and Critical Thinking (phase 5) take place. The justification for this division is the notion that information searching is closely related to critical thinking, because critical thinking skills should be active even when searching for information. Once reliable material is differentiated from the other masses of information, the information can be processed.

There was a challenge to place the occurrences relating to Process (phase 4) within the process representation itself, but since the occurrences were related more to understanding the information-searching phases, these occurrences were placed in the second section, Activity, instead of the first section, Planning. These three occurrences concern informing and educating pupils about the main phases in the process of information seeking.

Issues related to Information Seeking (phase 3) and Critical Thinking (phase 5) dominate the second section; both have seven occurrences. The Critical Thinking phase emphasises the evaluation of sources, practising critical thinking, differentiating between different text styles, and learning to understand the way different search services and databases work and produce information.

The third and last section Reflection contains seven phases, which describe what is done after the information has been acquired and evaluated critically. First, there are the phases Using Information (phase 6), Using Sources (phase 7) and Working with Information (phase 8), all of which depict action. How the found information has to be processed: making notes, summarising sources, comparing, using several sources in a comparative style, using new information in texts, citation and the use of reference systems are among the skills in this section. In addition, pupils should be encouraged to confront various types of information to strengthen their skills in working with information. These phases suggest that the learning environment should offer stimuli to improve oneself as a user of information. The next phase with seven occurrences involves the Building of Knowledge, whereby the management of information facilitates learning in the form of knowledge construction.

The last phases in the Reflection section include Copyright and Ethics issues (phase 10), Producing Information (phase 11), and Communicating Information (phase 12). Emphasis is placed on the ethical use of information, understanding copyright and privacy issues, including when producing and communicating school assignments in the media. Teaching issues pertaining to copyright laws results in ethical use of information in the form of citation and how to follow the norms and rules.

The analysis of information literacy conceptions reveals two types of occurrences. The first one enhances pupils' learning and broadens their conceptions of information literacy. The second one offers suggestions and advice for teachers, e.g. how the teacher should act as an enabler to create suitable situations and environments for the pupils to succeed in.

In the present study, the use of language and concepts in the texts was analysed. Some of the occurrences are in a very passive style and others suggest action. Some of the activities also represent assessment criteria, indicating that information literacy skills should be the basis of assessment as well. The elements emerging from the CC2014 and presented in this study suggest a broad and current understanding of information literacy skills.

7.3. The comparison of the CC2004 and CC2014

The following section discusses the similarities and differences in the CC2004 and CC2014.

Differences

First of all, there were changes in the form of language used in the two consecutive curricula. The CC2004 text accentuates the learning of the pupil. The approach is pupil-centred, e.g., learning goals listed in the following manner:

- The pupil *will develop* his/her communication preparedness
- The pupil *becomes accustomed to* ….
- The pupil *becomes encouraged* to bring out views…
- The pupil *learns* basic information about the Finnish language….
- The pupil *acquires* additional experiences through drama.

In comparison, the CC2014 sets a different tone to the text. Instead of listing what the pupil ought to become or become knowledgeable of, the CC2014 formulates similar issues in the following way:

- The pupils *are guided* into expanding their skills…
- To *offer pupils versatile possibilities*…

- *Encourage pupils* to express their ideas in writing and in speech…
- *Train pupils to strengthen* their skills in information management…
- *To encourage / to motivate the pupils to expand* their knowledge of the language….

The difference between the two consecutive core curricula is clear in the use of language. Empowerment and support are accentuated instead of the skills to be learnt. This refers to learning styles where pupils are given room to develop according to their own potential in a supportive environment and not merely emphasise what the pupils will become or what level of learning objectives they will reach.

Concerning the contents, more or less the same issues were mentioned in both core curricula, but in different proportions. The most significant difference was in the Reflection section, concerning Working with Information and Communicating the Information with 15 occurrences in CC2004 and 45 occurrences in CC2014. This is the most notable difference in these two curricula. The findings measured in occurrences were much smaller in number in CC2004 (N=46) than in CC2014 (N=78). This suggests that information literacy issues play a more significant role in the CC2014 compared to its predecessor. The comparison is feasible, since the two documents are similar, with a similar purpose, even if they have 10 years between them.

The term multiliteracy was not mentioned in CC2004, neither did the issues of life-long learning or enquiry emerge from the text. Multiliteracy issues were found, but these reside under the thematic unit of 'multiple media', which refers to a broad variety of media-related platforms, actions and tools. Multiple media and media culture have a significant role in the CC2004 text. Media played a substantial role in the CC2004 text. The term media is referred to as one-way mass media communication, a text, a tool for personal expression and as a means of influence and empowerment.

However, media issues are not as visible in the 2014 transversal competencies as they are in the CC2004 themes where 'media skills and communication' is used as a theme. However, media-related issues, media literacy and media culture in CC2014 reside largely under several transversal competency headings:

> The goals of the cross–curricular theme media skills and communication are to improve skills in expression and interaction, to advance understanding of the media's position and importance, and to improve skills in using media. With respect to communication skills, emphasis is given to participatory, interactive, and community communication. (Finnish National Board of Education, 2004b, p. 37)

In the CC2014, multiliteracy more or less replaces media literacy and information literacy issues. This is why *media* is nearly non-existent as a single term. Even if media skills do not have their own section in transversal competencies, they exist. The challenge here is whether all the actors understand the contents of multiliteracy as it is presented in the CC2014. It is a new term in the core curriculum context and does consist of more issues than the traditional definition of multiliteracy (see Section 2.2.).

One differentiating feature in the text was the rather large number of occurrences of the word *message*. In addition to messages, there is the theme of producing texts. Compared to the text extracted for the information literacy conception in the CC2014, the CC2004 had a number of instances implying the production of a text in the form of a message:

> The pupils are to practice media skills as both producers and recipients of messages. (Finnish National Board of Education, 2004b, p. 37)

> (Core contents) analysis and interpretation of the contents and purpose of messages, change in the communication environment, and multimedia communication. (Finnish National Board of Education, 2004b, p. 38)

The difference compared to the CC2014 is that the terminology is more directed toward producing texts and *knowledge*. Furthermore, the problematic use of the Finnish word '*tieto*', which can point to information or just as likely to knowledge, is extremely visible in the following sentence:

> Producing, interpreting, and communicating information are practiced in ways characteristic of different subjects and in cooperation between subjects. (Finnish National Board of Education, 2016, p. 303)

Similarities

In spite of the ten years' difference between the two core curricula, there were several similarities found in the comparison. Two themes in particular call for special attention: cross-curricular themes and multimodality (for multimodality, see Section 2.2).

Multimodality and the broad definition of text

Multimodality is a term which describes the evolution of text from simple printed text to a multitude of forms in which text, speech and messages can be presented. Multimodality refers to how people receive information in different forms and with different senses, i.e. we can listen, see, feel, taste and smell information in our

surrounding environment. Multimodality concerns going from one sense, seeing/reading, to a multitude of different forms of communication of information. Expressions of multimodality are presented together with multiliteracy in the CC2014. Nonetheless, the *broad definition of text* (see page 19) was already present in the CC2004 text:

CC2004:

> The subject's foundation is a broad conception of text: texts are spoken and written, imaginative and factual, verbal, figurative, vocal and graphic – or a combination of these text types. (Finnish National Board of Education, 2004c, p. 44)

CC2014

> Multiliteracy is based on a broad definition of text. In this context, text refers to knowledge presented by systems of verbal, visual, auditive, numeric and kinaesthetic symbols and their combination. For example, text may be interpreted and produced in a written, spoken, printed, audio-visual or digital form. (Finnish National Board of Education, 2016, p. 23)

As can be concluded, the broad definition of text is not a new issue. The difference lies in the broad definition of text in the CC2014 that occurs in every subject in the form of multiliteracy issues to the level of learning objectives in every subject.

Cross-curricular themes in CC2004 vs. transversal competencies in CC2014

There are two issues which function in a very similar way and are similar in meaning. Cross-curricular themes are presented as integrated issues in teaching in the CC2004. The text in the CC2004 states the following:

> Cross-curricular themes represent central emphases of the educational and teaching work. Their objectives and contents are incorporated into numerous subjects; they integrate the education and instruction. This section depicts the cross-curricular themes, but they are implemented in the various subjects, from the perspectives characteristic of those subjects, and in a manner required by the pupil's developmental phase. In formulating the curriculum, cross-curricular themes are to be included in the core and optional subjects and in joint events such as assemblies, and are to be manifested in the schools' operational culture. (Finnish National Board of Education, 2004b, p. 36).

Cross-curricular themes have been explained as themes, which should be included in subjects, events and other areas of the schools' operational culture.

2014 transversal competencies

1. Growth as a person
2. Cultural identity
3. Media skills and communication
4. Participatory citizenship and entrepreneurship
5. Responsibility for the environment, well-being, and a sustainable future
6. Safety and traffic
7. Technology and the individual

In the CC2014, the transversal competencies are based on the changing world and values as well as knowledge of the surrounding society:

> Transversal competence refers to an entity consisting of knowledge, skills, values, attitudes and will. […] The increased need for transversal competence arises from the changes in the surrounding world. […] Each subject builds the pupil's competence through the contents and methods typical of its field of knowledge. […] These areas are frequently interconnected. Their joint objective is, in line with the mission of basic education and taking the pupil's age into account, to support growth as a human being and to impart competences required for membership in a democratic society and sustainable way of living. (Finnish National Board of Education, 2016, p. 21)

The difference between these two lies in the fact that the transversal competencies in the CC2014 are implemented in all the age-specific and subject-specific curricula. This was not the case with the CC2004 where it is merely recommended that these issues be implemented in teaching.

2014 themes

1. Thinking and learning to learn
2. Cultural competence, interaction and self-expression
3. Taking care of oneself and managing daily life
4. Multiliteracy
5. ICT competence
6. Working life competence and entrepreneurship
7. Participation, involvement and building a sustainable future

There are many similarities in these two lists. Both lists have a similar purpose as themes that should be implemented in learning situations. The transversal competencies in the CC2014 are present at all age levels and in all subjects. All of the aims set for teaching are bound together with a particular transversal skill. The transversal skills are, furthermore, adapted to appropriate age levels: grades 1–2, grades 3–6, and grades 7–9. This indicates that the CC2014 presents the transversal competencies better on the subject level and as a part of everyday teaching than the themes in the CC2004.

There is also a difference in how information management skills are presented within these thematic compounds. In the CC2004, issues connected to information literacy were present in the theme '*Media skills and communication*' and, additionally, to some extent in '*Technology and the individual*'. In the CC2014, issues related to information literacy are present in three of seven themes: *thinking and learning to learn*, *multiliteracy*, and *ICT competence*. It can be concluded that in this perspective information literacy issues play a broader role in the CC2014.

7.4. Summary

Chapters 7-7.3. provide answers to first research question *What information literacy aspects can be found in the Finnish Language and Literature subject in the national comprehensive school core curricula of 2004 and 2014*? The purpose of analysing these issues here is to show that the changes between the core curricula of 2004 and that of 2014 are not that significant considering the named issues and contents. On a general level, information literacy issues are significantly more visible in the CC2014 text, and the transversal competencies from the general part of the CC2014 are tightly enclosed in the curriculum's subject-related part.

Secondly, multiliteracy as an umbrella term has encompassed much of the media literacy and information management skills issues in the CC2014. Nevertheless, information literacy issues also occur in two other transversal competencies, which is a sign of these skills also being a part of information and communications technology, learning to learn and thinking skills.

Thirdly, the most radical changes can be found in the new terminology, which may seem confusing. Elements of multiliteracy and transversal competencies can be found already in the CC2004.

8. Information literacy conceptions of teachers and school librarians

A process representation similar to the ones for CC2004 and CC2014 is presented for both professions. This type of presentation structure makes it possible to answer the second research question "What are the information literacy conceptions of 7th grade teachers of Finnish Language and Literature and school librarians?" Presenting the conceptions in a similar format made the conceptions comparable. The entire interview data was used for opening up the understandings of information literacy conceptions. From the interview data, unified information literacy conceptions of teachers and librarians were created. The interview data from both professions were arranged into similar process-like conceptions to enable a comparison with the CC2014 conceptions.

The school as a working environment affected the perspective of the participants' replies. Both professions related the issues to the pupils, to work with pupils and to their problems in information management skills at large. The teachers considered the issues with the classroom situation in mind. This is the reason why in some quotations further on the pupils are mentioned.

There were interviewees who found some issues to be more important than other interviewees and they mentioned certain issues in several corresponding expressions. All the different responses were added to the analysis. No duplicates or revisions of hesitations were counted. For instance, issues concerning information use were explicated in various different ways, word turns and expressions:

> "Use the information for one's own purposes" and "To process the information ahead." (Hilda)

Both of the utterances above reflect the utilisation and processing of information. Both were categorised in the 'Using information' phase. The following are an example of the school librarian Anneli's responses, all of which were categorised under information seeking:

> "Understanding different search strategies" AND "Search terms, understanding Finnish language aspects" AND "Where to seek" AND "Understanding of different forms of sources and platforms." (Anneli)

There were five participants in each professional group. This is the reason why there can be more utterances in one particular phase than what the number of

participants could signify. The various ways of explaining the related issues have hence been calculated to signify the emphasis on the issues.

8.1. Teachers

The understanding of the conceptions studied, e.g. information literacy, information management skills and multiliteracy, was problematic. In the first question, '*Can you in your own words express what information management skills means to you*?' the concepts were understood differently than what was expected when the interview instrument was designed. Therefore, the later questions in the instrument were at risk, since the interviewees answered the questions according to their understanding of the term, not necessarily as the researcher had expected. However, all three studied terms were used to create the information literacy conception presented below in Table 8.1. The concept information literacy was understood to be the umbrella term in the present study and it also embraces the elements of information management skills and multiliteracy.

First, the personal conceptions were formed from the interview data. After this, a process representation was structured by combining the personal conceptions, one for teachers and one for school librarians. A comparison was made to see what the conceptions looked like for both professions. This comparison is presented later on in the combined analysis in Chapter 10.

Table 8.1. Information literacy conception of the teachers.

Phase	**Occurrences**
I Planning	
1. Preconditions (9 occurrences)	- Know and understand the whole process - To see the big picture, where to go to look for information - Using the library - Orienteering in life - Practical skill - Different literacies - Literacies of different subjects - To go beyond subject borders - Media literacy
2. Text and Reading (9 occurrences)	- Working with different kinds of texts - Different medium of different texts - All is text, a broad definition of text - Knowledge of different text types - Shuttle in a jungle of different texts - Reading skills

	- Reading strategies and points of entry to text - Preparedness to understand what one is reading - Reading information
3. Inquiry **(1 occurrences)**	- Start to think what information one needs
4. Information Environment **(11 occurrences)**	- To understand the information at hand - Where to find information - Media - Books, magazines, newspapers, by following news, TV, Internet - Media - Pictures, charts, visual statistics - Information in different forms - Texts, media texts, signs, symbols, pictures - In digital and printed form - Reading of information: maps, bus routes, timetables, colours, pictures, symbols, signs - Visual, textual, auditive, pictures and a combination of these
II Activity	
5. Information Seeking **(10 occurrences)**	- To look for the right sources - To collect information by interviewing also - Information seeking - To seek information - Searching for information - Can seek information - Limiting the searches - Ability to find information, how one can skilfully acquire catch information in larger units - Gaining information by reading different kinds of texts - Rapidity, how fast one can reach information - How fast and fluently pupils start to work
6. Relevance **(10 occurrences)**	- To distinguish relevant information from irrelevant - To distinguish important from non-important - Understand what is relevant to me - What to choose, what is relevant for my task - To select the right information - To select relevant information - After finding information, selecting and screening it according to the task - Understands or can pick the relevant information from information texts

	- Can differentiate information from larger units or from 'noise' - Understand the relevance to oneself
7. Critical Thinking (17 occurrences)	- Pose questions, what, where, how, who - To compare - Handling the information, not only picking it up from somewhere - To pick the information from sources - To compare and evaluate sources - To evaluate the credibility of sources (who, where, how, to which purpose) - Source criticism - Source criticism - To search for relevant issues - How critical one is towards information - Examine which is true, which is not - Understand the reliability - Contemplating critically and evaluating the information - How critical one is towards information - Listing the sources - Criticism - Can weigh the credibility of the information
III Reflection	
8. Using Information (10 occurrences)	- How to transfer the information to one's own use - To cite and summarize - To know how to use the acquired information in the right way according to the objective in question - What do I do with the acquired information - Use the information for one's own purposes - To process the information forward - To connect the information to a larger context - Knows how to handle information - How one will utilise the information - Information being smaller compounds than knowledge
9. Building New Knowledge (4 occurrences)	- Producing new information/knowledge - Adding the information to a larger whole - Combining information of different disciplines - How one will utilise the information
10. Communicating Information (1 occurrence)	- Mediate information

Figure 8.1. Illustration of the information literacy conceptions of the teachers.

The illustration above (Figure 8.1.) offers an understanding of how the phases and issues surfaced in the interviews with the teachers. The larger the font, the more occurrences the phase was given in the interviews. Preconditions also contains the inclination to text and reading and, therefore, it partly dominates the illustration.

In an overall view, it can be argued that teachers had a relatively wide conception of information literacy when considering the diversity of phases. The contents of information literacy was rather well described and the five personal conceptions of the interviewees were relatively similar to each other. There were phases that reoccurred in most of the interviewees' conceptions. There was only one teacher who did not mention the relevance of the found information. Three out of five mentioned combining the information into a larger context.

There was some variety in the personal conceptions. The numbers of occurrences between the interviewed teachers varied from fifteen to seven. One teacher put considerably more emphasis on planning than the other four. This was especially in regards to understanding text, reading skills, and reading comprehension. In Table 8.2., the sections are presented by the number of occurrences and by percentages.

Table 8.2. Division of occurrences in teachers' information literacy conceptions.

SECTIONS	**N = number of occurrences / number as %**
Planning	N 30 / 41.6%
Activity	N 27 / 37.5%
Reflection	N 15 / 20.8%
TOTAL	N 72 / 100%

The first section, Planning, consists of Preconditions (phase 1), Text and Reading (phase 2), Inquiry (phase 3) and the Information Environment (phase 4). The issue of reading and text was separated into a phase of its own, because it played such a significant part and was different from the general issues mentioned as preconditions.

Phases 1 and 2 of the Planning section had eighteen (18) occurrences altogether. In this case, issues of reading, textual understanding and reading comprehension provides pupils with tools to be able to work in the first place. For three teachers, reading and textual aspects were important. Two teachers did not mention, for example, reading in their information literacy conceptions, although elsewhere in interviews they mentioned that they possess a very broad definition of text. One of the teachers mentioned Enquiry (phase 3) in relation to pupils' understanding the need for and nature of the retrieved.

One phase was created particularly for teachers, i.e. Information Environment (phase 4). These issue could not really be placed into any other phase. Teachers appear to have a broad understanding of the overall information environment. In these occurrences, multimodal thinking can be seen in the form of multiliteracy-related aspects.

The middle section, Activity, has three phases. The Information Seeking (phase 5) phase is constructed through searching, seeking and collecting information. Teachers mentioned occurrences related to information seeking. However, half of them were statements on a very basic level: can seek information and "information seeking". The idea of seeking for information was not expressed on a more specific level.

Information Relevance (phase 6) with nine occurrences revolved around pupils' understanding of the relevance of the information they encounter to themselves or to the assignment they are completing. This also entails the ability to distinguish the important information from the trivial. Teachers' comments pertaining to this phase were so many that it was separated as a phase of its own. In the CC2014 information literacy conception, relevance was incorporated with seeking, because it contained so few occurrences. However, the interviews with the teachers revealed that relevance is considered extremely important. The interviewees said that there are problems when pupils try to differentiate relevant information from irrelevant, especially when considering their assignments.

The Critical Thinking phase (phase 7) was the most common of all the phases with 24% of the occurrences (N=17). The evaluation of information was also combined with this thematic ensemble. The phase rendered a broad set of issues concerning various aspects in critical thinking: comparing sources, weighing the credibility, and contemplating how to differentiate information from disinformation.

The last section, Reflection, comprised the Use of Information (phase 8) and Building Knowledge (phase 9) plus one occurrence in Communicating Information (phase 10). Using Information and Building New Knowledge played an important role with a proportion of 19% (N=14) of the total occurrences. The Reflection section had the least number of occurrences in teachers' overall conception of information literacy. The Reflection section covered only 20.8% of all the occurrences in the entire conception.

When the interviewees were asked how information management skills is exhibited in the CC2014, the answers varied considerably. Hilda mentioned that because the CC2014 accentuates the pro-activeness of the learners, the textbook merely functions as a 'harbour' in the information seeking process, and pupils must show more of their own initiative. Johanna, Sara and Elisa mentioned that the term is extremely visible in the CC2014 and plays and increasingly important role. Eveliina tilted towards talking about multiliteracy and, furthermore, mentioned the multidisciplinary learning modules.

The teachers' conceptions are dominated by the Planning section. There, the importance lies in the preconditions as well as in reading skills and textual understanding. Planning is also validated by the multimodalities of the information environment. In the Activity section, there are signs of teachers having an assignment-oriented view, i.e. they consider the issue from the perspective of an assignment. Explanations pertaining to information seeking are left at a very superficial level. Critical thinking was the largest single phase. In conclusion, it can be stated that there are signs of teachers understanding the concept of information literacy through their professional background.

8.2. School librarians

Subsequently, the interview results of the participating school librarians' information literacy conceptions are presented in Table 8.3. The structure is similar to that of the teachers.

Table 8.3. Information literacy conception of the school librarians.

Phase	Occurrences
I Planning	
1. Preconditions (6 occurrences)	- To have a general understanding of information, its structure, how information is processed - Interpreting the entirety - Use of devices - Can read information in different devices, in the Internet, in books and magazines - Library, where the information is - Knows how to ask for advice and consultation
2. Text and Reading (7 occurrences)	- Recognise different text styles and their characteristics - A combination of reading, listening and feeling - Understanding text - Text and information in different forms - Reading different kinds of texts - Multitude of different texts and forms and using these in studies - Everything is considered text
3. Information Need (2 occurrences)	- To understand when there is a need for information - Understand the subject at hand
II Activity	
4. Seeking and Searching (18 occurrences)	- Understand where to seek for information - Understand different forms of sources and platforms - Understand different search strategies - Understand search terms, understanding Finnish language aspects - Understand how to start the seeking - Look for information in books - Where to look for information (books, newspapers, Internet) - Seeking for information in the library, databases, search engines, different seeking methods, combining search words) - Information searching - Where to look for sources of information - Expand or narrow searches - Look for as many sources as possible - To find the right information - Look for information in several sources - Combine different sources to make sure - Understand to discard - How to change information seeking to fit one's goals better - Understand when to supplement ones search

5. Critical Thinking (19 occurrences)	- Evaluation of the found information - Evaluation - Evaluate how relevant to information need - Choosing the most useful information - Understand ethical issues and actions - Who has released the information, in which context, is there an agenda behind it? - Source criticism - Reliable information - Controlling if information is reliable - How reliable the information is - Who wrote it, why, where and how? - Know the characteristics of a reliable (Internet) page - Be critical and question - Being critical about the found information - Understand the complexities - Differentiate between fact and fiction - To be able to separate relevant information - To get relevant information forward - To differentiate disinformation and propaganda
III Reflection	
6. Working with Information (1 occurrence)	- Read, write, make notes
7. Build Knowledge (3 occurrences)	- To combine the found information with one's own knowledge structures - What to do with the information once found - Using of the found materials and information
8. Safekeeping (2 occurrences)	- Keep information safe - Safekeeping and easy access to reuse the information
9. Communicate (1 occurrence)	- Present findings
10. Evaluation (1 occurrence)	- Evaluate one's own actions

Figure 8.2. Illustration of the information literacy conception of the school librarians.

The illustration in Figure 8.2. offers an understanding of how the phases and issues surfaced in the interviews with the school librarians. The larger the font, the more occurrences and emphasis the expression was given in the interviews. Critical Thinking and Information Seeking clearly dominated.

Table 8.4. Division of occurrences in school librarians' information literacy conception.

SECTIONS	**N = number of occurrences / number as %**
Planning	N15 / 25%
Activity	N37 / 62%
Reflection	N8 / 13%
TOTAL	**N60 / 100 %**

With the school librarians, there are more substantial differences in personal information literacy conceptions than among the teachers. The interviewees' personal information literacy conceptions varied significantly. One school librarian had an extensive understanding of information literacy all the way from understanding the structure of information to presenting findings. The extent of personal conceptions varied from 18 occurrences with one school librarian to four occurrences with another

school librarian. One school librarian approached the issue of information literacy from the perspective of school levels; how information literacy issues would look different in primary school, secondary school and in upper secondary school. All of the other interviewees, school librarians and teachers alike, approached the issue from a process-like perspective.

The Planning section as a whole comprised 25% of all the occurrences in the school librarians' interviews. The first phase of the planning is Preconditions (phase 1). All of the answers to Preconditions came from three school librarians. For the school librarians, these occurrences implied a necessity of a general understanding of information and how information works. The library was also mentioned as well as the use of devices and that pupils should understand how the library stores and organises information and know how to ask for help and consultation. Two school librarians also felt that when teachers are planning their teaching units, they should first check what books the library holds in these subjects. It can, therefore, be concluded that the ideas of preconditions are mostly related to library issues. The other phase in the Planning section was related to Text and Reading (phase 2). To school librarians, this meant understanding different types of texts. Information Needs (phase 3) was mentioned by two school librarians.

The Activity section with issues related to Information Seeking (phase 4), Critical Thinking (phase 5), which included relevance, played the most substantial role in the school librarians' conception, with 62% of all the occurrences. The proportion is considerably higher than that of the teachers (36%). When removing the largest section, Activity with 62% (N=37) of the total occurrences, this leaves 25% (N=15) for Planning and 13% (N=8) for Reflection.

The school librarians' conceptions placed strong emphasis on the Information Seeking phase, with a proportion of 30% (N=18) of the total occurrences (N=60). The reason for this may lie in the essence of the librarian profession. The Information Seeking phase (phase 4) combines three closely related issues: the need to understand information searching, the seeking itself, and how to refine and modify the actual search after the initial search. As was explained in Section 2.2, seeking is a broader term than searching. However, teachers used these terms interchangeably. The utterances by the school librarians at this stage were highly detailed as different search methods, strategies and source types.

Critical thinking, evaluation of sources and considering relevance were organised together (phase 5). This covers 32% of all the occurrences in the interviews with the school librarians. One school librarian mentioned considering the relevance of the found information to the assignment. However, only one school librarian mentioned this issue. One expression, '*choosing the most useful material*', did not have a specific

emphasis on the assignment at hand and another, '*to handle the material so that you can solve your problem*', which was counted for discussing relevance.

The phases related to information, information skills and resources were often seen as activities taking place in libraries and with the resources the library provides. There was no evidence that pointed to school librarians combining information literacy skills with teaching methods or activities, apart from making sure that the information seeking was relevant to the problem or assignment at hand. The school librarians' view was broadly based on their professional background as information professionals.

The Reflection section consists of five different phases (Working with Information, Building Knowledge, Safekeeping, Communication and Evaluation) with altogether eight occurrences combined. Only two school librarians mentioned that information needs to be worked on. All of the occurrences in the Reflection section represented Working with Information and Building Knowledge answered for only 6.6% of all the occurrences in the conception. For teachers this percentage was 19.2%.

When the interviewees were asked how information management skills is present in the CC2014, only two school librarians were able to provide an answer. A reason for this was the fact that at least three of the five librarians said that they had either not read the CC2014 at all or only in such a superficial way that they preferred to skip the questions concerning the CC2014 completely. The two who did answer this question felt that the information management skills have been given greater emphasis in the CC2014 than in the previous core curriculum of 2004. Anneli mentioned, though, that the presentation of information management skills in the CC2014 is of a somewhat literary style and idealistic. Liisa was very pleased that information management skills issues are there now:

> "So in my mind, the skills come out in the curriculum very clearly, so that no one can any longer say I didn't know that these skills have to be trained. So that I feel they are very clearly presented, and in every subject." (Liisa)

Librarians paid less attention to the relevance of the information to the assignment or task at hand. This is an indication of the way of thinking, which was expressed by one of the librarians, "*What happens after the information seeking is the teachers' work"*. It can be concluded that once the librarian has found the information for the pupil, or with the pupil, he or she may feel that his or her job has been accomplished.

One of the librarians also brought up an issue that was completely lacking in the other interviews, namely how to keep information safe and organise it for easy access and reuse. Another librarian named evaluation as the last phase, as an issue one has to think about at the end of an information seeking process.

8.3 Summary

At this point, all the research material for all the four data units and individual information literacy conceptions have been presented. Chapters 8-8.2. provide answers to second research question "*What are the information literacy conceptions of 7th grade teachers of Finnish Language and Literature and school librarians?"* When examining the occurrences within this three-section structure, comparing them to the findings in CC2004, CC2014 and the interview data, the quantitative results of occurrences emerge as follows in Table 8.11. The numbers are presented in percentages to be comparable to each other.

Table 8.5. Number of occurrences in the entire material, presenting the proportional differences in emphasis.

	CC2004	**CC2014**	**Teachers**	**Librarians**
1. Planning	N10 / 21.7%	N16 / 20.5%	**N31 = 43.1%**	N15 = 25%
2. Activity	**N21 / 45.7%**	N17 / 21.8%	N26 = 36.1%	**N37 = 62%**
3. Reflection	N15 / 32.6%	**N45 / 57.7%**	N54 = 20.8%	N8 = 13%
TOTAL	**46 = 100%**	**78 = 100%**	**72 = 100%**	**60 = 100%**

In the Activity section, the proportion of the occurrences for the librarians' answers was 62%, nearly double that of the teachers' answers (36.1%). The differences lie in where these occurrences reside and in the proportions of different phases. Furthermore, the small number of interviewees created a situation where one interviewee's strong conception dictated the perspective of the entire school library category. Nevertheless, the percentages provide an understanding of which issues were accentuated.

Teachers – conceptions

The division of all the occurrences in teachers' conceptions shows that only the last third of the IL conceptions was given less attention. The teachers had more similarities in their personal conceptions than the school librarians have in theirs. There were indications that the school connection and environment as well as the Finnish Language and Literature subject affected the teachers' information literacy conceptions. This can be because of their studies or the work context. They understand the concept through the perspective of the subject and pupils.

School librarians – conceptions

The school librarians' personal conceptions were quite dispersed, with information seeking and searching dominating the conceptions. Most school librarians' occurrences were situated in the Activity section (62%), indicating that the emphasis is on Seeking Information and Critical Thinking. The least occurrences were found in the Reflection section. The school librarians' conceptions of information literacy were predominantly affected by the librarian profession. Furthermore, there were indications that the Reflection phases do not seem to be a part of school librarians' domain, but belong almost entirely to the teacher. What became clear was that school librarians conceptualise the activity in information literacy through the domain of the library, not the school.

9. Understanding of terminology

The terminology presented in this thesis is explained in Section 2.2 (p.18). The research questions seek answers to conceptions of information literacy. Nevertheless, the terminology played such a significant role in the study that the issues of terminology use were studied in more detail. There were three terms, i.e. information management skills, information literacy and multiliteracy, which were examined during the interviews. The understanding of the concepts has an effect on how they are used in school library collaboration and work context.

The interviews began with a question about information management skills, followed by a question about information literacy and, finally, how multiliteracy fits into this terminological ensemble. With consideration to every term, the interview question was presented *Can you in your own words express what information management skills / information literacy means to you*?. The term information management skills was the first term for which the interviewees gave a description. Responses to this question were also the most bountiful.

The most significant aspect relates to the following interview question, *How does the terms information management skills and information literacy differ concerning contents?* As explained in Section 2.2, the term information management skills is not a term within information science but it has established a place in comprehensive school. However, when considering the contents that is most usually referred to in information management skills (see Section 2.2.) it can be argued that we are, in fact, talking about information literacy.

Consequently, information management skills is considered to be information literacy, in context and in contents. Therefore, in this section, information literacy is studied solely as a term, not as a concept - how the interviewees understood and described the term in the interview. All of these results are elaborated in the following sections.

9.1. Information management skills

Information management skills was the best known of the three terms by all of the interviewees. Pupils are trained to reinforce information management skills. The term is not explicated but just referred to as a skill. Teachers or other people working to strengthen these skills in pupils have to be knowledgeable of the concept of information management skills. The data pertaining to the research question about information management skills created the basis of the description referred to as the information literacy conception.

TEACHERS

The term information management skills was familiar to most of the interviewed teachers. When the term was introduced in the interview, some of the interviewees thought about it from a semantic point of view. The word in Finnish is a compound word and to facilitate the understanding of it some interviewees divided the compound and tried to gain understanding of the two separate words *information* and *management*. In Finnish, examining the words separately breaks the meaning of the compound word, and, consequently, the understanding of the term is broken.

There were teachers who hesitated to use the term information management skills. One teacher told honestly:

> "First of all, I would not use the term information management skills but information seeking." (Hilda)

This is an example of how this term is understood to be about information seeking as a function. Hilda felt that, currently, there are problems in the discussions related to the changes in the school world. She referred to the public discussions and the personal skills of secondary school pupils in information seeking. She feels that the problem has, for a long time, been '*an issue that has created constant annoyance*' because information seeking skills / information skills are not systematically taught. However, she stated that information management skills are life skills, and developing one's skills is a lifetime project. Johanna had a similar opinion:

> "I think that a person, who has the skills to manage information, possesses a lot." (Johanna)

Although uncertain about the term, Hilda thought of information management skills as a sort of mastery:

> "So, we are now speaking about the associations and impressions I have of these concepts. I feel that information management skills is a very demanding skill, it is very broad and demands a lot of know-how… And in order to manage in a certain field it requires a great deal of knowledge, and you need more knowledge of other fields to be able to position the issue in relation to other issues." (Hilda)

By this she means that there has to be adequate general knowledge in order to understand the relationship between different issues.

SCHOOL LIBRARIANS

The interviews show that information management skills is a familiar term to the school librarians. There were people in both groups who, to some extent, hesitated to use the term, but only one librarian felt that it took his thoughts to computer science and furthermore said that:

> "… In my opinion, the term information management skills is a bit of an ambivalent term. People do whatever they do with information, whether they can manage it or not." (Pentti)

As with some of the teachers, Pentti approached the term by separating the compound word into two separate words. Management can be about smaller or larger units. He felt like management is not equivalent to action; one can act upon issues without accurately being able to manage the information. However, he quite swiftly began to explain the term in the interview, as did others. Only one person approached the issue from an angle other than the process-like order.

Three school librarians partially confused the term especially with information literacy but also with multiliteracy. They felt that they had already answered the question when it was time to explain the next term. Therefore, they had difficulty drawing the lines between them.

9.2. Information literacy

When reporting the results, there is a need to reflect on the findings concerning the aspects encountered during the study. As was already reported, the CC2014 does not use any such term as information literacy. However, on many occasions, the aspects of the term can be seen in sporadic listings of actions or verbs that very much resemble the actions in information literacy. The following examples are from the section of the CC2014 pertaining to Finnish Language and Literature:

> P.20: The way in which they learn to make observations and to seek, evaluate, edit, produce and share information is also essential.
> P.22: Multiliteracy means abilities to obtain, combine, modify, produce, present and evaluate information in different modes, in different contexts and situations, and by using various tools.
> P.30: Skills in finding, processing, analysing, presenting, applying, combining, evaluation, and creating information are important for learning.
> P.31: This builds their capabilities for independent, interactive, and critical acquisition and processing of information and its creative production.

> P.185: The instruction supports the development of multiliteracy, which allows the pupil to seek information and understand, produce, evaluate and analyse diverse spoken and written Finnish texts in daily interaction, schoolwork, and the society.
> (Finnish National Board of Education, 2016)

As can be concluded from the quotations, there are plenty of elements to be found, but the occurrences vary and the actions do not always follow a similar order. These quotations also suggest a process, but process as a term is not presented in this connection. The quotations indicate that the elements are present in the text, but no definition or set process description exists in the core curriculum.

TEACHERS

Of the three terms investigated, information literacy was found to be most troublesome for the teachers to explain. In the case of information literacy, a comparative process conception cannot be presented, because the conceptions of information literacy could not be presented in a comparable form, as the variation of the understanding fluctuated to such an extent. The answers are, however, categorised to present the emphasis on how the term information literacy was understood.

During one interview, one teacher declared three times that she is not familiar with the term. Another teacher declared that she could not remember to have encountered this term before. The rest of the teachers did not make this sort of declaration, but merely tried to manage to explain the term. They mentioned elements in their answers that point to information literacy. Whether it is a coincidence or merely a result of reasoning cannot be determined.

Table 9.1. Understanding of the term information literacy by interviewed teachers.

Category	**Findings**
Multiliteracy and Multimodality	- Reading information: maps, bus routes, timetables, colours, pictures, symbols, signs - Media - ICT issues, technological devices and their use - Thoughts went to many kinds of literacies - Thoughts went to multiliteracy, thinking subject-based literacies - Can receive information by hearing, reading, and visually - Related to various interactions and communications

Working with Information	- Ability to find information, how one can skilfully acquire information from larger units - Gaining information by reading different kinds of texts - Understands or can pick the relevant information from information texts - Can differentiate information from larger units or from 'noise' - Understands the relevance to oneself - Knows how to handle information - How one will utilise the information - Reading information - Mediate information - How one will utilise the information
Critical Thinking	- Criticism - Can weigh the credibility of the information
Fastness	- Rapidity - how fast on can access information - How fast and fluently the pupil begins to work
Life Skill	- Orienteering in life - Practical skill

The term was also understood in such different ways that it has possibly affected the other interview answers. When asked, '*Describe in your own words how information literacy is present in the 2014 core curriculum'*, the interviewees answered according to their understandings of information literacy, which were divergent from person to person. Two teachers were hesitant to answer, because the core curriculum had not taken effect yet in the secondary school. Johanna, who associated the issue more with life skills, connected the term to one of the transversal skills in the CC2014, 'managing daily life' (see p. 96).

Because the term information literacy was not familiar, the answers significantly reflected the interviewees' associations to the term. A common strategy was to start to separate the words semantically as the term is a compound word in Finnish, which literally translates as *information reading skill / literacy*. This led to associate the term with merely reading different types of information: reading signs, info-TVs, maps, symbols, pictures and such.

There were two major conceptual issues incorporated into the term information literacy: issues relating to multimodality and multiliteracy and issues that can be categorised under the expression Working with Information. The term information

literacy took teachers' thoughts to the reading of information, different types of media, and to different ways to acquire information (hearing, reading, visualising). One teacher brought up the issue of information and communications technology (ICT). One mentioned that the term is also related to interactions between people and communication.

The other major group of issues named in the context of information literacy was Working with Information. There was a way of combining reading different texts with gaining information. Three of the teachers marked this as an aspect of information literacy. Utilising, handling and understanding the relevance of information was mentioned. Furthermore, it was noted that information literacy was about the ability to find information and differentiate information from larger units of information and to mediate information. Criticism aspects were mentioned by Sara. The very same teacher also mentioned the '*speed that a pupil can access the information'* as well as how '*fast the pupil will get to work*'.

There was also discussion about what information is. Johanna felt that information is made of smaller compounds than knowledge and, therefore, she associated the information literacy term with bus-schedules and similar practical issues. However, Johanna felt that information literacy was also a '*practical skill'* and about '*orienteering in life'*.

When Johanna was asked how she thinks the terms information management skills and information literacy differ, she replied:

> "Well, well, I see there is quite a … like… a rather considerable difference. But it can be that I have understood it.. , I will tell you right off that I cannot now, from the top of my head, remember any course book that has this definition of information literacy…" (Johanna)

Hilda felt a little indifferent about the term and felt that it was somewhat debatable;

> "There's multiliteracy and information literacy and what-ever-literacies – at one time there was media literacy, too". (Hilda)

When asked about the conception of information literacy, the teacher also quickly switched the discussion to multiliteracy-related issues. This could be explained by not knowing what information literacy is, but also by instinctively combining it with multiliteracy in her mind. The same teacher questioned the entire existence of the term information literacy:

> "Information seeking and searching skills are, of course, that one can read texts, understand texts and can then take the information needed

> in their own work or comments or speeches. Or in articles or in essays or whatever the information is used for. It is about finding information for specific needs. But still, this information literacy, what do we need it for?" (Hilda)

In summary, it can be concluded that the teachers had a conception of information literacy that concentrated on issues related to multiliteracy and working with information.

SCHOOL LIBRARIANS

There was a preliminary understanding that the term information literacy is familiar to all of those working in the library and information services branch, since the term information literacy comes from the field of Library and Information Science. This was, however, not the case. The interviewed school librarians had also more dispersion in their education level than the teachers (see Section 6.1.2.).

The results of school librarians are presented in Table 9.2. The responses can roughly be divided into three areas: issues relating to multiliteracy, critical thinking and using information; the first two having the majority of the occurrences. The answers of school librarians to the question about the term information literacy varied greatly. Overall, the conceptions of information literacy seem broader among the interviewed teachers compared to the school librarians.

Table 9.2. Understanding of the term information literacy by the interviewed school librarians.

Category	**Findings**
Multiliteracy	- Recognise different text styles and their characteristics - Combination of reading, listening and feeling - Understanding text - Texts and information in different forms - Reading different kinds of texts
Critical Thinking	- Differentiate fact and fiction - Able to separate relevant information - To get the relevant information forward - To differentiate disinformation and propaganda
Using Information	- Using accessed materials and information

There were three school librarians, Liisa, Anneli and Kasperi, who felt that they had already described this term in the past question concerning information management

skills. Liisa presented an assumption that information management skills and information literacy are the same issue:

> "Information literacy, as it is supposed to be, is kind of overlapping, so that you cannot read if you cannot find, so I think information management skills and information literacy go like that in the same way." (Liisa)

First, when Liisa was asked to describe the term information literacy, she replied, "*It is a lot like what I just told you earlier*", referring to the request to describe the term information management skills. Kasperi had a similar feeling when asked, "*In your own words, can you express what information literacy means to you*?" He answered, "*I kind of answered it already*" in the previous question about information management skills. Anneli was the school librarian who had a strong conception pertaining to information management skills. However, she gave the centre stage to information literacy, describing it as a core theoretical issue. Furthermore, Anneli felt she had already answered this question about information literacy while describing information management skills. The reason why she did not give a similar description when asked about information literacy is likely to be that in her mind they are so intertwined, if not the same thing altogether.

In addition, Anneli wondered why the term information literacy has not been accepted in comprehensive school, although it is widely accepted in public libraries, universities and higher education in association with teaching information skills. She felt that the term is a core skill, much more operational and easier to understand as an action than, for example, multiliteracy, which according to her, sways in many directions. She would have preferred to see information literacy instead of multiliteracy in the CC2014.

Hence, Anneli's answers are not included in Table 9.13, as they did not correlate with any larger frame. She had a strong feeling that currently the core elements and the '*theoretical background*' are lacking in the teaching of information skills in schools. Nevertheless, she felt that information literacy is an operational term, '*easier to understand as an action*' and '*an intentional aspiration to do things*' and '*more pure than multiliteracy*'.

There were two librarians who did not associate information literacy with information management skills. What was interesting in comparing the results was that these school librarians, in general, felt that the term information literacy does not necessarily have anything to do with information seeking. Their replies moved in the direction of multiliteracies.

> "Well, it is all kinds of texts, or information in different formats that, nowadays, pour out from every place, so I think, for me, it means that

> in some way one can disregard the noise and bring the right issues to the surface." (Pentti)

> "Well… the first thing that comes to mind is that, like, basically to read different texts, this is what comes to my mind." (Ville)

The findings show that their conception centres around textual aspects and reading. This was the first most noteworthy finding in the school librarians' conceptions and very interesting in the light of professional differences and identities. Mentioning the text and reading gives a hint of multimodality and ideas of multiliteracy. When the data were categorised, it was concluded that the teachers have a wider understanding of information literacy than the school librarians. However, one librarian described information literacy already in the answer of information management skills, since she felt they are so much related.

Pentti wanted to challenge the term information literacy. Information management skills took his thoughts to managing and controlling data and computers. He felt the term information literacy was very vague:

> "Compared to information management skills, in information literacy, which is an interesting term, … I think, you should go deeper…" … "I always aim at a description that is as specific as possible, but then this is so vague, like what, information literacy, eh?" (Pentti)

When the interviewees were asked how information literacy is present in the CC2014, three respondents felt that they were not able to answer the question, because they had not read CC2014, but also because the same interviewees had difficulties with the term information literacy. Liisa felt that these issues come hand in hand with information management skills and Anneli felt it was a term that comes from the library field and is, therefore, an easier term to understand and to assimilate.

To summarise, there was a lot of discrepancy in conceptions. Information literacy was the most troublesome term in the interviews. Firstly, there were elements of multiliteracy: reading, listening, feeling; different types of texts; text and information in different forms. Secondly, there were pure elements concerning basic information seeking elements: differentiating fact and fiction; differentiating disinformation from factual information. To conclude, there was a tendency to combine the term with text and information. Here, the construction of the term in Finnish can be seen with those interviewees who did not directly say the term is familiar. For those who considered this term unfamiliar, the meaning was more related to reading information.

There was no common understanding of the substance or character of information literacy or to which issues it was related. This applied to both interviewed parties,

teachers and school librarians. The interviewees used different strategies in trying to make sense of the term and at the same time, it seemed the meaning slipped further from the core meaning. What became clear is that the use of the term information literacy, especially in connection with teaching, may not render the association of issues relating to information seeking, which could be expected by looking at the prominent models of information literacy in the literature presented in Section 3.1.

Additionally, the school librarians' somewhat vague understanding was a surprise since the term information literacy is a term within Information Science. However, three school librarians did feel that they had already described information literacy when asked about information management skills.

9.3. Multiliteracy

Multiliteracy is a term that was introduced into the school context in the CC2014. In this study, multiliteracy as a term was not the primary research topic but was added to the interview instrument because of its significant existence in the CC2014. Another argument was that the term is also associated with information skills, according to studies (see p. 22).

TEACHERS

All interviewed teachers had a somewhat similar understanding of the term multiliteracy. It is a broad term that connects us to the larger environment with the help of text in different forms, audio-visuals, signs, symbols, notes, maps, etc. The broad definition of text was clear to all interviewed teachers. This was the dominating conception of their understanding.

Table 9.3. Multiliteracy conceptions of interviewed teachers.

Category	List of answers
Different forms of media and text	- Books, magazines, newspapers, following news, TV, Internet - Media, media literacy - Pictures, charts, visual statistics - Everything is text, a broad definition of text - Information in different formats - Texts, media texts, signs, symbols, pictures - In digital and paper form - Knowledge of different textual types - Shuttle in a jungle of different texts - Visual, textual, auditive, pictures and a combination of these
Different literacies	- Different literacies - Literacies of different subjects - To go beyond the subject boarders - A very wide term - An umbrella for all these previous terms

There is a strong emphasis on multimodality. Additionally, one teacher indicated that multidisciplinary learning modules were part of multiliteracy. All of the interviewees mentioned the broad definition of text. What did not occur was the information seeking aspects of multiliteracy, the way it is explained in the CC2014 (see p.22).

Hilda felt that the original meaning of the term multiliteracy has begun to change for some reason. She also felt that multiliteracy has become a fuss during the development of the CC2014, considering what it was originally:

> "This multiliteracy, I guess we need it in the school world, because in history lessons we learnt to read documents, and in mathematics they teach how to read mathematics and this is broadening the concept of reading. But I feel the term has just taken off to a whole different life of its own."(Hilda)

Hilda referred to current education in multiliteracy as something that has moved further away from of the original idea.

> "When the core curriculum was developed I was very excited about multiliteracy and it was the best part in the core curriculum… but now when I look I see all sorts of multiliteracy training and what are they

> training? It is just how we outline different subject-related literacies." (Hilda)

Then again, Johanna had explained information literacy according to the original idea of multiliteracy much like the New London Group. This shows that it is difficult to keep similar types of issues separate from each other. Eveliina described the difficulty of categorisation in the following way:

> "Information management skills, information literacy, multiliteracy? I have never before considered this, even if I am a friend of categorisation." (Eveliina)

SCHOOL LIBRARIANS

The term multiliteracy has also been actively promoted in the library field since the planning of the CC2014 began. Still, according to the interviews conducted for this study, the understanding of multiliteracy was in some respect vague. Three out of five librarians said that they had guessed the meaning of multiliteracy or that they were not sure of its meaning to start with.

Table 9.4. Multiliteracy conceptions of interviewed school librarians.

Category	**List of answers**
Different forms of media and text	- Books, magazines, newspapers, following news, TV, Internet - Media, media literacy - Pictures, charts, visual statistics - Everything is text, a broad definition of text - Information in different formats - Texts, media texts, signs, symbols, pictures - In digital and paper form - Knowledge of different textual types - Shuttle in a jungle of different texts - Visual, textual, auditive, pictures and a combination of these
Different literacies	- Different literacies - Literacies of different subjects - To go beyond the subject boarders - A very wide term - An umbrella for all these previous terms

This issue was understood to relate to different types of texts and to the broad definition of text. One difficulty was the similarity of these terms. Liisa had a feeling that she had already been talking about multiliteracy, i.e. she was not able to differentiate information literacy and multiliteracy:

> "Well the multiliteracy in my mind in, like, I really cannot see the difference between multiliteracy and information literacy, because I feel that people interpret an entirety…" (Liisa)

Similarly, Kasperi felt that he had already been talking about multiliteracy in previous questions. This implies that the terms were confused when trying to differentiate them from each other:

> "Yes, I feel like I have been talking about this already, in some way. About how all the different areas influence each other. I am not entirely sure about this term." (Kasperi)

Anneli felt that the core curriculum is still missing concrete issues related to information literacy aspects. For her, multiliteracy is about being in an information rich environment. When it came to multiliteracy, she referred to it several times as pottering about and fussing. She felt that multiliteracy is doing things without a clear purpose, reacting to situations in a sense. Information literacy, on the other hand, would provide the needed theoretical understanding of information seeking:

> "If it is said that this multiliteracy fussing is about future working skills… so it really is not. These skills are information literacy, understanding copyright issues, responsible use of materials, presenting and that one understands how to work with sources and materials." (Anneli)

Pentti contemplated the terminology more closely and when being asked about multiliteracy, he answered in the following way:

> "All these 'multi' terms, they like… irritate me sometimes. They are easy to repeat and go and hide behind, but their information value might be very weak." (Pentti)

Ville guessed that the term multiliteracy means "*multitude of texts, reading texts, shapes, and combine this in their learning…".* Mentioning that he is guessing, he at the same time revealed that he has no certainty about the meaning of the terms.

To conclude, the term multiliteracy was fairly well understood by the interviewees, although there was a fair amount of uncertainty involved. The guesses were still aimed in the right direction.

9.4. Summary

There was variation in how the terms information management skills, information literacy and multiliteracy were understood on a professional level and, additionally, among the individuals in the same profession. Considering the three terms, information management skills had the most unified understanding. Differences were found mainly in the breadth of the conception explanation. Considerably more variation emerged in information literacy and multiliteracy. These results are important in gaining understanding in how these terms are used in the school context.

The emerging conceptions can be said to represent information literacy even if it was understood vaguely. Looking at the findings, information literacy skills are valued but the term used is not information literacy. From the findings, it is deducted that the issues the interviewees described are in fact information literacy, when compared with the prominent models presented in Section 3.1.

The information literacy conception the interviewees presented most likely emerged from the background of studies and their particular field of science. The interviewed teachers were all teachers of the Finnish language. When all of the respondents were asked how their conceptions of information management skills have been moulded throughout the years, all ten interviewees mentioned their studies and work experience.

The interviewed school librarians had difficulties in understanding the term multiliteracy. They provided explanations similar to the definition of multiliteracy, but only two out of five did not hesitate at all to give a description. However, the understanding was somewhat similar to that of the teachers. The feeling school librarians had - explaining a similar issue several times - represents the same difficulty the teachers had, i.e. when trying to separate the terminology and find meanings and differences. The differences were very difficult to point out. This lead to partial understanding and can possibly also lead to vagueness while working with these terms.

As a conclusion, the teachers' understanding is shaped through their studies in pedagogical science. The issues of text, different text styles, reading skills and reading comprehension form the understanding of the terminology. School librarians' understanding of terminology was oriented towards the terms of Information Science; however, the terms were more intermingled with each other. The school librarians felt there is more similarity among the terms than what the teachers reported. The

professional training may have an impact on how the interviewees understand the terminology in each other's profession; school librarians hesitated with multiliteracy; teachers felt confused about information literacy.

10. Information literacy conceptions – combined analysis and comparison

The major part of the results, Chapter 10, consists of a comparative analysis of the information literacy conceptions in the CC2014 and those information literacy conceptions of the teachers and school librarians in the study. Every phase of the process representation is presented in a section of its own. These three empirical elements, which are presented in earlier chapters separately, are combined here for comparison. The results are analysed together to bring depth to the understanding of the relationship of the information literacy conceptions between the text and the participants.

The structure described above helps to answer the third research question: "What differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the core curricula of 2014?" This combined analysis brings depth and yields a closer comparison between the conceptions. For this comparison, only CC2014 was used. The justification for this is that the CC2014 will be used in schools for the next ten years, whereas the CC2004 will desist by August 2019.

To open up the conceptions of information literacy of the teachers and librarians, the conceptions were gathered from interview questions 1–6 (see Appendices 3 and 4), which pertained to information management skills, information literacy and multiliteracy. It was evident that the meaning of these terms is blurred and a decision was made to present all of the interviewees' combined understandings as a collected conception of information literacy. Additional quotations and viewpoints from the broader material of the interviews are added to bring further depth to the analysis. However, there are also issues that emerged in the interviews but does not exist in the CC2014 analysis. These issues are presented at the end of the results in Section 10.13.

To make the data easily comparable, the interview data were arranged to this similar process-like representation to see how the phases correspond. All the issues under the sub-heading CC2014 in this combined analysis are based on occurrences in Table 7.4.

I Planning

10.1. Phase 1 - Preconditions, starting point

CC2014

A category concerning preconditions was found important (see Section 3.2.) and therefore taken into the information literacy conception. There has to be an idea of a need to guide pupils in information literacy. Inquiry-based or phenomenon-based activities require a profound understanding of information literacy. A teacher has to set preconditions for inquiry-based learning and creativity in organising teaching in classes. This is also related to school culture. The school and teacher have to provide the conditions for learning and to enable the activities:

> "The pupils are guided to seek and produce information diversely and to use sources of information in versatile ways as a foundation for exploratory and creative work" (Finnish National Board of Education, 2016, p. 304)

> "[…] selecting working methods that allow a natural integration of the content areas of the subject" (Finnish National Board of Education, 2016, p. 309)

TEACHERS

Preconditions were also visible in the teachers' interviews, but they were different in nature. There was no indication of inquiry- or phenomenon-based learning activities in connection to information literacy. For the teachers, the preconditions were divided into two phases, general issues about preconditions and reading and text as a separate phase as these issues were considered too important in character to combine. In Figure 8.1., both precondition categories are assumed to be one under preconditions:

> "And the use of the library is connected to this…" (Eveliina)

> "One has to master the whole process, one has to know how to read, and collect information…" (Hilda)

Teachers felt that, at this phase, it is important to possess an overall understanding of the information at hand as well as where to find the needed information. There were two issues in the teachers' interviews which pointed to preconditions in seeing the entirety in the information literacy situation. Some teachers also mentioned the use of the library.

The rest of the issues in this category were related to reading and text skills. There were altogether nine occurrences mentioned by the teachers related to text skills and reading skills. It concerned being able to work with different types of texts and media. This is also an indication of multiliteracy skills. Reading and reading strategies were

considered to be a point of entry to text. Preliminary understanding, furthermore, is constructed from pupils' reading skills. This is clearly an indication of professional background in language studies affecting their conception:

> "… that one knows how to read in multiple ways, information is particularly the reading of facts…" (Elisa)

When the teachers were asked how the elements of information literacy skills emerge in the CC2014, one teacher said that pupils' own pro-activeness in information seeking is going to grow. Hilda felt that, until now, the textbook has been the major source of assignments and central concepts. However, now pupils have to go further. According to her, pupils have to assemble and structure information more. She felt that the occurrences in the CC2014 are '*coated with sugar, like in literary style*', hinting that some issues are somewhat far from reality.

SCHOOL LIBRARIANS

In the interviews of school librarians, there were also indications to issues which can be considered to have a preliminary nature. There has to be an understanding of information for example the idea of understanding the information structures and forms it is represented in and understanding how to work with information. School librarians also emphasised the understanding of information need and the subject at hand:

> "Information management skills means that there is some sort of general understanding of information, how information is structured …" (Anneli)

The viewpoints of the librarians differed from the preconditions of the teachers. The librarians were found to stay in the library/information-related discourse, whereas teachers had a text/reading-oriented discourse. This emphasis on text and reading was present to a lesser extent in the librarians' interviews compared to the teachers' conceptions.

10.2. Phase 2 - Inquiring Mind

CC2014

Phase 2 combines three issues 1) imagining and observing, 2) disclosing experience, and 3) critically and boldly reacting to the issues at hand. All three issues have common nominators, namely, keeping an open mind, thinking outside the box and being active in reacting to issues. This phase is an example of how teachers should

teach pupils to study and, furthermore, study the issues they do not consider easy at first.

Pupils need to build tolerance for information conflicting with their own understanding and think of how to examine the issues from different angles and then build their own conception of the issues, which should be based on unbiased information and facts. This requires an open mind on the part of the pupils and the teacher must enable open dialogue:

> "The pupils are guided to realise that information may be constructed in many ways, for example by conscious reasoning or intuitively based on personal experiences." (Finnish National Board of Education, 2016, p. 21)

This phase includes the notions of using imagination and observation skills for learning. Pupils need to be encouraged to use their previous knowledge and experiences in thinking how that can promote learning. Pupils develop an open mind and think about tasks and the studied phenomena from several perspectives. Observations about the surrounding society, nature and other phenomena are important when teaching transversal competencies and in multidisciplinary learning modules.

The CC2014 further strongly emphasises the need to bring the pupils' own space to school. This means that the skills the pupils have acquired outside the school should also find a place inside the school and in learning. Beyond skills, this also means the experiences and experimental knowledge pupils have gained in school and outside of school. Teachers are expected to enable and encourage pupils to bring their experience knowledge forth:

> "Opportunities are created for project-type work, studying in modules, and cooperation both within the school and with actors outside the school." (Finnish National Board of Education, 2016, p. 29)

TEACHERS

The teachers made no references to these types of activities or ways of thinking as a part of information literacy conception. However, the interview material revealed potential problems in this field when working with pupils and trying to get a project started. The inquiring mind phase could bring more wide-ranging ideas to the classroom practices. According to the CC2014, teachers also have to develop tools to make this reality in the classroom and especially with the pupils who have challenges.

The teachers' conceptions have two phases (see Section 8.1. phases 3 and 4) before moving into information seeking issues and to the Activity section. Merely one teacher mentioned the phase for inquiry.

Another phase in the teachers' information literacy conception that falls into this phase is the Information Environment (phase 4), which was separated to its own phase. These references are closely related to multiliteracy, but present an information rich environment where the pupils function and study:

> "Aren't we acquiring information by reading?" (Hilda)

> "And it is in no way only reading of words, but also colours and pictures and symbols…" (Johanna)

SCHOOL LIBRARIANS

There was no indication in the school librarians' interviews of issues related to an open mind and inquiry. There was, however, mention of information needs, a similar point was presented among the teachers as well. To summarise, the inquiring mind is presented widely in the CC2014 texts, but there still seems to be some distance to this being a part of IL in both teachers' and school librarians' minds.

II Activity

10.3. Phase 3 - Information Seeking and Searching

CC2014

Information Seeking and Searching are crucial in information literacy. In this case, phase 3 is combined with thinking of the relevance of the found information. The CC2014 describes this to be about the skills in information seeking as a whole. It also means the understanding of situations where an individual encounters information. The CC2014 additionally emphasises diverse possibilities and versatile information seeking. The learning environment has to offer stimulation as well as possibilities for information seeking. The teacher has to guide pupils to versatile information seeking and introduce them to diverse information sources. The verb guidance is an activity that recurs in all of the phases.

TEACHERS

This phase is dominated by the phrases "to seek information" in the teachers' utterances. This is a similar finding with the CC2014. These occurrences are all upper level general statements. The teachers did not elaborate on it more. The idea of the relevance of information was also mentioned in four teacher interviews. The pupils

have to distinguish the important from unimportant, relevant from irrelevant. Moreover, there is a need to understand how to make this distinction:

> "… that can look for in the right sources and the management means that the information can be used in the right way for each purpose and meaning." (Elisa)

> "… to search for essential things… " (Eveliina)

One teacher especially, Johanna, saw the starting of an assignment as problematic when pupils were expected to choose their own topic to study and then progress to make some sort of presentation. Many times when a project begins, some individual pupils may just sit and stare, finding it difficult to begin at all. When she was asked what causes this, Johanna replied that it seems to be a characteristic, which in a way labels the entire school attendance for those particular pupils. Inability identify a subject to study was described as:

> "a sort of emptiness, distress, too big issues, cannot function" (Johanna)

In conclusion, there is considerable weight put on the information seeking and searching, but more as an entirety or as a concept, the issue was not explained in more detail.

SCHOOL LIBRARIANS

This phase seems to be at the heart of the school librarians' work. This is not a surprise since this phase is known as one of the core activities of the entire librarian profession. One school librarian[5] even stated, "*Information management skills are more of the teachers' job*". Moreover, this person felt, "*It is enough to master the tools for information seeking.*"

In the interviews, the issues regarding this phase were library-oriented, meaning that the library materials, databases and information seeking within the walls of the library formed the core. There has to be an understanding of where to look for information. These detailed explanations were missing from the teachers' responses. Search techniques were also mentioned; pupils have to understand when to modify their search to suit their goals and when they should supplement their search. The occurrences that emerged in the school librarians' interviews were largely related to the skills in information searching and understanding what to do:

[5] The pseudonym has been left out because of research ethical reasons.

> "… to understand that there are many ways to search, different sources, platforms, understand the meaning of search terms, to understand the Finnish language structure (because of) shortening the search term …" (Anneli)

> "… what is a search term and then show the title search and author search … and then for older pupils connecting this to teaching about the database. I teach the combining of search words, and there, at the same time, we go through the local database…" (Ville)

Anneli had a feeling that information seeking in schools has become too much about Internet searches. Pentti had the similar impression of the pupils' information seeking habits:

> "There is too much emphasis to Internet information seeking and the database searches have been left out." (Anneli)

> "Well, this attitude that Google has it all; everything is found there" (Pentti)

Many of the replies by the school librarians can be considered as recommendations of what skills pupils should be taught. The school library perspective was strong with all the librarians, like Liisa:

> "… the pupils have to grasp that they have to go to the library - that is where they will fill information." (Liisa)

There were some issues that the school librarians found difficult. Pupils are unaccustomed to more advanced information retrieval. They had observed that pupils do not always understand which type of information could assist them in their task. Hastiness causes the pupils to use only one source, since their goal is to finish as quickly as possible. Moreover, pupils do not stay to ponder nor do they ask for advice. Laziness was also mentioned:

> "Well, taking the path of least resistance, not willing to go through the trouble, not wanting to think about what they are seeking for." (Pentti)

In conclusion, the teachers and school librarians mentioned similar types of problems the pupils have when they are seeking information. The interesting finding in this phase is that the CC2014 places less emphasis on this phase than the interviewed teachers and school librarians did. The school librarians place even more emphasis on this phase and they went deeper into describing the methods, materials

and search tools. The difference here lies in phase Information Environment (phase 4) in the teachers' conception. The school librarians were more restricted to the library's resources, whereas the teachers' views encompassed a broader information environment.

10.4. Phase 4 - Process

CC2014

In phase 4, occurrences were registered when a viewpoint related to process was found. As explained in Section 6.1.1., process thinking can be found in several places as listings of verbs and activities indicating an information literacy process, but the term 'process' itself was present in only three places. This may explain the few occurrences in this phase. However, the CC2014 does not offer a model for the information searching process, cf. '*pupils need to explore the phases of the information management process*' and '*the pupil can name the phases in the process*.' This means that teaching the phases of the information management process to pupils is up to the teacher. The gathered occurrences show that the CC2014 concentrated on skills and actions rather than a model to depict a process - phase after phase heading towards a certain goal.

TEACHERS

There was only one teacher who mentioned the word 'process' and for this reason her occurrence was placed in the preconditions section. Johanna had a very holistic comprehension of a process and she felt that it was difficult to detach guidance in information management skills from the "whole process". By this, she most likely meant the entire process type of learning and the projects schools often engage in these days:

> "The first question is usually how one should get started and what one should be looking for. …Then, when something is found, one has to choose the most appropriate for the assignment. … And then, something which is also relevant in choosing information to use is the source criticism. …And then still, one has to understand what to do with the information." (Johanna)

SCHOOL LIBRARIANS

There was one mention of process in the interviews with the school librarians. School librarian Anneli felt that the process of information literacy is a lifelong process and is, in addition, part of a certain phase in the studies.

All except one school librarian had a process-like idea when they started to unravel the issue of information literacy. However, one librarian had a significantly different perspective; while the others listed issues that must be covered in a more or less random order, he approached the issue from the perspective of primary, secondary and upper secondary education. He explained how and in which forms information literacy issues could be taken up on different levels. This perspective was very different from that of the others, since the focus was on different school levels, not on issues to be presented as information literacy.

To summarise, it can be concluded that a process is an underlying way of thinking - there is something that has to be done before something else can happen. Process-like thinking was evident in the interviews, i.e. the interviewees described the conceptions in a process-like order:

> "One has to have some sort of understanding of the structuring of information. … Then one has to understand the information need relating to different situations, and to have an understanding of how to start seeking information. … Then there has to be an understanding of the procedure in searching for information, the understanding of context and, furthermore, one has to evaluate the information critically. … Sometimes when you see that the search has gone off track, skills are needed to rectify the situation…" (Anneli)

The term process' itself was, however, mentioned only three times in the text and twice among the interviewees.

10.5. Phase 5 - Evaluating Sources and Critical Thinking

CC2014

Critical thinking and evaluation of information was widely present in the CC2014 text in different forms of expression. The evaluation of the found information sources and their credibility played a significant role. Pupils are taught to evaluate different types of sources, how search engines and databases work. These issues are strongly situated in the knowledge territory of libraries and information science.

In addition, the CC2014 encourages pupils to develop their skills in evaluating the retrieved information from diverse sources. The text also mentions the skills in citing the sources in their own texts. This activity is related to copyright issues and

understanding plagiarism, as well as to bringing the ethical use of information to the pupils' awareness.

TEACHERS

These issues emerged in the interviews of all teachers. Pupils must learn how to compare information, evaluate sources critically and to scrutinise the reliability, truthfulness and credibility of the information they find. In addition, pupils must learn to differentiate appropriate information, which is useful to their assigned tasks. Furthermore, knowing how to cite sources is required.

Searching for relevant issues is all part of working with the retrieved information. This does not involve merely picking out information and handling it; rather pupils should be able to ask the questions: who, where, how and for which purpose. Handling information was mentioned as the opposite of merely picking out information from somewhere. Johanna felt that the issue of critical thinking is a part of general knowledge:

> "When pupils' knowledge of the world is weak, the conclusions of the texts they work with can be difficult and wrong conclusions are easily drawn. If one has a weak understanding, let's say, of a historical period…. One has to have general knowledge to be able to be critical about the information." (Johanna)

All of the teachers mentioned these issues in more than one way, and this is the reason for the large number of occurrences. This is also an indication that this phase was very important to the teachers. The teachers mentioned the struggle some pupils have and this naturally brought substantial attention to this phase:

> "The pupils have to know how to cite, how to summarise, really know what belongs where, is this essential. They have to know how to compare, evaluate the sources and their reliability." (Hilda)

Two teachers mentioned the difficulty of reading in general and concentrating on reading somewhat longer texts. Another issue challenging the work is the hastiness and the lack of concentration in general.

SCHOOL LIBRARIANS

Critical thinking and critical reflection of sources played a major role in all of the school librarians' interviews, an even greater role than in the CC2014. The issues mentioned in the school librarians' interviews were, for the most part, the same as those that emerged in the teachers' interviews: choosing the most useful information

and the evaluation of the reliability of the information. Relevance of the information to the pupils' own task was mentioned by one school librarian[6]:

> "The pupils do not meet challenges in their information seeking, since the teachers say it is ok to use the Wikipedia as a source".

When it came to evaluation and critical thinking, school librarians mentioned some issues they had observed as being difficult for pupils. Additionally, they mentioned the challenges in reading and troubles with concentration. The pupils' trusting attitude towards the Google search engine and Wikipedia also emerged in the conversations:

> "For some younger pupils, the mechanical reading skills may still be quite inadequate." "… the pupils' skills in source criticism may be so weak that they don't necessarily choose more than one source, or rather Google chooses…" (Kasperi)

Another issue that was mentioned was the difficulty in using a book as a means of finding information, from reading to using contents and indexes. Pupils have problems with evaluating information, and they try to find the easy way out:

> "Well I think the biggest problem is impatience, not being able to take adequate time to do the work properly and stopping to think, and certainly not asking for advice…" (Pentti)

In conclusion, both groups mentioned the questions, which should be posed when having encountered a questionable piece of information: who, why/for which purpose, where and how. Furthermore, there is a need to understand the complexities in evaluating sources. Both teachers and school librarians mentioned similar types of issues, which the pupils struggle with. Teachers put more emphasis on the notion that pupils have trouble relating the found information to their task at hand. School librarians experienced that most of the problems were related to using methods in information searches that are too simple, for example Google and Wikipedia. Looking for the easy way out and laziness were mentioned in both groups:

> "Well, the first challenge altogether is that they need to look for information in the first place, and by crossing that threshold…" (Anneli)

[6] The pseudonym is not mentioned for research ethical reasons.

10.6. Phase 6 - Using Information

CC2014

The text emphasises the role of the teacher and the school's learning environment enabling the use of information. The text also emphasises the role of the teacher in creating opportunities for pupils to work and present arguments independently and in groups. One mention was about the goal of pupils knowing how to use knowledge gained outside of school in their texts and writings.

TEACHERS

There was a strong indication of using information being a part of information literacy; one has to know what to do with the found information. There has to be an understanding of how information becomes one's own knowledge as a result of cognitive processes. Important was, furthermore, how to use the information according to the pupils' assignment and need. The information has to be processed and linked to a larger context. This has a connection to the core curriculum, where the transversal competencies urge teachers to use phenomenon-based learning methods to work on cross-curricular themes:

> "And then there is this what one does with the information … understand to which larger context it belongs to or what kinds of connections are built between issues." (Johanna)

Since the interview question was phrased *"Can you in your own words tell, what information literacy means to you?"* the occurrences are issues, which the interviewees deemed important. The CC2014 presents no tools for how the teachers should teach pupils to work with the information. Therefore, the core curriculum text does not add to the teachers' range of skills and methods in teaching information literacy.

There was one teacher, Elisa, who said that she feels that school librarians may not be aware of the full picture of the situations happening in classrooms, since they are not an integrated part of the pupils' life, indicating to school librarians not being a part of working with information:

> Elisa: "I cannot just suddenly, here, tell you what it could be, I guess. Maybe it is, in a way, through the Finnish lessons or lessons we see with which problems we tackle, these situations remain distant to librarians…

Researcher: "Because they see the librarian so seldom?"
Elisa: "Yes, …"

SCHOOL LIBRARIANS

The school librarians did not place similar emphasis on the use of information as being part of information literacy. No occurrences emerged in this phase among the school librarians. The interviews gave some examples of different professional identities. One of the school librarians felt that when the information seeking is done, then it is up to the teacher to see what happens after that, including using information, not the school librarian:

> "When teaching information seeking… it goes to the teachers' lot from there onwards of how to use information, I more or less only have the part of teaching information seeking." (Pentti)

The quotation by Elisa, a teacher, (see further above) may present the reason why the entire reflection section played a weak role in the school librarians' information literacy conceptions; the work takes place in the classroom and the teacher continues the work with the pupils outside the library. The information seeking is merely a phase in the work led by the teacher, which takes place in the school library.

Nevertheless, the issues concerning the work taking place after the Activity section were present in the interviews of the school librarians. The problems in these phases are considered as follows:

> "We still see pupils in comprehensive school with references in their presentations like 'source: Google' and 'source: Wikipedia'…" (Anneli)

In summary, this phase separates the thinking of the teachers and school librarians. The teacher is used to scrutinising things from the pupil's perspective of learning and progressing in studies. The librarian does not see this happening, as the activity involving a school librarian usually ends when the pupils return to the classroom.

10.7. Phase 7 - Using Sources

CC2014

Phase 7 could have been combined either with Using Information or Working with Information. These occurrences in this particular phase, however, emphasise the use of found sources especially in the pupils' own texts and assignments. The pupils are introduced to using various sources in diverse ways. Also, the occurrences in this phase describe strengthening the use of sources and teaching to diversify the use of

sources. This encourages pupils to use sources in a more appropriate way, to move away from single-source assignments. This phase turns the attention to the use of and work with sources, not merely with information.

This addresses the problematics of pupils settling for only a few sources and copying and pasting information from sources without the understanding the techniques of rephrasing the text. Again, the CC2014 text assigns a great deal of responsibility on the teacher to introduce, teach and guide the pupils in using sources in an appropriate way.

TEACHERS

With the teachers, no similar occurrences emerged in this phase. However, according to the teachers, the elementary use of sources is a problem. The teachers mentioned that pupils tend to use only one source, being somewhat lazy in reading longer and more demanding texts, which is a challenge when the idea is to use sources in a versatile manner. Pupils have difficulty comparing materials; they cannot process the information and they settle with what they have. Furthermore, pupils have difficulty seeing the usefulness of the source from their own perspective. This calls for a deeper understanding of how to work with information - what skills and which tools are needed, and, most of all, how are they to be used?

The interviewed teachers did not seem to have any remedy to cope with the problems they mention themselves. Sara mentioned that in her assignments, she requires pupils to list at least one printed source, just to make the pupils use sources other than digital:

> "I have told the pupils that they can use Internet sources, if we are doing a more large scale assignment, but they have to find some printed sources as well, just to learn how to use print media, and to go to the library and get the information or to ask for help." (Sara)

The pupils can have difficulties with the general idea of the use of sources in the form of understanding why copy and paste are not acceptable and ask questions '*do I have to mark the sources?*'.

Johanna, however, wanted to bring up that there are plenty of pupils who are very skilful, interested in the world and they have unusually good skills for their age. Hence, there is a lot of variance between pupils concerning the issues of reading, information seeking and critical thinking.

SCHOOL LIBRARIANS

The school librarians emphasised critical thinking, but when the process progresses to working with the information and using the sources in a versatile way, the school

librarians did not mention this as part of information literacy. Nonetheless, the librarians had also observed or were aware of the pupils' lacking skills, i.e. using only one source, hasty information seeking and not wanting to be troubled with too much work. All of these relate, more or less, to the insufficient use of sources:

> "The pupils don't necessarily realise that everything that they find in the Internet will not advance their problem solving." (Kasperi)

To conclude, the CC2014 puts a fair amount of weight on how to work with and use the found information. There is no explanation found why this is not evident in the interview results, considering the amount of problems surfaced in the interviews.

10.8. Phase 8 - Working with Information

CC2014

Typically, the found information has to be processed to start constructing meaning of an issue. The pupil needs to read, make notes, summarise the information found in a source, revise and build new compositions. To construct meaning from the found information, note-taking and comparing sources has to occur.

This phase indicates that the problematics of easy information acquisition and copying and pasting found information to school work are being tackled. One of the goals in the CC2014 aims at the practice of interpreting both text and information. It also encourages pupils to develop skills to interpret their observations in an appropriate way.

The teacher is encouraged to create situations for individual and collective deduction in working with information. This phase may be taken for granted when actually working with information. However, observing the text, spending time with the texts, making interpretations, letting the issues set for a while, and going back to the information/text will more likely result in learning than what not paying attention to this phase at all would. Working with found information requires reading. However, the interviews revealed that this can be a stumbling stone for pupils.

TEACHERS

The teachers had a strong orientation towards text and reading skills, which are considered general skills as they were situated in the preconditions. However, there were two instances where one teacher mentioned citing and summarising and another teacher mentioned comparing sources. This does not necessarily mean that other teachers would think that these issues are not important, just not a part of information literacy. This, as well as some of the other issues, may be so self-evident that they are taken for granted. However, this interpretation did not come up in the interview

situation. One teacher mentioned the problems in using a book when working with information:

> "Many pupils read very little, so everything that has to be acquired by reading is troublesome…" (Hilda)

Teachers Sara and Elisa specified that pupils have difficulties using a book to seek for information. Sara had assigned a task where the pupils had to find what *metaphor* means in their textbook:

> "It was surprisingly hard, not all knew how to use the index. They just tried to find it by looking through the book." (Elisa)

Sara also reported that pupils have difficulty using books as a source of information. Pupils do not know how to use the table of contents to find out the themes in a book:

> "… when a pupil could not find the needed, the teacher asked the pupil, "Did you check the Table of Contents?" – and the pupil replied, "What is that?". And if you tell them to open the book to chapter seven, there are pupils who ask, "On which page is it?" (Sara)

Additionally, the difficulties in reading long texts were mentioned. This was also suspected to originate from reading difficulties and poor preparedness to read, but the problem was also accredited to sheer laziness. These difficulties add to the challenges in this phase where the found information really needs to be studied, observed and compared.

SCHOOL LIBRARIANS

There was only one observation in the interviews with the school librarians connected to Working with Information. One school librarian mentioned that in this phase pupils need to do some reading, writing and note-taking pertaining to the found information and in this way compare findings. Overall, interpreting and observing information does not seem to belong to the scope of the information management skills process, according to the interviewed school librarians. This is in line with the other phases in the Reflection section with very few occurrences:

> "Then they have to make notes, read and produce text." (Liisa)

Kasperi was amongst the two school librarians who felt that the deeper knowledge exists in books. Librarian Anneli felt the same way. However, as with some of the teachers, she had observed that the use of books is challenging. One of the issues in the CC2014 is to enhance the use of non-fiction books in teaching. Anneli used the word *challenging* to indicate that the pupils are too indifferent about using a book:

> "And the book: they don't feel like opening the book, not even reading from the back, not to look at the table of contents, not the sources, or the index." (Anneli)

It can be concluded that both teachers and school librarians did, however, recognise several issues, which create obstructions in the pupils' behaviour during this phase. These are similar to what has been observed to create problems in information seeking phases as well. One of the issues that emerged from the interview data of both professionals was the problematics of using a book. Pupils are not used to using the table of contents or index and this makes the use of books difficult for finding information.

10.9. Phase 9 - Building Knowledge

CC2014

The aim of the entire information literacy conception has been, from the perspective of learning that the pupil is able to build knowledge combining several sources. This is a cognitive process where all phases lead to making sense of the new information.

After the previous phase, where the pupils interpret the single pieces of information they have found, they need to start combining the found information sources and in this way build their own understanding and knowledge about the issues at hand.

The CC2014 emphasises issues such as ways to structure knowledge, construct new perceptions and viewpoints, use information in a purposeful way, use sources in the texts pupils produce and reinforce earlier skills. The teacher is prompted to investigate together with the pupil, to practise and create opportunities to work on these skills both individually and in collaboration. Pupils are also encouraged to handle unclear and controversial information.

TEACHERS

The purpose is to guide pupils to structure the found information and utilise all of the different materials, as well as to make justified arguments on the issue under enquiry. There was only one teacher who mentioned building new knowledge. The other four

formulated the issues as '*to combine found information with existing knowledge*'. This again, leads to the building of new knowledge.

This could imply that not even all the teachers thought that this was relevant, even if this phase did receive attention in the CC2014 text. The constructivist learning philosophy was already used in the previous CC2004, but in CC2014 there is an even stronger emphasis on pupils creating their own understanding and knowledge about the topics they study. The learned information is a piece of a larger knowledge structure and by combining these learning takes place.

This phase is also problematic for pupils and they need extensive guidance in this area. Pupils try to finish school assignments too quickly:

> "When the information is found there is not necessarily much processing going on…" (Eveliina)

The problem also seems to be passiveness, taking the easy way out and not having enough motivation to read long texts:

> "It seems that they want to take the easy way out, you would have to take the trouble, not to settle for whatever comes first. And it is challenging to teach, I try to teach them that 'read the source, read the text, listen', do not just copy. Only when you have told the issue in your own words, you have understood it. And it is very challenging to get them to do that." (Eveliina)

Pupils may not necessarily understand why copying and pasting text from a source into their own work is not permitted. One teacher told about a situation when she questioned the pupil for copying and pasting text and why the pupil had not rephrased nor written a source next to the quotation, the pupil had replied:

> "Why do I have to write it all over again in a different way since it has been so well written here [pupil pointing at the original text]". (Hilda)

SCHOOL LIBRARIANS

This phase played just a minor role amongst the interviewed school librarians. There were only two librarians out of five who mentioned that information should be structured and added to the pupils' existing knowledge structures.

Another comment from a librarian involved a completely different meaning. This librarian specifically felt that what happens in the classroom after the school librarian has helped with the information seeking phases is no longer the concern of the school librarian but of the teacher.

In conclusion, the teachers feel that the building of knowledge has to take place at this point, after the information has been worked with. Then again, only one school librarian mentioned this to be a part of information literacy, contrary to what one school librarian said in phase 7, i.e. leaving the entire issue up to the teacher. The other three did not mention this issue in one way or another.

10.10. Phase 10 - Copyright and Ethics

CC2014

Phase 10 was separated from critical thinking, which also contains issues concerning ethical use of information in the form of citing sources. This phase is related to understanding the ethical issues and calls for a discussion of what copyright, privacy and ethical issues are and why this is important. Pupils must adhere to the copyright rules, master reference systems and respect privacy and copyright issues. The CC2014 text additionally mentions ethical communication and teachers guiding the pupils into understanding what ethical issues mean in the web. Teachers are obliged to guide the pupils into mastering these issues.

TEACHERS

None of the teachers mentioned ethical issues in the context of information literacy. The essence of the interviews was to find out what information management skills means to the interviewees; they had to respond in their own words without preparation in advance. If they were specifically asked whether ethics are also a part of information literacy, it is possible that they would have responded affirmatively. However, when the interviewees were asked to define information management skills without prior preparation or time to think about the issue, the teachers did not mention this aspect at all.

SCHOOL LIBRARIANS

There was one school librarian who mentioned understanding ethical issues and actions. When she mentioned multiliteracy in connection to the CC2014, she stated that copyright issues in assignments intended to build new knowledge are overlooked immensely. In summary, although this is an important part in the CC2014 text, this phase is, for some reason, not evident in the interviews with either of the professional groups.

10.11. Phase 11 - Producing Information

CC2014

Phase 11 with seven occurrences was clearly evident in the CC2014. Both producing information and producing text are mentioned. The CC2014 text maintains an expectation that teachers will train and guide the pupils in diverse ways of producing information and enhancing existing text skills. Moreover, the learning environment again has to enable this and teachers have to create situations and possibilities to make this production possible.

TEACHERS AND LIBRARIANS

Neither the teachers nor the librarians interviewed for the present study mentioned producing information as a part of information literacy. This was clearly something that was not associated with information literacy. As a summary, it can be concluded that even if the CC2014 text is listing a whole range of issues relating to producing knowledge and text, this issue did not come up in the interviews.

10.12. Phase 12 - Communication

CC2014

Communicating the produced media material and disseminating the material via a multitude of channels is evident in Phase 12. There is a mandate to teach pupils how to act while presenting and distributing information, be it to the class or to larger crowds with the help of some media channels. Pupils present their information according to previously learnt rules of ethics and procedures. The CC2014 encourages pupils to use their multiliteracy skills to make an impact in the media. These skills also have to be trained.

TEACHERS

There were no responses in the teachers' interviews to indicate that Communication was a part of their information literacy conception. The CC2014 states that the ways of mediating information should be trained in class. There is a gap in the conceptions among teachers. The reason could be that this is just not considered to be a part of information literacy, although it is still taught in class. When comparing this phase in the teachers' conception of information literacy with the conception found in the CC2014, there is a difference.

SCHOOL LIBRARIANS

There was only one school librarian who mentioned communication as an issue within information literacy. She stated that presenting the findings is actually the

second last part of the information literacy process. Once again, it can be concluded that this is the last of the reflection section, which had next to no response from the interviewees, despite the role of communication in the CC2014.

10.13. Outliers

Some issues emerged in the interviews, which were not found in the CC2014 analysis. Three different librarians stated such an issue in the interviews. One of the issues was the notion of safekeeping information as a part of information literacy. The librarian in question mentioned it several times from the perspective of being able to easily access the information again. One librarian mentioned the use of devices as part of information literacy. ICT skills are a part of the transversal competencies and they are not as prominent in the subject of Finnish Language and Literature; rather, they are a means to assist pupils in their studies.

The third outlier mentioned pertained to evaluation of the process and succeeding in the process. Even if many of the aspects of this information literacy conception are also criteria for evaluation in the subject, no one mentioned that pupils should be able to evaluate what they did and how they performed. There was nothing in the teachers' interviews that could not be found in the analysis of the CC2014.

10.14. Summary

This section provides answers to the third research question. *What differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the core curriculum of 2014?* Table 8.5. in Section 8.3. presents the quantitative results of the analysis. The qualitative results of the CC2014 analysis in this Section indicate a versatile understanding of information literacy. This proves that more emphasis is now set on how to work with information.

First of all, the phase Preconditions sets an example of how the CC2014 evidently attempts to make a shift towards working methods which would more firmly support the inquiry and phenomenon-based learning. However, there is no indication of this in the interviews. Similarly, Inquiring mind has no occurrences in the interviews, while the CC2014 builds a strong case for invitation to inquiry, curiosity and an open mind.

Most united was the view of Information Seeking and Searching, and Critical Thinking as part of information literacy. The Process seems to be present as an underlying theme, however, not clearly present as an expression in the text or in the interviews. The results begin to differentiate again after the Activity section. In Reflection, the teachers had some viewpoints to Using Information, Working with

Information being a part of information literacy, whereas there were nearly no occurrences of these phases in school librarians' conceptions. The case concerning phases Building Knowledge and Producing Information is quite similar: both professions do not see these phases as being a part of information literacy. Moreover, it is significant to observe that there were issues named by the interviewees which found no place in the CC2014 structure.

The interview results indicate that there are differences in the conceptions between school librarians and teachers concerning information literacy. Teachers put more weight on the areas of Planning and Reflection than the school librarians. The school librarians had a strong emphasis on Activity, information searching and critical thinking. When considering the interview results with regard to terminology, there is more dispersion in the personal conceptions among the school librarians than among the teachers.

11. Discussion about the information literacy aspects within the school community

The interviewees were additionally asked two questions concerning the presence of information literacy in discussions in their school communities. The results of this section add to the understanding of the emerging discourses.

11.1. Do discussions concerning information literacy take place in the school community?

This question regarded the issue of whether the school librarian-teacher counterparts discuss information literacy issues in relation to their work. *Question 14. Do you have discussions with the librarian / teachers about which information management skills should be taught and why?* The results are elaborated in Table 11.1. These results provide a deeper understanding of the information literacy discourses.

Table 11.1. Discussion between school librarians and teachers about information literacy (Question 14):

	Teachers	**Librarians**
School 1	Once a year, when planning the information-seeking course. It involves mostly the practical arrangements.	With the Finnish Language and Literature teacher, when planning a yearly information seeking course. Topics pertain to society and critical thinking.
School 2	Unofficial discussions in the corridors, small talk type talks with no special issues.	Yes, but just occasionally and to lament pupils' information behaviour.
School 3	Not really. Nothing official or prearranged. They have a package already, which did not need any discussing. Teachers talk about technology amongst themselves.	Occasional unofficial discussions in the corridors.
School 4	No discussions.	No discussions of anything, which has to do with teaching.
School 5	Only regarding fiction literature.	With those that most of the cooperation is done, with whom there is a similar mindset.

TEACHERS

There does not seem to be any forums in any of the studied schools where information literacy issues could be raised to discussion at school level. A common discussion culture was not evident in the answers. None of the interviewees introduced the issue in the schools, e.g. in teachers' meetings:

> "These issues have just been chats in the passing; we have not really lingered or pondered over them like 'here we have this term, information literacy, so you first tell me what you think of it…' no, but in some curriculum issues possibly. […] Maybe in some discussions briefly during the breaks, but I cannot say we would really have stopped to really think about the issue." (Sara)

> "There are often issues that arise in some situations, and not like 'next Thursday at 14.30 we sit down to discuss information management skills', but the situations come naturally at the right time and place." (Johanna)

All the discussions are unofficial conversations occurring when passing by in the corridors. With teachers, the discussions were often more inclined to teaching and learning. This aspect of discussion was missing in the school librarians' answers:

> "Of course with the subject teachers, we discuss issues relating to certain subjects, exchange ideas." (Eveliina)

> "We [Finnish Language and Literature teachers] co-operate quite a bit with history teachers; there we have these interdisciplinary studies where we discuss a lot." (Elisa)

One teacher was rather new to the school and had only needed the school librarian's help concerning fiction. It was further mentioned that the discussions take place in connection with the planning of a yearly event, a part of a course, in Finnish Language and Literature:

> "There have been fewer discussions this autumn; we just had the talk last year about what these lessons should include, and this year I just hoped that with the trainee[7] we could see the classification system in the library." (Elisa)

[7] Referring to a teacher trainee.

> "Well, [we have] not particularly lately, because we have this package…" (Johanna)

SCHOOL LIBRARIANS

The school librarians reported on similar issues, particularly about the discussions not being arranged. As with the teachers, most of the discussions take place in the corridors and in brief encounters:

> "Yes, no really deep conversations take place here with the teachers." (Pentti)

The planning between teachers and their school librarian counterparts seems to take place only once a year in accordance with a project in the seventh grade related to information seeking:

> Pentti: Well, surely there is some discussion with the Finnish Language and Literature teachers when we plan the information seeking course contents. I think rather those in social sciences… the teachers in social sciences should be more involved in this.
> Researcher: How do you motivate this? Is it that they are not active?
> Pentti: Not really active, no. There is room for improvement; but since they even in the social sciences subject, [in social sciences] source criticism is very important and it really should be included.

However, one school librarian mentioned, in particular, that he partakes in these discussions as a private person, suggesting that he limits his professional role to the library. In his interview, it is evident that he places himself in the professional category of school attendant and school clerk:

> "No [these issues do not come up in discussions]. Well, we don't discuss them that much in general. I don't discuss any issues related to teaching with the teachers. Rather, it is nice to have discussions on coffee breaks and at lunch, but we discuss some nice issues. I am not part of any committees; no one has asked me to join. Should I just go? And I am not in other meetings either…"… "But our attendant or clerk doesn't participate either." [8]

[8] Pseudonymn removed.

11.2. Which issues are discussed in the school community

The second issue under scrutiny was to find out which issues are most often discussed in the school community. *Question 15. Which aspects or areas of information management skills / information literacy are most often a topic of discussions in the school community?*

Table 11.2. Themes related to information literacy discussed in the school community (Question 15).

	Teacher	**Librarian**
School 1	Why pupils have difficulty concentrating on long texts.	Lamenting over the social media and modern society and how it has engulfed the pupils.
School 2	Copying information from Wikipedia.	Lamenting about digital natives.
School 3	How being a digital native does not mean having good information seeking skills.	How the Internet has factual information in bits and pieces; the deep information is in books.
School 4	Nothing special to mention.	Discussions only as a private person. No specific issues to mention.
School 5	Occasional brief discussions with subject teachers take place.	The trustworthiness of information and evaluating information.

TEACHERS

There was no clear emphasis on particular issues. When it comes to information literacy issues, one teacher lamented about the '*so-called digital natives not having digital skills*', pupils not being able to concentrate on long texts, poor skills in information seeking and searching:

> "Well one topic for lamenting, for sure, is that being a digital native does not mean having good information seeking skills. … so this proper information searching issue is in pretty bad shape. … This is what we lament about and then just discover that a lot of basic level instruction is still needed." (Johanna)

The credibility of information was mentioned in the discussion concerning Wikipedia and how pupils copy and paste information in their school work. There

was also one teacher who took up the problematics of pupils having difficulty concentrating on reading long texts:

> " …. The pupils have difficulties concentrating on long texts - comparing what is important in history, concentrating on reading and finding the essential information." (Elisa)

One teacher did not mention any specific topics of discussions and the discussions more or less take place with other subject teachers.

SCHOOL LIBRARIANS

The issues encountered in discussions, according to the school librarians, concern the information literacy skills of pupils from the perspective of understanding the credibility of information, the concern of understanding where to find the right information and how the social media consume youth:

> "Well what we lament over is how the social media have taken over the youngsters. There may even be very funny comments in class … which always bothers you about what kind of building blocks the young are building their world view on." (Pentti)

Additionally, the digital native phenomenon was mentioned in the interviews. This topic was mentioned by one school librarian. She mentioned it was noticed by teachers:

> "Well the discussions relate to the skills of digital natives and that teachers realise there is no such thing as a digital native. And if there is, it does not mean that they handle these issues very well. Someone always does, some don't, and there are always these who will do super well and those who are truly interested." (Anneli)

One interesting aspect was the juxtaposition of different types of materials. Ville wanted to bring out this aspect when asked about which issues are discussed in the school environment:

> "Well one issue that comes to mind now is the viewpoint that basically the individual pieces of information, fragmented information, which is in the Internet and that basically non-fiction books have deeper knowledge, and this difference should be emphasised to pupils." (Ville)

11.3. Summary

Despite the fact that Chapter 11 does not directly answer any particular research question, it provides a deeper understanding of the learning environment in schools and how the school community discusses the issues related to information literacy. According to the interviews, there are no forums where information literacy issues can be discussed amongst the entire school community. The discussions take place in brief encounters with no prior planning and they mostly consist of lamenting the lack of pupils' information literacy skills. The topics of discussion involve social media, easy access to information and the realisation that pupils lack information literacy skills. These worries are the same within both professions. What can be concluded is that the planned discussions between teachers and school librarians are related more to the yearly cooperative seventh-grade projects.

12. Understandings of terminology among teachers and school librarians

At the end of the interview, the interviewees were asked (Questions 16 and 17), if they thought their professional counterparts in this study understand the terms information literacy and information management skills in a similar way. The responses to these questions are explicated in the following Sections 12.1.-12.2. First, the term information management skills is explained and then the term information literacy. These results add to the discussion of using and understanding the terminology. The results, furthermore, provide an understanding of how the interviewees build on their understanding of the terms. At the end of this section, the results are related to the overall understanding of the conception of information literacy.

12.1. Beliefs of information management skills conceptions

The mutual understanding of information management skills was examined with the following question: *Question 15. Do you feel that the library professional / teacher understands the term information management skills in the same way as you do? Why do you think this is?*

TEACHERS

All of the teachers reported that they have a somewhat similar understanding of information management skills as the school librarians. Three gave a direct affirmative answer, two of the teachers felt that there is similar understanding, but with somewhat different perspectives. There were three kinds of issues that were distinguished in the results. There may be different emphasis, but otherwise conceptions are similar. Then again, Eveliina, for instance, felt that a teacher may have a more wavering, wider conception.

Firstly, a teacher's view of the classroom and subject differs from that of a librarian. There were three teachers, who particularly mentioned that the classroom situation is different from a situation in the school library. Teacher Elisa also felt that because the librarian is not in close connection with classroom work, this may have an effect on not seeing the daily classroom situations in information management skills. Elisa also felt that she and her counterpart school librarian have more or less similar views, but the difference comes from the teachers' subject-related understanding and more hands-on perspective of school work in the classroom.

> "Elisa: Not necessarily [not having similar understandings], it can be that I have a more practical approach, or in a way one which comes from teaching, but all in all I believe we are more or less quite close in our understandings.
> Researcher: So you think your subject approach causes the difference in understanding?
> Elisa: Yes, it might.
> Researcher: What is it in Finnish Language and Literature studies, which has this effect? Can you clarify?
> Elisa: I cannot elaborate on what it could be. Maybe in a way that - not maybe directly through the Finnish language but through teenagers' everyday life or something like that, this could remain partly distant to the library professional, the everyday life of teenagers and the issues with which we struggle in classes, and other things. Maybe something like that."

Secondly, three teachers reported that librarians have a more professional viewpoint, in particular because they have been educated in these issues. Johanna stated that the understanding could be more precise with library professionals, since they provide consultation about different services and they are more knowledgeable in presenting their services. Sara stated that, in her opinion, the school librarian has a more professional view on information management skills. She felt that the school librarian continues with the instruction where the teachers stop. In addition, she stated that there is a difference in understanding, since the subject teachers could get stuck on their own ideas of the issue.

Eveliina felt that the school librarian has a more specific understanding of the term and she based this on the library-specific issues such as classification knowledge. This was because it is part of the librarians' education.

> "[The understanding of information management skills] … is surely partly the same, I suspect, but they [the librarians] have their own branch of profession and this understanding connected to their special knowledge, so that the understanding could be more precise and more clearly defined, I would think, or I would imagine that, for example, the library classification can be stronger…" (Eveliina)

Thirdly, two teachers went on to unravel this issue by taking a general library view on the issue. Sara explained that librarians in general work with all sorts of systems and databases and because of this, the understanding has to be somewhat different.

Johanna linked the school librarian to the general librarian profession. The systems the libraries use creates a different view on information management skills according to a teacher. Johanna further reported that she has not met conflicting ideas in

understanding terminology with the school librarian. She felt that the years of using and collaborating with libraries has given her understanding.

SCHOOL LIBRARIANS

For the librarians, there were some different perspectives on this issue. All five school librarians gave a wavering answer, but the majority of the replies were still positive concerning the similar understanding. The reasons were different. There were, however, two categories that were clearly defined in the replies. For Pentti, the overall position towards all kinds of definitions raised difficulty in answering this question. However, overall, he felt that the counterparts were on the same ground.

One school librarian had difficulties answering the question, since he felt he had no qualification to judge such an issue. He based his lack of qualification on not knowing in what ways these issues are present in the teacher education. He lacked the qualifying education and felt that the work he is doing does not need any qualifications. He resolved the question by answering that the teachers are smart and have the necessary skills:

> "I really don't know. Well, let's say I am describing this as a private person, because I have no education in the field. I don't know how much this issue is present in teacher education. And if it is, it must have an effect on the understanding, i.e. it is more exact and more outlined, the… their understanding. But let's put it this way that everyone here is smart so the understanding is diverse." (Kasperi)

Firstly, there was a viewpoint whereby the use of the library was a question of understanding the terminology; two interviewees associated the issue with the use of the library. Liisa mentioned that because the teachers are obliged to use the library during their time of study, they must have an understanding of information management skills through their use of libraries.

Ville felt that some may understand the terms in a similar way; others may not. He connected the level of information management skills understanding to teachers' use of that particular school library and being in contact with the school librarian. He suspected that there are subject-related conceptions as well as personal conceptions. He also felt that the digital emphasis in schools takes away from library-related issues. There were some teachers, who used the library on a regular basis, but some subject teachers did not use the school library at all:

> Ville: Well, yes, I believe that … these are also, I feel, teacher-related issues, so I would say that, with some, these conceptions deviate also with some… Well, just like this, suddenly I can say that here many

> subject teachers use the library in a different way, some as a space for information resources, I can guess why it is like this…
> Researcher: You mean there are subject differences but also…
> Ville: Yes, but I think there are also personal differences which have an effect…"

Secondly, there was an understanding that the school, teaching and classroom situation give reason to believe that the understanding of the term is different. Anneli stated that, in her opinion, the context of teaching and even lesson time management could have an impact. Schools, in her opinion, override the school library use to some extent and focus on other things. Anneli, furthermore, felt that the majority of teachers understand the term in a similar way as she understands it. She pointed out that the difference may be affected by the ways of working in schools; time management and where to place the teaching of information management skills in the class schedule. In the school librarians' mind, this is the reason why the starting point of information management skills is not the same and there is fluctuation in where and when these skills are taught. In her mind, this theory/practise juxtaposition causes a difference in understanding:

> "Well, some people do understand the term in a similar way as I do, quite many, and, in principal everyone, but the everyday practises come into play here - the hurry, and then those explanations of why they cannot advance in a way the theory would suggest. Then 'we have to consider this and this, and this' and that 'the point is only that they [pupils] get to do things by themselves and in a group'. So these information management skills can, because of this, be situated in different places – even if in discussions just during breaks, or during deeper discussions, the issue is seen in a similar way, but the context and this defines the action and the interpretation coming from that." (Anneli)

Liisa felt that she understands the term in a similar way. She stated that the obligatory use of libraries and library systems for teachers during their studies would have developed this understanding in them.

12.2. Beliefs of information literacy conceptions

The interview questions were formed according to the person interviewed: *Question 17. Do you feel that library professionals/teachers understand the term information literacy the same way as you do? Why do you think this is?*

TEACHERS

These themes are related to a different point of view and to the general idea of the library as a whole. Hilda and Sara gave a definite answer that they had not encountered any differences in understanding this term in communicating with their counterpart.

Elisa, however, related the understanding of the term to the broad definition of text and therefore felt that she may have a wider understanding than the school librarians. She contemplated that her understanding leans more towards speech and communicative issues than that of the librarian:

> "Well, perhaps I think that, like I said, I think of a text and otherwise very broadly, and like I said information literacy that I possibly think more of speech and communicative issues more widely, I suppose." (Elisa)

Johanna had a feeling that she had understood the term somehow wrong, even if it was made clear that there is no right or wrong understanding of the term. She had more or less dismissed the term as she related it to information seeking. She had understood it to be more of finding small pieces of facts:

> "Well, I feel now that I have somehow misunderstood the term! I am not sure … well, well since I have never thought about this information literacy before. … I suspect that I think of it in too shallow of a way, because, for me, information is like 'bus XX goes from place XX to…'" (Johanna)

Sara stated that they definitely have similar understandings of the term with her counterpart. Her point of view comes from the realisation that the school librarian deals with these issues on a regular basis and guides pupils to the paths of information:

> "Well, it [the librarians' understanding] comes from the fact that they encounter it at their workplaces every day when someone comes to look for information. They guide them to the sources of information; perhaps they see a much wider age range there." (Sara)

From this quotation, it can be concluded that she combined the understanding more with the activities of public libraries. This is an example of how the teachers consider all of the library services to be the same.

Eveliina stated that they have a similar understanding, as she generally thought that this term was more specified compared to other terms under study. She also had a feeling that there may be subject-specific ideas of the information literacy concept. Information literacy, for her, was more specific than information management skills:

> "At least I think we understand it in a similar way. At least it is very close, because, for me, the term information literacy is a more individualised term in general. Perhaps the other term, information management skills, so it could, or I think it could, depend on everybody's special field that people define it differently, so that if someone works more with technology, they may think of information management skills like from that perspective, I would think. So, this information literacy could be more precise." (Eveliina)

SCHOOL LIBRARIANS

There were two discrepancies amongst the school librarians. One felt that the term information literacy is very strict and that there is an essence to information literacy that guides all actions. Another school librarian felt that there are subject-related views and variations in the term information literacy.

There was one distinct issue in the librarians' interviews: the school context. According to Pentti, there is no difference in how he and the teacher understand the term. He did, however, suspect that teachers may relate the term more to media literacy than he did:

> "I believe that, with different media, they [teachers] set an equal mark between media literacy and information literacy, so that like they are the same. And partly they probably are…Fine terms." (Pentti)

Additionally, Anneli had a very strict understanding of the term and she felt that this term has never really been accepted. She had the impression that the 'pure' interpretation of information literacy is confused with different applications in the school context.

Liisa was the only school librarian who contemplated that she had a wider understanding of information literacy than the teachers in the school. However, she suspected that there might be subject-related differences in understanding. Nevertheless, she still felt that teachers do understand the term. She clearly thought that there are variations in information literacy, different from the school librarian in another school who had a very strict understanding of information literacy:

> "Well, with it [information literacy], I really cannot put them [information literacy and information management skills] into different packages. I have, in some way, a wider view to this, but what there can be is like, it could be that they in some way differently…. Not better, but maybe they [teachers] can separate them in a better way through their own subject, in a different way." (Liisa)

Ville felt that the answer is very much the same for information literacy as for information management skills, which is partly a similar kind of understanding. Kasperi described the librarians' understanding of the terms to be similar but that teachers may possibly have a more precise understanding of information literacy:

> "I think we might be on the same page [in understanding the term] but I still feel the contents could be more specific with teachers." (Kasperi)

12.3. Summary

In general, the interviewees did not provide clear or unambiguous 'yes' or 'no' answers, but they did explained where they think different understandings may come from and the type of impact they may have. No patterns emerged from the discussions concerning how the interviewees think their counterparts understand the terms 'information management skills' and 'information literacy'; nor can any clear conclusions be drawn from the teachers' responses or from comparing the answers of the counterparts. The responses are often uncertain and contain feelings of how they cannot make such judgements about the other counterparts' understanding. According to the participants, these issues have not been an obstacle in discussions they have had.

Concerning information management skills, the interviewees felt that they are mostly on the same ground with their counterparts in school. One school librarian did not want to make any judgements solely due to lack of professional qualifications. However, this school librarian's counterpart teacher pointed out that the school librarian has a more professional view on information management skills than the teacher does.

The teachers mostly felt that the understanding of the term is more specified amongst the school librarians because of their professional education. Teachers mentioned databases, search channels, services and classification to be school librarians' field of expertise. However, the teachers felt that they could have a wider understanding, in general, and credited this to the following propositions: broad definition of text, speech and communication views as well as subject-related aspects. Teachers also felt that the school librarians somehow miss the action, meaning that they do not see what is happening after the school librarian has, for instance, talked about information seeking. The school librarian may not notice everything that goes on in the classroom. One teacher, however, stated that the school librarian continues where she stops. The remark that a school librarian does not take part in using information signifies that the school library is a sort of separate phase during a project. Nevertheless, both of these remarks point out that there are different parts to the process in which the other profession in a way misses something.

The school librarians, in a way, connected to this understanding of the term the notion of whether the teachers in these schools use the library. Additionally, two school librarians expected teachers to understand the term due to their extensive use of academic libraries during their teacher training. Furthermore, some teachers felt that their understanding could come from their use of libraries. One issue of difference which surfaced in relation to both terms, was the idea of teachers considering the terms from the viewpoint of the subject they teach. One teacher felt that they may remain stuck within their subject-related viewpoint.

Some general-level conclusions can be drawn from these answers that will bring more understanding to the discourses. There is a belief that ample use of a library will lead to better understanding of library-related terminology. This finding was evident within both professional groups. There was also clear evidence to suggest that both professions see educational background as something that leads to a more substantial understanding, especially with librarians. Both professional groups believed that the teachers' subject plays a role in the understanding.

13. Discussion

This section comprises the most important findings in the light of the present study. The structure of the study is recapitulated, and the results are first summarized as they relate to the research questions. The challenges of terminology and the aspects of information literacy are also discussed. Furthermore, the emerging discourses are presented, and the findings are discussed from the point of view of opportunities, challenges and further research.

13.1. Aim and research design

The aim of the research was to study how the aspects of information literacy are present in two Finnish national core curricula documents and how two professional groups in schools, namely seventh-grade Finnish Language and Literature teachers and school librarians understand information literacy. The analysis and construction of conceptions of information literacy are based on the concrete evidence in the research data. The discourse analytic approach was applied to make sense of all of the materials and conceptions. The data was analysed and constructed in to a process: it was easier to point out the conceptions and emerging discourses.

13.2. Research questions

The study was constructed based on three research questions concerning understanding the conceptions in text and of those who implement the core curriculum in schools. The comparison of the research material provided a picture of the situation in the participating schools. Each research question is presented in its own sub-section.

13.2.1. What information literacy aspects can be found in Finnish Language and Literature Subject in the national comprehensive school core curricula of 2004 and 2014?

In the comparison of the two consecutive core curricula of 2004 (CC2004) and 2014 (CC2014), some differences and some similarities emerged. Firstly, the differences concentrate on the use of terms. In the 2014 text, multiliteracy encompassed much of the terminology referring to media literacy and information management skills. Both terms, however, are still considered to be a part of multiliteracy. Therefore, it may be said that the proportion of media-related issues did not decrease.

Secondly, the pre-conditions in the CC2004 concentrated more on issues related to school culture, learning environments, learning methods, work methods and how all this should develop pupils' skills, whereas the pre-conditions in CC2014 mentioned, e.g. multidisciplinary learning modules, creativity, project work and the teacher being an enabler in the pupils' learning. Thirdly, the overall structure between the compared texts was different. When dividing the occurrences in a similar three-part structure, containing sections I) Planning, II) Activity, and III) Reflection, different structures are found. The CC2004 had a much more even distribution of issues in the conception and the emphasis was on Activity section with nearly 46 percent (see Table 7.3).

In the CC2014, Reflection section was clearly emphasised (see Table 7.4. p. 91). The analysis of the CC2014, from the perspective of Finnish Language and Literature in the secondary-school, shows signs of a comparatively deep sense and diverse conception of information literacy. The information literacy conception in CC2014 starts from the Planning section with, preconditions aiming at an open mind in the first stages of information literacy. The preconditions set the requirements for building a learning environment where pupils' learning takes centre stage and where teachers enhance pupils' skills in information literacy.

The Planning section is important in securing a resourceful and rich information literacy process. Information seeking and critical thinking were strongly present, again the teacher has a strong role as a supporter, encourager and a guide. Clear emphasis in the CC2014 is on the later phases the information literacy conception, i.e. Reflection section. The reasons for this are not known but can only be speculated. In the light of previous research, more emphasis should be placed on working with the information (Alexandersson & Limberg, 2009; Duke & Ward, 2009) and this change in the core curriculum could support the areas found to be problematic.

The extracted CC2014 information literacy conception emphasises working with the material, interpreting and observing, building new knowledge as well as learning copyright and ethical issues. Producing information and communicating, disseminating and sharing information were also relevant issues in the conception. With ten occurrences in phase Working with Information, the CC2014 demonstrates the importance of these issues in information literacy.

13.2.2. What are the information literacy conceptions of 7th grade teachers of Finnish Language and Literature and school librarians?

The intention was to investigate, whether the same terms could be conceptualised differently due to the interviewees' different professional background. The differences in the conceptions of the teachers and school librarians were related to emphasis. The

teachers emphasised Planning section more, since they related their conception to reading, text and general issues in literacies. For the teachers, this is in line with the findings of Williams and Wavell (2007), as they reported that teachers considered information literacy as a process, but more importantly, as a basic skill in reading and understanding text. In addition, the phase found in the analysis concerning an extensive information environment in connection with information literacy issues indicated the teachers' emphasis on Planning. The occurrences largely related to teachers' strong understanding of multiliteracy.

A surprising finding was that the school librarians' conceptions of information literacy were somewhat narrower than that of teachers; the teachers' conceptions were richer in content. For the school librarians, the emphasis was in the middle section, in Activity, including information searching and critical thinking. There were only a few occurrences in the last phases in the school librarians' conceptions. These issues were clearly no longer considered a part of information literacy. In relation to this, the phase of Working with Information was weakly present in the interviews, which presents a severe contradiction in the findings in comparison to the teachers and the CC2014 text.

School librarians placed stronger emphasis on information seeking and critical thinking than the teachers did. The latter issue was not so much of a surprise, since the library professionals are experts in information seeking. When comparing the school librarians' conceptions with the information literacy models presented in Section 4.4, the models present conceptions that are much more diverse and extensive. This problematic finding is one of the most interesting in the present study, since a professional librarian is by profession expected to be familiar with information literacy and the prevailing information literacy models.

The school librarians placed strong emphasis on the middle section, Activity, in phases such as Information Seeking and Critical Thinking. A correlation with the present study is evident in three earlier studies (Ash-Argyle & Shoham, 2014; Grigas et al., 2016; Streatfield et al., 2011). Ash-Argyle and Shoham studied self-efficacy and the impact of teaching information literacy in primary and secondary schools in Israel. Grigas, Mierzecka and Fedosejavaité studied information literacy teaching in Lithuania and Poland and compared the findings to the Big6™ Model, as did Ash-Argyle and Shoham. Streatfield, Markless and Rea-Scott conducted an extensive study on how information literacy is taught in schools in the United Kingdom. All of their findings point to similarities in the behaviour of school librarians accentuating the middle section of a process, namely information seeking and critical thinking. Furthermore, the emphasis on information access and delivery were found by Wolcott et al. (1999).

In the middle section, Activity, teachers used general level phrases, such as "to seek information / to look for information" more often. The interviewed teachers did not elaborate on this in more detail. This is, however, much like the occurrences in the CC2014, an issue presented on a very general level. Two school librarians, on the other hand, explained information seeking in more detail, while other school librarians stayed on a more moderate level in their explanations. They mentioned different materials and different search methods. The phases in Activity section in general was stronger in the school librarians' interviews.

The teachers' conceptions of information literacy were more or less alike in comparison with each other. There was one teacher, in particular, who put a lot of weight on the Planning section. Most of the issues in those phases concerned textual aspects and reading skills. All interviewed teachers presented issues related to seeking information, being critical and using the information in some way. Nearly all of the teachers mentioned the aspects of relevance in the found information. Three of them mentioned the constructivist ideology of adding the found information to a larger context. With the exception of these particular findings, the teachers' conceptions were somewhat similar.

One issue was alike for both interview groups, i.e. Reflection section were not accentuated. However, five of the interviewed persons, three teachers and two school librarians, described information literacy to be an extremely extensive phenomenon. The reason for lack of occurrences at the end could be that the teachers simply did not consider this a part of the information literacy process, even if these issues take place in classroom situations. The fact that Reflection section had a nearly non-existent role in the school librarians' conceptions was surprising. School librarians just do not consider that to be in their area of work or expertise. Both teachers and school librarians found the same issues challenging, like pupils narrow use of sources, lack of thinking skills, but this needed emphasis was not described in their conceptions during the interviews. Similar findings have been presented by Limberg and Folkesson (2006), Ladbrook and Probert (2011), and Tanni (2005).

When the personal conceptions were analysed from the perspective of single occurrences, one librarian had a distinctly wider conception of information literacy compared to the average of the participating school librarians. The majority of the occurrences in the school librarians' conceptions at the beginning and at the end phases are from the one and the same person. This is the reason the school librarians' overall results were similar to the teachers' results. This means that when the results are investigated based on the personal conceptions, there were school librarians with conceptions that concentrated largely on information seeking and critical thinking.

There was dispersion in understanding the terms between the professional groups and this may constitute a problem when working together on information literacy

issues. There was dispersion even within the professional groups, the school librarians. Consequently, it should be noted that the variation in the conceptions between the school librarians showed greater dispersion compared to the conceptions of the teachers.

The results indicate that profession may not play as meaningful role as was expected. The discourses are more personal, but they still are influenced by the respective professional backgrounds. There is common belief that librarians are experts in information seeking and understand the related models because they have received training in this area. The dispersion emerging in the present study is one of the most important findings, but at the same time the most disruptive. Lloyd (2005) states in her article that there are different ways to experience and understand conceptions, in this case information literacy. As the results suggest, there are seemingly different conceptions even amongst information professionals. Unfortunately, there is no data to provide answers to this phenomenon.

When a term was not familiar, the interviewees used different strategies to make sense of it. This led to varied assumptions of the term when compared to the established definitions presented in Section 3.1.

There is one reason for the surprising outcome as explained above. The respondents were given ample time to answer the questions with the intention of obtaining their first impressions and responses. If they were asked whether they think for instance, the ethical use of information is a part of information management skills, their responses would most likely be positive. The outcome is that there is a difference in conceptions between teachers and librarians.

13.2.3. What differences or similarities are there between teachers' and school librarians' conceptions of information literacy and those present in the national core curriculum of 2014?

The structure of information literacy proves that the conceptions emerging from the core curricula text and interviews indicate varying conceptions of information literacy. The CC2004 accentuated the Activity section with information seeking and critical thinking and the CC2014 placed strong emphasis on the Reflection section. Teachers emphasised preliminary issues, i.e. Planning and the librarians placed emphasis on Activity, that is, information seeking and critical thinking. There are several issues, which stand out in the analysis and represent different conceptions and areas of emphasis.

It was assumed that the teachers' interview results would echo the older CC2004 since the new core curriculum was not yet in effect in secondary school at the time the interviews were conducted. At the time of the interviews, the core curriculum was in

use only in the primary school, grades 1–6. However, the information literacy conceptions in the CC2004 and those of the teachers were different. It can be argued that the core curriculum does not affect the development of information literacy conceptions; they are based on other factors and issues.

One school librarian, who had a wide understanding of information literacy, felt that choosing the term multiliteracy in the CC2014 was not a positive decision. She felt that the term 'information literacy' should have been chosen instead. She mentioned that the core curriculum is missing concrete issues related to information literacy. Despite this, the information literacy conception found in the CC2014 is reasonably wide.

Working with Information and Building Knowledge accounted for only 6.6 % of all the occurrences in the school librarians' conceptions. For the teachers, the same percentage was 19.2. One reason for the lack of occurrences in using information and in other Reflection phases may be related to education and the interviewees' professional identities.

13.3. Use of terminology

The use of terminology in this study was one of the most interesting findings. There were three terms which were examined in detail in the interviews: information literacy, information management skills and multiliteracy. The use of terminology gave a different picture of the information literacy conceptions than the information literacy aspects found in the interviews.

The fact that some interviewees wanted to use the term *information seeking* instead of the terms mentioned above indicates the weight placed on the Information Seeking phase in their overall conceptions. Information management skills was seen as very broad, a developing life skill related to data science. Although the conception information management skills was considered to be broad by half of all of the interviewees, namely two school librarians and three teachers, the description given during the interview was, in fact, rather narrow. Streatfield, Markless and Rea-Scott (2011) found that non-qualified and qualified school librarians had differences in their use of terminology. Library skills and research skills were more popular among those who had no library and information science education. The school librarians in that study stated that the reason for this is that they wanted to choose the term to fit the situation they are in, "*knowing that using teacher's preferred vocabulary could help in communication"* (2011, p. 17).

The term information literacy was the most difficult to grasp for both interviewed groups in the present study. The term is from the field of information science and there was an assumption that teachers are not that familiar with the term. Two

teachers had not heard the term before. The other teachers did not mention this, but the explanation they gave during the interviews gives reason to suspect they did not know the term, but simply tried to explain it to the best of their understanding.

Since the term comes from the field of information science, information literacy was expected to be a familiar term through professional library studies. This, however, was not the case, although they made an effort to understand the term. The interesting finding was that, according to two descriptions, the term is not necessarily related to information seeking. Then again, with one school librarian, the conception of information literacy was so strong that all her answers concerning information management skills or multiliteracy more or less evolved around the understanding of information literacy. Three school librarians felt that they had already explained the term, meaning they felt the terms information management skills and information literacy are very close to each other in meaning.

The school librarians had a varied level of education and, for some, many years had gone by since their studies. Reasons why participating school librarians were not knowledgeable of the term information literacy were not found. One speculation could be the lack of further education that fits the purpose or even lack of interest in further education. Another reason could be the low status of school libraries and the lack of a proper network between school librarians to support collective learning.

Another issue emerging in the present study was that the CC2014 does not contain merely one conception of information literacy, but several, relating to the different subjects. This result is supported by the research of Mandy Lupton (2008). Her GeST-model was crafted through the interviews of university students in tax law and composition. Her findings suggest that there is a generic window, a situated window and a transformative window. The generic window constitutes external skills in information searching and management. The situated window constitutes the internal and subjective skills in subject-specific situations. In the present study, the general part of the core curriculum constitutes the generic window and the Finnish Language and Literature subject constitutes the situated window, hence, the importance of including the general part of the core curricula in the analysis.

Multiliteracy was a familiar term to the interviewed teachers. However, their understanding was merely associated with the broad definition of text and multimodality. The definition of multiliteracy in the CC2014 is broader, including the aspects of information skills. When compared to the article of Kupiainen, Kulju and Mäkinen (2015), only two aspects of all five were mentioned in the interviews by the teachers (see p. 23). This is reason to conclude that the teachers have a different understanding of multiliteracy than what is stated in the CC2014. Their understanding is closer to the original understanding of multiliteracy explained in Section 2.2.

School librarians had a vaguer understanding of the term multiliteracy. At the beginning of the interview, three of them stated they had not read the CC2014 at all. The same three school librarians said they guessed the meaning of multiliteracy; however, to some extent, they were correct, i.e. they described texts and multimodality in a broad sense although they did not use the exact terms. Moreover, they did not mention issues related to information skills.

13.4. Emerging discourses

Jørgensen and Philips (2002) in their research mention a discursive struggle. They refer to changing organisms and discourses changing when in connection to others. They claim this to be because there are dominating discourses. This situation could be mirrored to the research results; however, there was no possibility to name a hegemony position for teachers' or the school librarians' conceptions. Rather, the discourses that emerged and which are reported here are orientations of professions in the study. However, when considering the school as a working environment, it is clearly dominated by teachers. The teachers' conceptions resembled each other more than the school librarians' conceptions. However, there are some issues that speak for some specific discourses, and these are elaborated in this section. Each professional group had their own approach.

Reading and text discourse in information literacy

When considering the environment of information literacy, teachers had a strong inclination towards text, reading and reading comprehension. This, as such, was not a surprise since the interviewees were teachers of Finnish Language and Literature. Reading comprehension is also related to information seeking, differentiating the meaningful issues from the text and questioning the reliability of different texts. Multiliteracy and multimodality have enforced this notion due to the broad definition of text.

Library discourse in information literacy

A library-related discourse emerged from the analysis. All information literacy activities were highly related to the library as a physical as well as mental space. Information seeking mainly took place in the library's own databases but sometimes in the municipality's own databases. The materials in the library played a significant role when the interviewees mentioned information seeking activities.

In fact, both the teachers and school librarians in the present study had conceptions that the mere use of libraries would increase and develop the comprehension of information literacy issues. The school librarians had seen that some teachers in

schools did not use the school library. Also, the school librarians suspected that the teachers must have strong comprehensions of information literacy as they have had to use libraries in their studies.

To summarise, the library's walls were physical but also mental. The school librarians spoke of the surrounding information environment as a sort of threat to the pupils in the form of simple and weak information activities in Google and Wikipedia as well as other difficulties and even immaturity in critical thinking. Valid information, according to this study, was found in the library, in books and in the school library's databases. This coincides with earlier studies concerning school librarians, as well as teachers, wanting to limit the information environment of the pupils and present materials in a sort of 'right' order (Limberg & Folkesson, 2006; Limberg & Sundin, 2006).

13.5. Aspects of information literacy

An issue that demands more contemplation is how the found information literacy conceptions appear in light of the prominent information literacy models and theories in Information Science. Moreover, there is a need to note that the information literacy conceptions extracted from the CC2014 originate from a carefully formulated administrative text. Contrary to this are, for instance, Kuhlthau's and Bruce's models, which were formulated by analysing people and their conceptions. The administrative text is strict but, at the same time, clear, whereas studying people and their conceptions yields responses rich in nuances, feelings and personal beliefs. However, in the following, a short comparison is presented between the extracted conception and the previously named models to see whether there are similarities or differences.

In the CC2014, the phases do not introduce any methodology. At the beginning of the text, there are issues concerning an open mind, being creative but also about being vigilant about the nature of the found information, and there is also encouragement for bringing out one's own experience and strengthening information management skills as a whole. However, the curriculum text does not directly instruct the reader how to handle research issues, how to find the focus in a text, how to map out the different aspects and perspectives of an issue under investigation and then how to prepare for the phase of search itself with functioning search words and search phrases.

This is the main issue that differentiates the extracted information literacy conceptions from the presented models. This could also provide a collaborative aspect. There is potential to work with the presented models to supplement the conception emerging in the CC2014. As Limberg (2005) states, schools' discursive practises need to change in order to find the path to true inquiry-based learning. The

CC2014 does provide evidence of this sort of a pathway by encouraging research and open mind. However, this thinking was not present in teachers' or school librarians' conceptions. Furthermore, in the light of earlier studies, the teachers might even consider information skills to have been taught by someone somewhere else (O'Connell & Henri, 1997), as something that just develops passively (Smith, 2013), or as skills that are expected to emerge naturally (Probert, 2009).

However broad the conception of information literacy in the CC2014 is, it still does not instruct the teachers or pupils in obtaining viable skills to prepare for the information-seeking phase. Moreover, this is the phase which is the most problematic in information literacy and has long-standing effects on the results of the process in the form of worse information searching results, which creates more frustration and weak learning results. Kuhlthau (2004) found that the pupils who skipped the preparation phases in planning performed worse in writing the final learning assignment. Instructional aspects play a significant role.

Due to these findings, it can be argued that the conception extracted from the CC2014 could benefit from combining the core curriculum with the models in information science to promote efficient information literacy skills to support learning in the course of the information literacy process. The information literacy conception in the CC2014 is lacking in instructional aspects, which, as with teaching in general, are left to the discretion of the teachers.

This study presented four different models related to information literacy: Seven Faces by Christine Bruce, Information Search Process by Carol Kuhlthau, ACRL Framework and Online Reading Comprehension from pedagogical research. What all these models have in common is the information seeking and critical thinking aspects of information literacy. Differences arose in the perspectives taken as well as in the Planning and Reflection phases.

Seven Faces of Information Literacy by Christine Bruce

Seven Faces of Information Literacy is a model of evolving conceptions of information literacy. In Bruce's model, the understanding of the term information literacy is progressive, i.e. it builds on the previous level. The information technology aspect was in a minor role in the Finnish Language and Literature part of the CC2014 information literacy conception. Each understanding is just as right as another, but different in extent. In this way, the information literacy conception extracted from the CC2014 does not resemble Bruce's model. What is noteworthy is that in Bruce's model the learning aspects are as strongly evident as they are in the CC2014 information literacy conception. Some teachers denoted these issues to be life skills, which in a way can be found to be similar to Bruce's Wisdom Conception.

Information Search Process by Carol Kuhlthau

When comparing the CC2014 model to Kuhlthau's ISP model, some points of confluence can be seen. The ISP model places strong emphasis on what in this study is called Planning phases. However, they do not resemble the Planning phases that were evident in the interviews or even in the text analysis. Those arising in the present study were more like pre-understandings related to the overall understanding and the possibilities that have to be provided in the classroom to enable inquiry learning. As already explicated in this section, the CC2014 does not give any suggestions for how to actually work with information. Mirroring this against the information literacy conception in the CC2014, the emphases are quite contrary, since Kuhlthau's ISP gives less guidance towards the end of the process.

However, Kuhlthau's ISP presents concrete instructions on how to prepare for a fruitful information-seeking endeavour. As regards the CC2014, this does not reduce the importance of the first phases in information literacy, as presented in ISP. Kuhlthau (2007) writes about the importance to move from transmissional learning towards constructivist approach. This has happened in education in Finland, but the constructivist approach has not necessarily reached information literacy instruction.

ACRL Framework

The ARCL original framework is a skills-based model, which lists various capabilities students should possess to be information literate. The information literacy conception in the CC2014 resembles the ACRL model in part, as the CC2014 also names particular skills pupils should possess or develop. The ACRL additionally emphasises effective information use to accomplish a specific task, task orientation, producing text, as well as the constructivist nature as cumulating information and learning. According to the ACRL model, being information literate involves ethical, legal and economic aspects of using information. Only one teacher mentioned efficiency acquiring the needed information. This does not exactly constitute an economic aspect, but, in a way, it refers to using time effectively.

Online Reading Comprehension

There is reason to believe that teachers' conceptions are based on their professional background in reading comprehension. Needless to point out, reading and texts have a fundamental role in this conception. This model mentions identifying questions, reading to locate information, reading to evaluate, reading to make a synthesis and reading to communicate. All these underlying phases are evident in the CC2014 information literacy conception. The aspects of literacy and reading in many forms, also multiliteracy, were strongly present in the results. This was found in all data units. After all, without literacy, there is nothing.

Absent issues

In Section 3.2. a list of issues was presented as absent from the presented models. The first issue was named Preconditions, the starting point in the information literacy representation presented in Chapter 10. None of the presented information literacy models state anything of the overall learning environment or learning philosophy, which as such seems to advise towards enquiry learning. If an enquiry-based learning philosophy has not been established, there is reason to suggest that a process can easily turn into a procedure instead of a process distinctively aiming at learning.

Another issue is the information environment. There is an assumption that this does not need to be included in the process itself. Both teachers and school librarians had rather broad understandings of their information environment. Nevertheless, this appears to be a source of constant anxiety when the interviewed professionals bring the subject up in connection to pupils.

Both of these issues play a significant part during the process and have an effect on the successful completion of the task. Therefore, these issues should also be taken under consideration in the future.

Comparison of the findings to Olof Sundin's division of information literacy models

In his four-approach model, Sundin (2008) extracted information literacy instructions related to university libraries. The approaches are 1) source approach, 2) behavioural approach, 3) process approach and 4) communicational approach (see p. 31). Despite the differences in educational level and library type, the approaches can be compared to the results of the present study.

When mirroring the results of the present study to Olof Sundin's four approaches to information literacy, it can be concluded that the school librarians mirror the source and behavioural approach. The school librarians felt that information seeking should more or less happen inside the library using the library's materials. There was a clear order in presenting the materials; if nothing was found inside the library, then online resources would come into play. Indeed, two school librarians recommended that the teachers check the materials in the library before allowing pupils to choose their 'free choice' project to ensure that suitable materials are available when information seeking takes place.

The behavioural approach was evident in one of the librarians' response, i.e. she listed what things should be taught. Also the Internet and critical thinking came up in the interviews more as warnings and as areas where pupils need more skills than what they possess. In the interviews, the school librarians concentrated more on listing the materials and information sources than what the teachers did. There were also signs

of the process approach in the interviews, as interviewees described information management skills in a process-like order.

There was no such clear division seen in the teachers' interview data; they displayed signs of all the approaches in Sundin's model. One teacher recommended limiting the project topics to keep pupils from choosing topics such as drugs and ending up on the wrong types of websites while searching for information. This is evidence that the pupils are directed towards taking a more neutral subject due to fear of finding suspicious information. That is an example of a source approach. The behavioural approach occurs when a teacher directs pupils in a procedure-type of working method. Hongisto and Sormunen (2010) and Limberg and Sundin (2006) revealed similar findings.

Contrary to the above-mentioned, the process and communication approach was emphasised in the CC2014. A constructivist learning theory is also visible, and it guides the information seeker in the manner of a process. Furthermore, the CC2014 strongly promotes social skills and leans towards the notion of collective knowledge. The CC2014, therefore, resembles the last approach in Sundin's model, the communicational approach.

13.6. Opportunities and challenges

Similarities with Guided Inquiry Design

On the basis of Carol C. Kuhlthau's Information Search Process (ISP), a method called Guided Inquiry Design® (GID) was developed (Kuhlthau et al., 2007). The developers constructed the method to incorporate teachers and librarians in a collaborative project. The method recognises three different aspects of the ISP model, namely cognitive, affective and physical. The method aims to recognise difficulties during the process and help pupils with interventions to move on in the process.

Firstly, the entire GID method is based on the idea of learning and utilising research-based working methods, not just seeking information and facts. Therefore, the GID has similarities with phenomenon-based learning and the multidisciplinary learning modules, which are introduced in the Finnish CC2014 as well as by researchers Hakkarainen, Bollström-Huttunen, Pyysalo and Lonka (2005). The CC2014 accentuates the pupil's initiative, aiming at more comprehensive topics instead of studying smaller units tightly related to the different subject curricula. The GID method is primarily a working method, which can be applied to all situations.

Phase three in the CC2014 refers to the 'Enquiring Mind'. There are phases in the GID, which aim at making the pupils interested in the project, finding an interesting topic and focussing in order to move to the phases of information gathering. The GID method emphasises pupils' own interest and motivation to study by allowing them to

choose their own niche or perspective in the assignments. Raising curiosity is one way to raise interest in research as well as choosing a theme according to pupils' own interest. The notion of phenomenon-based learning in the CC2014 corresponds to the method of the GID.

The GID could offer more wide-ranging ideas to schools. The teacher also has to develop tools to instruct the pupils, especially those pupils whose curiosity is difficult to raise. The present study also registered difficulties in pupils' work that could be facilitated by the existing information literacy models. Johanna specifically mentioned that some pupils have immense difficulties in getting started. She referred to the pupils as having a kind of '*emptiness*'. While some pupils progressed quickly with their assignment, some were stuck because they just do not have any idea for a topic in cases where they could choose their topic freely.

The impact of different conceptions on schoolwork and learning

The interviewees' conceptions, in general, resembled each other inside the professional groups more than with the core curriculum conception. The school librarians placed strong emphasis on information seeking and tools rather than on activities before or after information searching. One teacher, in particular, said, that "*everything that takes place after the information search situation, is not part of what I do"*. The aforementioned issues build up barriers, which could obstruct genuine collaborative work with teachers.

Reading comprehension

One special feature of this study is that the interviewed teachers were all teachers of Finnish Language and Literature. This may influence the outcome in several ways. For one, the teachers of Finnish Language and Literature are active library users due to the teaching of literature. Literature, text and reading are in many ways the cornerstone of learning a language. Text and the reading aspect surfaced in the interviews several times. Naturally, these issues were visible in the core curriculum texts as well. Reading comprehension comprises of four areas: reader, text, action and the surrounding context (see Section 3.1.4. p. 32). Making sense of text calls for the understanding of the context where the text is situated and the tools to comprehend the message in the text. The capability to check facts and seek more information becomes important.

Korhonen and Rantala (2007) studied the ways in which the elements of media education emerge in the teacher education programmes in Finland. They realised that this area of teacher education is very fragmented and that the education concentrates mostly on the digital skills in media. Unfortunately, there have been no studies in Finland investigating how information management skills are taught in teacher education programmes. This was asserted by the teachers' responses in the interviews,

i.e. they have constructed their information seeking abilities during their time attending university, their work experience as well as through their life experiences. There are similarities in the reading comprehension and reading strategies in the teachers' understanding of information seeking. Therefore, it can be assumed that there is a connection to reading comprehension. This is most likely also the reason why the Finnish term information literacy was so often considered *reading* of information.

13.7. Limitations

The teachers who were interviewed were chosen by the school, either by their head teacher or some other way, whereas there was only one option of school librarians. The chosen teachers typically had a good connection to the school library, had an active part in developing their subject whether authoring a textbook or actively working to develop the core curriculum. The results of this study may reflect the interviewees' own library use. The results may have been different if the interviewees had been people who have less interest in using the library or who do not use the library at all.

This study contained only ten interviews. One of the interviewees was not qualified. Hence, no generalisations can be made. The results do, however, give reason to study these phenomena further to investigate whether these findings apply to a larger audience. The CC2014 was not in effect in secondary schools when the interviews were conducted. Even if discussions and planning for implementation had already taken place, it can be assumed that the new core curriculum was still somewhat unfamiliar.

The language of the material in this study was in Finnish, and the text analysis was done from the Finnish language versions. Furthermore, the interviews were conducted in Finnish. The problematics of this was presented in Section 2.1 with the discussion concerning validity and reliability. As the analysis results are presented, concerning the core curricula texts, official English translations by the Board of Education were used. The problematics of using one language to analyse and another to report the results is more of a problem as regards the interviews. Therefore, the analysis concerning the choice of words and ways of expressing things in the interviews have been analysed in Finnish but presented in English in the best possible manner.

This study is a qualitative study, and therefore there is a certain sensitivity in the analysis. Due to this and the fact that the study involves a discourse-analytic approach, it should be mentioned that the research results are the researcher's interpretation of the data. The fact remains that the researcher has chosen the occurrences herself.

Nevertheless, the analysis was performed in a similar fashion with all the data units, and therefore the data can be reliably compared.

14. Conclusions

The central findings in this study reveal that there are differences in conceptions between the core curricula, the teachers and the school librarians. All four conceptions emphasised a different area of information literacy. The CC2004 emphasised the Activity section and the CC2014 emphasises the Reflection when working with information. The teachers emphasised the beginning of the process, i.e. Planning, and the school librarians emphasised information searching and critical thinking, i.e. Activity.

A shift in emphasis can be found between the CC2004 and CC2014, from information seeking and critical thinking towards working with information. When it comes to the CC2014, no one general information literacy conception was found but several relating to different subjects. Nevertheless, the extracted information literacy conception in the general parts and the Finnish Language and Literature subject was found to be comprehensive.

Two discourses were differentiated from the findings. Aspects of text and reading strongly influenced the teachers' conceptions. A library-related discourse was noted among the school librarians, accentuating the activities in the school to revolve around the library and the library materials. When it comes to the terminology, two aspects were found important. School librarians hesitated with the term multiliteracy and teachers felt uneasy with the term information literacy. These findings can be partly explained by the participants' educational background, but not conclusively.

What was new in the results in comparison to earlier research was that the library and information science professionals appeared to have more varied conceptions about information literacy than the teachers did. The teachers' conceptions of information literacy were deeper and more diverse than those of the school librarians. The results suggest that the interviewees' personal conceptions may have a more important role than those based on professional background. However, there was clear evidence to contest the use of the term information literacy in collaboration with teachers and the reason is the varied conceptualisations of the terms among the teachers.

This study contributes to the line of studies associated with information literacy and the study of pupils and teachers. It also contributes to research in education and the area of curriculum studies. Considering the results, both teacher education and librarian and information science education benefit from the results. Teacher education may lack in understanding the comprehensive nature of information literacy. The school librarians also lacked understanding of the comprehensive nature of information literacy and the learning mind-set, which can be a result of lack in pedagogical training.

There are also contributions to theory. The discourse analysis showed that the profession may not be the only issue contributing to the different conceptions, i.e. personal conceptions may override the professional conceptions. Wittgenstein's language game also indicated that personal conceptions may be stronger than professional identity. The number of interviewees was small, and this could be the reason why the personal conceptions dominated the results.

14.1. Implications of the findings

Use of term information literacy in collaboration with teachers

There is one fundamental issue which, in the light of this study, requires discussion in the area of information literacy. With regard to the findings pertaining to professional background, neither the teachers nor the librarians were very familiar with the term information literacy. The interviewees activated various mechanisms when trying to understand and interpret the term. At first, this was misleading. The reason for this was the compound term in Finnish, which translates to 'reading skill of information', which is bound to lead to misunderstanding.

The issue that needs to be discussed is whether we should take another look at using the term information literacy in the school context in Finland, since the term is understood in such various ways. The information literacy issues are present both in the CC2014 and in the conceptions of the teachers and school librarians, to varying extent, however. The study demonstrated that there is information literacy understanding, but the schools may be lacking the tools to instruct the pupils in their actions and assignments.

Implication concerning the pedagogy of the information literacy process

What should be ensured is that pupils understand and can begin their information-seeking endeavour in an information environment deep enough. According to the interviews, pupils' information environment may be too shallow which consequently leads to shallow information-seeking activity. The teachers should be able to present the depth of the information environment and to explain the necessity of understanding this. If the prevailing information behaviour models in schools are not challenged, there will be no change in learning. In her research, Limberg (2005) raised the importance of school culture with regard to changing discursive practices in schools.

Pupil need to gain knowledge of the information environment. This is a long-term issue, which will not be learnt in one subject or in one year. Pupils need to learn to pose questions, and the school environment and the learning activities should activate pupils in learning to start from questions. The current core curriculum emphasises

phenomenon-based learning and integrative instruction. This, again, is based on research-based learning.

Being critical about information emerged in the text analysis and in the interviews to a substantial level. When looking at the relational representation of the occurrences in the data, this was a phase where both teachers and school librarians went well above the findings in the CC2004 and the CC2014. This seems to be an issue that has already been well established in the minds of the interviewees.

Assessment and self-evaluation are crucial in learning processes, as pupils need to reflect on the entire process in order to learn. Information literacy is also an issue of assessment in the CC2014. Therefore, the result cannot only be a returned paper or a project, completed just in time, but an object of a learning process where the pupil has made improvements and adjustments. This is important for the pupil and the teacher but also for the school librarian, if he or she has taken part in the process.

Overall implications

The CC2014 period has just begun. This guideline for learning and teaching in the Finnish comprehensive school will most likely be in use for the next ten years, as has been the case with the previous curricula. This onset could be a fruitful place to begin working on enhancing information literacy issues in comprehensive school. Firstly, the understanding of information literacy skills should be introduced in schools on a larger scale. If wide-range understanding of information literacies can be seen in the CC2014, then there is a dire need to teach wide-range, penetrating skills in the entire comprehensive school.

Secondly, there is a question of how different libraries, in this case school libraries and public libraries especially, could be integrated in the teaching of information literacy skills in schools and support the work of teachers. Because of the small number of school libraries in Finland, the question is directed at public libraries. Schools are mentioned in the Law for Public Libraries in 2016: "§11 Collaboration: In order to fulfil the functions set by the law, the public library can collaborate with officials, the field of library and information science, day care, schools and other educational institutes and other communities." (Public Libraries Act, 2016).

When contemplating cooperative issues with the teachers and the school librarians in the context of the CC2014, there are plenty of possibilities for collaboration or joint ventures. Some of the items found in the CC2014 are in the libraries' commonly known domain, including the areas that are best associated with library functions, namely the phases concerning information searching. This makes a compelling case for joint ventures. Teachers have subject knowledge and strong pedagogical skills and librarians have knowledge of information literacy activities. In the light of this analysis, the CC2014 would offer plenty of reasons to engage in joint ventures.

Thirdly, in order to enable the second issue mentioned above, some changes should take place in the libraries. The results, which are supported by the earlier literature worldwide, show us the participating school libraries mainly work in the traditional manner and via collection-based activities. Traditional activities include lending, lessons in using the library and its databases as well as reading activities. These activities are good for enhancing reading skills, but not for supporting the teaching of transversal competencies integrated in subject studies in schools. The rather narrow understanding of information literacy found in the interviews additionally supports this plea for further education initiative for librarians.

The fourth point relates to teacher education. There does not seem to be enough teaching of how to guide pupils in their information-seeking activities. There are no comprehensive studies in the Finnish context to disclose how these issues are presented and taught in the teacher education.

The findings provide numerous suggestions to enhance the teaching of information literacy in the Finnish comprehensive school. The idea and well-thought issues are already in the current core curriculum. The core curriculum took effect in the eighth grade in the fall of 2018 and for the ninth grade in the fall of 2019. There is still plenty of time to address the problematics of teaching extensive information literacy skills in association with teaching.

14.2. Suggestions for further study

To learn more about the challenges in the collaboration between schools and libraries, a few topics should be studied on a larger scale. First, when considering information literacy conceptions, there were signs of professional composition between the teachers and school librarians. How strong is the difference and what are the obstacles in collaboration? What is the influence of personal conceptions? How these conceptions are formed? A social constructionist point of view could be interesting to find out how these issues are structured as social constructions in a collaborative working environment.

The librarians had more of a library discourse than a discourse leaning more towards learning and teaching. Then again, what stands in the way of teaching better information literacy skills? An interesting issue to analyse is the status of information-seeking teaching and guiding in current teacher education in Finland. The librarian discourses is also missing the teaching aspect, i.e.is it the key to school collaboration in widening librarians' professional horizon? Another research perspective could involve the ways of interacting in real collaborative situations and studying how these situations progress when it comes to discussions and making meaning.

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Appendix 1. Announcement for seeking participating schools

Dear reader! Turku, August 24th 2016

My name is Anu Ojaranta and I am preparing a doctoral dissertation in the field of information studies at Åbo Akademi University. The issue concerns the information management skills in the comprehensive school level. The aim of the research is to gain understanding of what the relevance of information management skills in teachers' and school librarians' work is and how these issues are present in the school environment.

The research is important since we need more information to understand how we in libraries better can plan more integrated information management skills guidance to support the goals of the 2014 core curriculum.

With this announcement, I try to reach schools, where there is a school library and who are ready to participate in this research. Because of some elements in this research, I have a few requests relating to the participating schools:

1. Secondary schools, where there is an educated school librarian who is working full time.
2. From each school, I need to get a consent for interview from both, the school librarian and one seventh grade Finnish language teacher

If possible, I will do the interview face-to-face. However, it is possible to do the interview via Skype if needed. For the participating school, if wished, I agree to present a written report concerning school specific results. In this way, the participating organisation are provided with more detailed results, on which you can deliver the school library collaboration. All participating schools will furthermore get a copy of the final doctoral study after the public defence.

In case your school fills the abovementioned requirements and you have the possibility to participate, please contact me! I am happy to answer any further questions regarding the research.

Grateful for your help!

With best regards,
Anu Ojaranta
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Information studies, Åbo Akademi University
Vänrikinkatu 3B, ASA-talo, 20500 Turku

Supervisors: Jannica Heinström, university lector, Åbo Akademi University
Kristina Eriksson-Backa, university teacher, Åbo Akademi University

Appendix 2. A letter for the participants

Faculty of Social Sciences, Business and Economics / Information Studies

Anu Ojaranta
Vänrikinkatu 3 B
20500 Turku
Telephone: 0405715292
e-mail: anu.ojaranta@abo.fi

Dear research participant!

A big thank you for promising to participate in this research!

The purpose of this research is to increase the understanding of the meaning of information management skills in the work of teachers and school librarians and how these skills are present in the school environment.

This research is important, because we need more understanding of how we in libraries can plan ever more integrated information management skills guidance to help to reach the goals of the 2014 core curriculum.

I am writing a doctoral thesis in information studies in Åbo Akademi University. I have progressed to the stage of gathering empirical material and now it is time for interviews. Five schools will participate in the research. In each school a school librarian and a teacher of Finnish language in the seventh grade are interviewed. Altogether, the interview material will consist of ten interviews.

I have received research permission from the head teacher. I will give you, the interviewee, a signed consent where I agree to protect the anonymity of the interviewed persons and to protect the research materials according to principles of research ethics.

For the participating school, if so wanted, I agree to present a written report concerning school-specific results. In this way, the participating organisation are provided with more detailed results, on which you can develop school library collaboration. All participating schools will furthermore get a copy of the final doctoral study after the public defence.

You have the right to ask questions regarding the research so, in case of questions, please present them before the beginning of the interview.

Respectfully,
Anu Ojaranta

Appendix 3. Interview instrument for school librarians.

NAME OF THE INTERVIEWED PERSON: _____
Interviewer: Anu Ojaranta
University: Åbo Akademi University

A DOCTORAL RESEARCH
Instructions: Turn the page only after you are given permission. You can use this paper also for making notes if you want to. You will have plenty of time to answer in case you want to think about your answer for a while.

Background information:

a. Age: ____
b. Sex

female
male

c. Educational background
    i. Professional education
    ii. Lower academic degree (bachelor level)
    iii. Higher academic degree (master level)
    iv. Pedagogical studies
d. When did you receive your degree?
e. What was you main subject?
f. Which further education courses have you taken?

<u>Basic information about the school library's activities</u>

a. What kinds of services does the school library provide?
b. How long has the library worked in current form?
c. How many hours a week is the library open?
d. How much personnel does the library have? What is the number of work hours and opening hours?
e. What kind of materials is the library's collections built of?
f. Which materials are meant for lending?
g. What is the yearly budget?

Questions about the terminology

1. First question and I want to emphasise that there is not one right answer to this question. Can you in your own words express what information management skills means to you?

a) Information management skills …

2. Describe in your own words how information management skills is present in the 2014 core curriculum?

a) In the new 2014 core curriculum information management skills…

3. And next a question reminding of the first one: and again, there are no right answers to this question. Describe in your own words, what information literacy means to you?

a. Information literacy…

4. Describe in your own words how information literacy is present in the 2014 core curriculum?

a) In the new 2014 core curriculum information literacy…

5. Again, there are no right answers to this question. How does the terms information management skills and information literacy differ concerning contents?

6. How do you position multiliteracy in this ensemble?

7. Information seeking self-evaluation. On which level would you estimate your own information seeking skills are?

a) Weak
b) Fair
c) Satisfactory
d) Good
e) Excellent

8. Can you tell me on what grounds you estimated the skills to be on a particular level?

Working with pupils

9. What kind of challenges do the pupils face in their information seeking activities?

10. What does information management skills guidance mean to you? How would you describe guidance?

11. How do you guide pupils in their information management skills? Can you recollect the last lessons/situation, where these issues were on the agenda?

a) Tell me what your lesson plan was based on, why did you organise it as you did?

12. Related to the lesson you just mentioned, was there something you would like to change or do in another way if you would have the possibilities and unlimited resources?

Co-operation with the teacher

13. How often do you plan lessons or learning events or courses together with the teacher?

14. Do you have discussions with the teacher about which information management skills should be taught and why?

15. Which aspects or areas of information management skills are most often a subject of discussions in the school environment?

16. Do you feel that the teacher understands the term information management skills in the same way as you?

a) Why do you think like this?

17. Do you feel that teacher understand the term information literacy in the same way than you?

a) Why do you think like this?

Changes in the understanding

18. Can you tell me how your understanding of information literacy has formed during the years?

19. Has your understanding of the term information literacy changed during this interview?

20. Has your understanding of the term information management skills changed during this interview?

Multiple-choice assignment

In the following multiple-choice assignment, tick the choice in every question that is closest to your view.

What kind of working style, according to your observations, do the teachers use in their classes?

a) Emphasis is on teaching
b) Teaching and individual work
c) A mixture of teaching, projects and assignments
d) Emphasis is on learning

How, according to your observations, do the teachers plan their lessons or projects?

a) The teaching is teacher driven
b) I give also some material requests for the school librarian
c) Theme is chosen in advance and the approach is discussed with the school librarian
d) Planning and realisation is done together with the school librarian

How would you describe the interaction of the teacher with the school library? (How do they experience the school library)

a) Minimal, mostly concerning fiction literature
b) A source of information and material
c) A source of support and help
d) Central element in learning

How, according to your observations, does the teacher guide the pupils to the sources of information?

a) I don't particularly refer them to books or other learning resources
b) I don't refer them to the school library
c) I do refer to the school library and I might even give the description of the assignment to the school librarian
d) I negotiate the assignment together with the school librarian and refer regularly to the school library and to the school librarian as a resource for the pupils

What kind of expectations do teachers have towards the school librarian?

a) A collection manager
b) The cooperation is mostly based on duty
c) Useful, gives support
d) A colleague and an ally

The school library is to me …. (write in your own words)

_____
_____
_____
_____
_____

How do the pupils on average relate to the school library?

a) Affectedly, they may ask the school librarian where everything is
b) The pupil is sent to the school library and he or she repeats the teachers question to the school librarian
c) The pupil goes to the school library voluntarily and may ask for help in problem situations
d) The school library is a place for individual work and the pupil feels that the school librarian could be of help also in information environment outside the school

How would you describe the role of the school library in the school?

a) Place to get literature
b) Lending materials is the main function
c) Physical space
d) An intellectual place and space

Appendix 4. Interview instrument for teachers.

NAME OF THE INTERVIEWED PERSON: _____
Interviewer: Anu Ojaranta
University: Åbo Akademi University

A DOCTORAL RESEARCH

Instructions: Turn the page only after you are given permission. You can use this paper also for making notes if you want to. You will have plenty of time to answer in case you want to think about your answer for a while.

Background information:

a. Age ____
b. Sex
   female
   male
c. Educational background
d. When did you receive your degree and what was your main subject?
e. Which further education courses have you taken concerning the core curriculum of 2014?

1. First question and I want to emphasise that there is not one right answer to this question. Can you in your own words tell, what information management skills means to you?

a) Information management skills …

2. Describe in your own words how information management skills is present in the 2014 core curriculum?

a) In the new 2014 core curriculum information management skills…

3. And next a question reminding of the first one: and again, there are no right answers to this question. Can you in your own words tell, what information literacy means to you?

a) Information literacy…

4. Describe in your own words how information literacy is present in the 2014 core curriculum?

a) In the new 2014 core curriculum information literacy…

5. Again, there are no right answers to this question. How do the terms information management skills and information literacy differ from each other concerning contents?

6. How do you position multiliteracy in this ensemble?

7. Information seeking self-evaluation. On which level would you estimate that your own information seeking skills are?

a) weak
b) fair
c) satisfactory
d) good
e) excellent

8. Can you tell me on what grounds you estimated the skills to be on that particular level?

Working with pupils

9. What kind of challenges do the pupils face in their information seeking activities?

10. What does information management skills guidance mean to you? How would you describe guidance?

11. How do you guide pupils in their information management skills? Can you recollect the last lessons/situation, where these issues were on the agenda?

a) Tell me what your lesson plan was based on, why did you organise it as you did?

12. Related to the lesson you just mentioned, was there something you would like to change or do in another way if you would have the possibilities and unlimited resources?

Co-operation with the school librarian

13. How often do you plan lessons or learning events or courses together with the school librarian / teacher?

14. Do you have discussions with the school librarian / teacher about which information management skills should be taught and why?

15. Which aspects or areas of information management skills are most often a subject of discussion in the school environment?

16. Do you feel that school librarian / teacher understand the term information management skills in the same way as you?

a) Why do you think like this?

17. Do you feel that the school librarian / teacher understands the term information literacy in the same way than you?

a) Why do you think like this?

Changes in the understanding

18. Can you tell me how your understanding of information literacy has formed during the years?

19. Has your understanding of the term information literacy changed during this interview?

20. Has your understanding of the term information management skills changed during this interview?

Multiple-choice assignment

In the following multiple-choice assignment, tick the choice in every question that is closest to your view.

What kind of working style you accentuate in your classes?

a) Emphasis is on teaching
b) Teaching and individual work
c) A mixture of teaching, projects and assignments
d) Emphasis is on learning

How do you plan your lessons or projects?

a) The teaching is teacher driven
b) I give also some material requests for the school librarian
c) Theme is chosen in advance and the approach is discussed with the school librarian
d) Planning and realisation is done together with the school librarian

What is your cooperation with the school librarian like?

a) Minimal, mostly concerning fiction literature
b) A source of information and material
c) A source of support and help
d) Central element in learning

How do you guide the pupils to the sources of information?

a) I don't particularly refer them to books or other learning resources
b) I don't refer them to the school library
c) I do refer to the school library and I might even give the description of the assignment to the school librarian
d) I negotiate the assignment together with the school librarian and refer regularly to the school library and to the school librarian as a resource for the pupils

What kind of expectations do you have towards the school librarian?

a) A collection manager
b) The cooperation is mostly based on duty
c) Useful, gives support
d) A colleague and an ally

The school library is to me …. (write in your own words)

_____
_____
_____
_____
_____

How do the pupils on average relate to the school library?

a) Affectedly, they may ask the school librarian where everything is
b) The pupil is sent to the school library and he or she repeats the teachers question to the school librarian
c) The pupil goes to the school library voluntarily and may ask for help in problem situations
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b) Lending materials is the main function
c) Physical space
d) An intellectual place and
e) space

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Anu Ojaranta

Information Literacy Conceptions in Comprehensive School in Finland

Curriculum, teacher and school librarian discourses

Information literacy skills are essential in an information-rich environment and constitute an important part of lifelong learning. Consequently, understanding the related terminology is important. The focus of this research is on concept of *information literacy* but also the relationship to *information management skills* and *multiliteracy* was studied for comparison.

The study was based on three research questions. With the help of these questions this study aimed to examine the differences in how the concept of information literacy was understood and are there differences between school librarians and teachers conceptions. In addition to this, two consecutive Finnish National Core Curricula of 2004 and 2014 were analysed and the found conceptions were compared with the interview findings.

The study found differences in conceptions between core curricula, teachers and school librarians; emphasis was on different parts of the process. This research contributes to the study of information literacy in the context of cooperation between teachers and school librarians within the Finnish school system setting, with a focus on the problematic understanding of the relevant conceptions.

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