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Digital Tools and Educational Designs in Norwegian Textbooks of Religious and Moral Education

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English abstract

Drawing on recently developed perspectives on educational design, this article investigates the integration of digital tools in texts and tasks from 13 Norwegian textbooks of religious and moral education. Displaying how textbooks differ in the degree and ways in which they include digital tools, the empirical analysis also indicates tensions between competing educational designs: one based on textbook authority, the other promoting student autonomy and use of digital resources.

Keywords: Digital tools, textbooks, design.

Introduction

Recent curriculum changes in Norway have strengthened the emphasis on use of ICT in all school subjects, including religious and moral education (RME). Introducing the use of digital tools as a basic skill, the lower secondary syllabus 'Religion, philosophy of life and ethics' (RLE) requires that students know how to use digital tools to explore various religions, beliefs and ethical issues, to use sources like texts, pictures, music and film in creative and critical manners, and to use digital media for communication and dialogue (RLE, 2008). Similarly, the upper secondary syllabus 'Religion and ethics' (RE) requires that students know how to use digital tools for knowledge acquisition, knowledge processing and presentation, with critical and ethical awareness (RE, 2006).

While the role of RME textbooks has traditionally been to provide students with sufficient information to build the knowledge required by syllabuses, the new curriculum explicitly demands that students produce and present knowledge based on information from digital sources beyond the textbook. As shown in a recent publication, research on RME textbooks tends to focus on aspects like content, language, narratives and illustrations, as well as pedagogical frameworks (Skrunes, 2010). Some recent studies have paid attention to other basic skills in RME, like writing and reading, but the role of digital tools in RME textbooks does not seem to have been paid any attention so far. The purpose of this article is, accordingly, to explore how digital tools are handled by Norwegian textbooks of religious and moral education. In my discussion of these aspects I will draw on recent attempts to develop theoretical perspectives on *educational design* (Hauge et al., 2007). My research question is: *To what degree and in what ways are digital tools made visible as aspects of educational design in Norwegian secondary school textbooks of religious and moral education?*

Prior research and theoretical perspectives

In a recently published book, Njål Skrunes presents Norwegian textbook research with particular focus on textbooks of religious and moral education (Skrunes, 2010). Starting with a survey of textbook research in Norway from the 1980s, Skrunes briefly summarizes the former publications by Egil Børre Johnsen and Staffan Selander, as well as the extensive textbook research project run by Vestfold University College. In the second part of the book, Skrunes gives an overview of Norwegian research on textbooks of religious and moral education. Covering the period from 1975 to 2007, Skrunes presents a total of 14 studies within this field of research, including master theses and reports. According to Skrunes, the studies deal with subject content like religious issues (N=5) and issues of ethics (N=4), they analyze textbooks according to pedagogical trends or certain pedagogical quality standards (N=2) or according to standards of readability and syntax (N=1), and some studies even focus on textbooks' approach to narratives and art (N=2).

While none of the studies reviewed by Skrunes address the issue of basic skills, some recent publications have focused on the skills of reading and writing in RLE textbooks. One study focuses on the writing instructions given for textbook tasks (Jørgensen, 2008); other studies focus on how readers access and interpret texts (Askeland & Aamotsbakken, 2010; Jørgensen, 2010; Winje & Aamotsbakken, 2010). The use of digital tools is, however, not addressed in any of these textbook studies, and the only book section entirely devoted to digital tools in Norwegian RME is of a non-scientific and practical nature and refers only briefly to textbooks in general (Winje, 2009).

The study presented in this article is therefore an exploratory investigation into how digital tools are handled in textbooks. As there is no prior research that may serve as a basis for critical comparison

and discussion, the empirical data of this study will be shortly discussed within a theoretical framework. Recent studies of RME textbooks make use of different theoretical perspectives like multi-voicedness (Jørgensen, 2010), multimodality (Winje & Aamotsbakken, 2010) and intertextuality (Askeland & Aamotsbakken, 2010). In this study I have chosen a newly developed perspective on *educational design*.

Design perspectives on learning based in social semiotics have recently been introduced in Sweden (Selander, 2008). A group of Norwegian researchers (Hauge et al., 2007) have suggested a different approach based on concepts from Cultural Historical Activity Theory (CHAT), a Vygotsky-inspired perspective developed by Yrjö Engeström for critical examination of institutional change through processes of contradictions and expansions (Engeström, 1987, 1999).

While Engeström himself has demonstrated the use of CHAT as a tool for analyzing classroom activity (Engeström, 1996), the present study does not pretend to use CHAT with its full socio-cultural-historical implications. Such an investigation would require a large-scale study of the historical dimensions and of the appliance of tools in school activities.

This study draws on the understanding, developed by the Norwegian group of researchers (Hauge et al., 2007), of central CHAT concepts as key elements in educational design processes. In this notion of design, teaching and learning work is described as object-oriented processes that are mediated through the conceptual, social and material resources or artefacts used by teachers and students. Educational designs are, accordingly, frameworks for shaping and developing teaching and learning processes, and contribute to the identification of key issues in the development of these processes.

Hauge, Lund and Vestøl (2007) make a distinction between *teaching design*, developed mainly by the teacher, and *learning design*, developed by teachers and students in cooperation. Drawing on a similar distinction made by Kaptelinin & Nardi between the *formulation* aspect and the *instantiation* aspect of the construction of the object (Kaptelinin & Nardi, 2006, p. 156), textbooks will in this study be regarded as deliverers of design sketches that contribute to a formulation of potential educational objects. Such potential and imaginative aspects of mediated action and socio-cultural activity are also emphasized by other writers in the Vygotskian tradition (Engeström, 1987; Wartofsky, 1973/1979).

Within this framework the information, tasks and instructions presented by textbook writers are perceived as elements of intended educational designs, indicating educational objects and suggesting appropriate tools for the development of these objects, and also indicating implicit activity rules and divisions of labour between teachers and students.

While the main focus of the Norwegian group of researchers (Hauge et al., 2007) is the role of technology, they also emphasize issues of importance for a study of digital tools in textbooks. According to them, textbooks have potential scaffolding functions, giving direction to, and even some predictability for, the development of educational objects and processes. In this respect, the teachers' selection of issues and tasks for classroom work is described as an important part of educational design.

The group of researchers describes how new technologies like ICT and the Internet challenge established educational designs, and how teachers are challenged to evaluate new technologies and

interpret their implicit presuppositions. Teachers will, however, also be challenged to evaluate the possible design changes and new mixtures of design elements that may take place when such technologies are integrated in textbooks. According to the researchers, there is a risk that technologies or textbooks may act as designers of their own, taking over the role of the teacher as a designer. In this way the group underlines the need for critical examination of design aspects of both textbooks and technologies. The aim of this study is to contribute to such a critical examination of the parts of textbooks that deal with technology as an educational tool.

Method

Based on a qualitative analysis of selected parts of textbooks, the present study is exploratory by nature. I investigate textbooks from the Norwegian school subject 'religious and moral education', which is called 'Religion, Philosophy of life and Ethics' (RLE) at the lower secondary level and 'Religion and Ethics' (RE) at the upper secondary level. While religious and moral education has no strong affiliations with technology, the Internet offers a vast amount of valuable resources for the study of religious and moral phenomena, topics and questions.

The study consists of two main parts. In the first part I present an overview of the distribution of references to ICT and the Internet in textbooks used in lower and upper secondary school, grades 8-13. This part of the study includes textbooks of religious and moral education produced for secondary education in Norwegian state-run schools. Table 1 lists the 8 textbooks (15 volumes) produced in response to the 1994/1997 curriculum reform, and the 5 textbooks (9 volumes) produced after the 2006 curriculum reform, a total of 6,918 pages.

Table 1. Textbooks included in the study. Books with titles in bold letters are published in 2006-2008, in the wake of the 2006 curriculum reform.

Textbook (volumes)	Publisher	Year	Grade	Pages
Møte med livet, 8-10 (3)	Aschehoug	1997-1999	8-10	656
Midt i vår kvardag/tid/verden (3)	Gyldendal	1997-1999	8-10	880
Under samme himmel 8-10 (3)	Cappelen	1997-1999	8-10	761
På leit (2)	Høyskoleforlaget	1997-1998	8-9	460
Mennesket og mysteriet (1)	Det norske Samlaget	1997	13	414
Mening og mangfold (1)	Aschehoug	1997	13	424
Logos (1)	Cappelen	1997	13	392
Religionsboka (1)	Gyldendal	1997	13	368
Horisonter 8-10 (3)	Gyldendal	2006-2008	8-10	704
Under samme himmel 1-3 (3)	Cappelen	2006-2007	8-10	731
Eksistens (1)	Gyldendal	2008	13	384
Tro og tanke (1)	Aschehoug	2008	13	312
I samme verden **(1)**	Cappelen	2008	13	432

The textbooks were examined in extenso, and all paragraphs containing references to ICT or the Internet were text-scanned and analyzed using the Atlas.ti computer program. The analysis has been

conducted in an inductive manner by categorizing all the selected paragraphs. For the purpose of this study, I have focused on certain categories related to the use of ICT and the Internet. The distribution of these categories has been summarized and compared as presented in Tables 2, 3 and 4.

The second part of the study focuses on passages connected to a particular aim in the 8th grade syllabus, which states that students are supposed to develop the competence to 'gather digital information about, and present current questions that are of concern to many Muslims' (RLE, 2008). I sampled all passages related to this syllabus aim from the two 8th grade textbooks, *Horisonter 8* and *Under samme himmel 1*, and from the two accompanying teacher's handbooks and the websites administered by the publishers. The analysis focused on how the sampled paragraphs relate to and interpret the first part of this syllabus aim, resulting in a matrix of educational orientations as shown in Table 5.

Results

The results of the two parts of the study are presented separately with a brief summary, and are then further elaborated on and discussed in the final section of the paper.

Part one: the overall picture

I start this part by presenting a table that gives an overall picture of the distribution of ICT references in the textbooks (Table 2). As Table 2 illustrates, the two generations of textbooks analyzed mirror two different phases of the integration of ICT in textbooks. There is a considerable increase in the average number of references per book page from the textbooks published in 1997-1999 (0.03) to the textbooks published in 2006-2008 (0.12). The shift in technology is not displayed in the table. While textbooks from 1997-99 contain 24 references to CD-ROM, only one reference is found in textbooks from 2006-08. Another interesting aspect is how the use of ICT is handled as a separate issue at the end of each chapter in the 1997-99 textbook *Midt i vår kvardag/tid/verden*, while its sequel *Horisonter 8-10* from 2006-08 treats ICT as an integrated aspect of the tasks presented.

Table 2 shows how textbooks published in the same period vary considerably in the frequency of references to ICT and the Internet. As shown in the last five rows of Table 2, while *Horisonter 8-10* and *I samme verden 1-3* have an average of 0.17-0.18 references per page, or one reference every fifth or sixth page, *Tro og tanke* has an average of 0.05 references per page, or one reference every twenty-second page. As indicated in Table 2, these differences are most visible in the parts of textbooks that present tasks and instructions for student work.

Table 2. Number of references to ICT and the Internet in textbooks. *In these books advice concerning use of ICT is mostly given in separate paragraphs and not in the tasks.

Textbook (total number of pages) Textbooks published 2006-2008 marked with bold letters	**References in tasks**	**References in other parts of text**	**Total number of references (average number of references per book page)**
Møte med livet 8-10 (656)	11	4	15 (0,02)
Midt i vår kvardag/tid/verden (880)	6	43*	49 (0,06)
Under samme himmel 8-10 (761)	43	3	46 (0,06)
På leit (460)	4	8	12 (0,03)
Mennesket og mysteriet (414)	-	-	0 (0,00)
Mening og mangfold (424)	-	-	0 (0,00)
Logos (392)	-	1	1 (0,00)
Religionsboka (368)	-	1	1 (0,00)
***Horisonter 8-10* (704)**	105	19	124 (0,18)
***I samme verden* (432)**	49	23	72 (0,17)
***Under samme himmel 1-3* (731)**	57	13	70 (0,10)
***Eksistens* (384)**	4	21	25 (0,07)
***Tro og tanke* (312)**	5	9	14 (0,05)

The importance of these differences should not be overestimated. As all publishing houses administer websites which present additional resources for educational work, none of the textbooks neglect the importance of ICT and the Internet. It should also be noted that even *Horisonter 8-10*, which has the highest number of references, only mentions ICT or the Internet in 12 % of the tasks in the book. There is definitely some uncertainty related to the tasks in this three-volume textbook; many of them do not specify which tools to use for information search and for presentation. Despite these aspects of uncertainty, the table nevertheless indicates that textbooks differ substantially in their integration of ICT and web-based resources in their texts and tasks.

A more detailed investigation of the Internet references may add further to our understanding of the differences between textbooks. Table 3 shows how textbooks prefer different types of Internet references. The textbook *Horisonter 8-10* makes extensive use of general, unspecified references to the Internet and also has fairly frequent references to websites administered by organizations of relevance to the subject. The textbook *Under samme himmel 1-3*, on the other hand, mostly gives references to the textbook's own website, and tends to avoid general and specific web references.

Table 3. Number of Internet references in textbooks

Textbook Textbooks published 2006-2008 in bold letters	**Unspecified references to the Internet**	**References to websites run by religious & other organizations**	**References to textbook's website**
Midt i vår kvardag/tid/verden	24	33	7
Under samme himmel 8-10	6	-	39
Møte med livet 8-10	15	1	-
På leit (460)	6	1	-
Mennesket og mysteriet	-	-	-
Mening og mangfold	-	-	-
Logos	1	-	1
Religionsboka	-	-	-
Horisonter 8-10	70	36	4
I samme verden	18	11	48
Under samme himmel 1-3	6	2	48
Eksistens	3	3	18
Tro og tanke	-	-	6

Interestingly, this difference in profiles between the two textbooks is mirrored also in their predecessors from the 1990s, *Midt i vår kvardag/tid/verden* and *Under samme himmel 8-10.* There seems thus to be a certain persistence in the strategies chosen.

The different ways of referring to the Internet may be illustrated in more detail. The textbook *Under samme himmel 1-3*, which prefers links to the textbook's own website, generally leads students to a pedagogically prepared source of information, as illustrated by the following example:

> *'Task 3A: Find more information on one of these philosophers: Aristotle, Kant or Mill. Our website will be of help to you.' Under samme himmel 1, p. 39. (Translated by the researcher.)*

Looking up the website being referred to, students will find links to further information on Wikipedia and on websites administered by The Norwegian Directorate for Education and Training (Utdanningsdirektoratet – Skolenettet) and the Norwegian Broadcasting Corporation, NRK. The quality and pedagogical value of the information has obviously been evaluated by the textbook authors and the website administrators. Students' access to the World Wide Web is thus indirect and strictly guided, and the sources may be regarded as a digital extension of the textbook.

The textbook *Horisonter 8-10*, which prefers unspecified references to the Internet, gives students a more immediate access to the World Wide Web. The textbook authors do not control the choice of websites and leave it to the students to evaluate the information which might be found. Interestingly, the textbook tasks vary in the way the Internet is suggested as a source of information. In some instances, the Internet is suggested as the only source to be used, while elsewhere (as in the example below), the Internet is presented alongside other sources like encyclopaedias etc.

> *'Task 11: Search for information on one of the old churches in Armenia, Syria, Egypt, Ethiopia or Eritrea. Use encyclopaedias, travel guides and the Internet, and make a small presentation of the characteristics of this church.' Horisonter 10, p. 55. (Translated by the researcher.)*

As shown in Table 3, even references to specific websites are used to some extent by two of the textbooks. Such references, as in the example below, indicate a procedure that combines direct World Wide Web access with a specific and qualified instruction on how to use the website resources:

> *'Task 6: The website of the Jewish congregation in Oslo (www.dmt.oslo.no) contains a historical survey titled "Jews in Norway" (Jødene i Norge"). Choose one of the historical periods described there, and write a few paragraphs about the information this page gives you.' Horisonter 8, p. 67. (Translated by the researcher.)*

While textbooks refer mainly to ICT and the Internet as *sources of information*, the textbook *Horisonter 8-10* also addresses ICT as a tool for *presenting the outcome* of the learning process. Table 4 shows the distribution of such references to outcome or end products in the textbook tasks that refer specifically to ICT and the Internet as a source of information or as a means of presentation.

Table 4. End products of learning process specified in textbook tasks and advice for work that refers to ICT and the Internet

Products specified in task	***Horisonter 8-10*** (* = ICT suggested or required)	**Other textbooks 2006-2008**	**Textbooks 1997-1999**
Digital slides	**15***		
Collage, newspaper page	**3***		1
Poster, exhibition	8		2
Presentation, speech, talk	30	9	6
Text	30	15	2
Drawing, map, art, food, mind map, timeline, calculation, drama	9		3

The data presented in Table 4 demonstrate that *Horisonter 8-10* is the only textbook in which the use of digital presentation tools is explicitly suggested in specific tasks, as illustrated by the following example:

> *'Task 8: Find pictures on the Internet showing famous [Hindu] temples, places of worship, gods, etc. Make a presentation using [power point] slides.' Horisonter 9, p. 35. (Translated by the researcher.)*

While *Horisonter 8-10* in 8 out of 15 instances suggests digital slides as a required means of presentation, in other instances students are given the choice to make a poster or to use digital slides. In some instances, the textbook explicitly suggests that digital slides should be used as a tool facilitating an oral presentation, while in other instances the slides may be seen as an end product in themselves. *Horisonter 8-10* outnumbers the totality of all other textbooks with regard to specific demand for end products, both digital and non-digital. Even so, the number of tasks in this textbook that suggest the use of digital tools for presenting results is relatively small, only about 2 percent of

the total amount of tasks. This leaves considerable room for the teacher and students to choose between digital and non-digital ways of presentation and documentation.

The analysis has also addressed more specifically how the textbooks produced in 2006-2008 respond to the basic skill of using digital tools introduced by the 2006 curriculum reform. Both syllabuses mention critical examination of digital sources as an aspect of this skill. While the textbooks *Under samme himmel 1-3* and *Tro og tanke* respond explicitly to this by including short guides for critical evaluation of webpages in the textbooks themselves, *Horisonter 8-10* offers a similar guide as an additional handout available in the teacher's handbook. *I samme verden* simply refers to the textbook's webpage.

In the lower secondary syllabus (RLE, 2008) there is a particular focus on creative and critical use of digital sources like texts, pictures, music and film. As described above, both textbooks for lower secondary level, *Under samme himmel 1-3* and *Horisonter 8-10*, include some advice on source criticism, in the text or in an additional handout. Their contributions to creative use of digital sources are less distinct. *Under samme himmel 1-3* presents only a few tasks based on Internet texts. While *Horisonter 8-10* presents a considerable number of tasks based on images and texts from the Internet covering a variety of religions and themes, only three tasks refer to music and film on the Internet. The creative dimension is suggested only by a minor number of tasks where students are asked to make collages of pictures and texts. Integration of music and film in digital presentations is not suggested.

An issue emphasized in the RLE syllabus is how digital media offer convenient sources of material on ethical issues. *Horisonter 8-10* presents a series of tasks referring to such material, while *Under samme himmel 1-3* directs the students to the textbook's website for additional information. Another issue in the RLE syllabus is digital tools as a means of communication and dialogue. *Horisonter 8-10* presents one task suggesting that students communicate with Christian leaders by means of the Internet, to ask their opinion on various religious and ethical issues, while *Under samme himmel 1-3* suggests that students send an e-mail to a Jewish synagogue. No other examples of, or instructions for, digital communication have been found in these textbooks.

Turning to the upper secondary school subject RE, the description of basic skills emphasizes the need for ethical awareness concerning the use of digital tools (RE, 2006). This concern is present on some occasions in the main text of the textbooks *Tro og tanke* and *I samme verden*. The latter textbook also presents several tasks challenging students to reflect on issues of possible misuse of the Internet.

To sum up the analysis so far: through the numbers presented in Table 2, Table 3 and Table 4, two findings become evident: while the overall number of references is relatively small, the textbooks differ in how and to what extent they include references to ICT and the Internet. Some textbooks refer mainly to digital extensions on the textbook's website, while others refer to a variety of web resources. There is, furthermore, varying emphasis on the different aspects of the use of digital tools as a basic skill. While digital knowledge acquisition is favoured by several textbooks, digital knowledge production and presentation is less acknowledged. Textbooks deal with critical evaluation of digital sources in varying ways, while less attention is paid to creative use of such sources.

Part two: textbooks and the required use of digital sources

In the second part of the study, I go into more detail in one particular case. I examine how the 2006-2008 textbooks for the 8th grade deal with a specific paragraph in the syllabus which explicitly demands the use of digital tools. The 8th grade syllabus states that the students should be able to 'gather digital information about, and present current questions that are of concern to many Muslims' (RLE, 2008). My investigation focuses on how the two textbooks, *Under samme himmel 1* and *Horisonter 8*, deal with the competence aspect described in the first part of this paragraph. In the analysis, I will include the additional information available through teacher's handbooks, Audio-CDs, and websites available as add-ons.

Both textbooks refer to the aim presented in the syllabus, but they choose to rephrase the wording slightly. *Under samme himmel 1* omits the requirement that information should be gathered from digital sources, and simply states that students should be able to 'gather information.' *Horisonter 8*, additionally, omits the requirement that students should gather information and states that by reading the chapter on Islam the students will 'learn about issues of importance to Muslims in our part of the world'. In this way, both textbooks downplay the aspect of digital skills which is emphasized by the syllabus, and assign to this competence a form which is more suitable for textbook presentation.

The textbooks are then free to suggest issues for the students to work with. *Under samme himmel 1* restricts the number of topics to recent discussions in Western countries concerning public use of the hijab, but the website additionally suggests that students may investigate and present the debates which followed the Muslim protests against the publications of the Danish Muhammad cartoons. *Horisonter 8* covers a wider range of topics. The main text focuses on western Muslims' experience of living as a minority and of being regarded as a potential enemy, and the text also deals with issues of female clothing and dietary rules. The teacher's handbook emphasizes the attempts of the textbook authors to write these chapters from the perspective of the Muslim minority.

The tendency to downplay the role of digital sources and strengthen the role of the textbook is however not ubiquitous. *Horisonter 8* offers the following option among the tasks included:

> *'Look up websites administered by Muslims, for instance , and try to identify issues that concern many Muslims today. Present these to your fellow students'. Horisonter 8, p 97, chapter task 6. (Translated by the researcher.)*

In a similar effort, the teacher's handbook accompanying *Under samme himmel 1* states the right of the teacher and students to choose which issue (singular!) to investigate, and offers links to some suitable web pages that contain information on hijab and the cartoon debate. Additional information on the hijab topic is also offered on an optional audio CD.

The impression is thus a mixture of two different tendencies or foci, as illustrated in Table 5. There is an emphasis on the textbook as a source of information and a, perhaps less strong, but clearly visible, focus on the role of students as actors gathering information from digital sources.

Table 5. Distribution of foci in textbooks

Focus	**Textbook *Horisonter 8***	**Textbook *Under samme himmel 1***
Textbook presenting information	Textbook: Changed phrasing of competence	Textbook: Hijab selected and presented as main topic
(Combined focus)	Textbook and teacher's handbook: Angle & focus: integration, minority position	Website: Cartoon debate as additional topic. Links to additional information
Student gathering information from the Internet	Textbook: Instruction/task suggesting information search on the Internet	Teachers' handbook: The right of teacher and students to choose topic

To sum up the analysis: while the first part of the analysis displays differences in the distribution of references to, and promotion of, digital tools in the textbook, the second part demonstrates tensions between textbooks and the Internet as sources of information. As will be elaborated in the following discussion, this may point towards implicit tensions between different educational designs, including tensions between textbook authority and student autonomy, and between textbook and ICT as artefacts.

Discussion

In the introduction I raised the question to what degree and in what ways digital tools are made visible as aspects of educational design in Norwegian secondary school textbooks of religious and moral education. The findings presented above show that there is substantial variation in the degree to which textbooks make ICT visible as an artefact and object in their educational designs. Textbooks display different strategies; while some encourage open access to Internet information, acknowledging a certain student autonomy in the search for information, others promote a more structured and limited access through websites that serve as digital extensions of the textbook. Part two of the study displays the ambiguity concerning the role and status of textbook information versus Internet information, and points to a certain tension between textbook authority and student autonomy.

The varying strategies and the tensions described above indicate that different educational designs are in play in the textbooks, as illustrated in Table 6. Based on the textbook as a main artefact and on the reproduction of textbook information as its main object, the first design promotes the authority of the textbook as a main rule and indicates a division of labour where students are mainly receivers of information. In contrast, the second educational design has the Internet as its main artefact, and the central object is the development of a specific competence: an expertise in gathering and interpreting digital information. Autonomous search for information emerges as a basic rule in this second educational design, and the students are given roles as active investigators.

Table 6. Traces of different educational designs in textbooks

Elements	**Educational Design I**	**Educational Design II**
Artefact	Textbook	Internet
Object	Competence: to reproduce textbook information	Competence: to gather digital information
Rules	Authority of textbook	Autonomous search
Division of labour	Textbook author presenting and students receiving information	Students searching, processing and presenting information

As indicated in the analysis, the tension between the two designs is stronger and more visible in some of the textbooks from 2006-2008 compared to the textbooks from 1997-1999. This is probably partly due to the more specific demands for use of digital tools in the 2006 curriculum. In the 1997-1999 textbooks, ICT and the Internet serve as optional additional resources which do not challenge the position of the textbook as a main source of knowledge. While some of the 2006-2008 textbooks integrate ICT in similar ways, others promote ICT as an independent and equal source of knowledge, indicating the possibility of alternative designs. Traces of tensions between educational designs are displayed in lower secondary textbooks from 2006-2008, while such traces are not found in the textbooks for upper secondary level (RE). This may be explained by the fact that the description of the basic skill in RE is short and rather general of nature, and that the syllabus leaves it completely up to teachers and students to decide when to include the use of digital tools.

These results have implications for the understanding of the elements of *educational design* introduced earlier in this article (Hauge et al., 2007). While textbooks tend to recognize ICT and the Internet as valuable additional *artefacts* facilitating teachers' and students' search for information, they differ in the degree and ways they acknowledge this artefact by making it visible and accessible in texts and tasks. Textbooks do, furthermore, show signs of confusion in cases where digital sources are given priority by the syllabus aims, and they pay little attention to digital tools as a means of production and presentation of knowledge, and to the creative potential of the digital artefact.

As textbooks in these ways partly limit the potential of ICT and the Internet as artefacts, these limitations also affect the instantiation of the *object* of the educational process (Kaptelinin & Nardi, 2006). As acquisition and critical examination of information is emphasized, and the creative, imaginary aspects of production and presentation tend to be neglected, the objects of religious and moral education run the danger of being somewhat intellectualized. The way textbooks allow or limit access to digital information defines different degrees of learner autonomy and thus affects both the object formation and the implicit *rules* and *division of labour*.

As this study demonstrates the variety in use of educational design elements in textbooks, it visualizes the role of textbooks as deliverers of potential artefacts and objects (Engeström, 1987; Wartofsky, 1973/1979). The study also indicates that the perspectives on educational design introduced by the Norwegian group of researchers (Hauge et al., 2007) may contribute to a critical evaluation of textbooks. When textbooks are emphasized as important deliverers of scaffolding, this study poses critical questions about the quality of this scaffolding with regard to the development of digital skills. As the textbooks analyzed in this study hesitate to facilitate the full range of digital skills demanded

by the syllabus, the scaffolding functions of their designs become vulnerable. Similar problems occur when textbooks in subtle ways adjust elements of the educational design suggested by the syllabus.

The findings thus underline the demand for critical examination and evaluation of textbooks when teachers select issues and tasks for classroom work. When digital sources are introduced as mere add-ons to the information given in the textbooks, the challenge may be limited to questions of source criticism and thus easily adjusted to a traditional educational design. Even then, it is a challenge to identify and evaluate the design elements in light of the purpose suggested in the syllabus. When textbooks fail to deal with syllabus demands for exclusive use of digital sources or for creative use of digital sources, indicating that these parts of the basic skill are given low importance, the need for critical evaluation increases.

The most complex issue revealed in this study may be the case where textbooks partly adjust the aim of the syllabus to suit the traditional role of the textbook. While the critical reader will notice the fact that the textbooks deliberately rephrase the syllabus, the underlying tensions between potentially competing designs may escape the reader's attention. In such cases, when different educational designs are competing within a single textbook, critical examination of educational designs, as emphasized by the Norwegian researchers, may be of particular importance.

While the legitimacy of digital tools as a means of knowledge acquisition is not contested, Norwegian textbooks of religious and moral education hesitate to include the full range of aspects included in the descriptions of the use of digital tools as presented in the syllabuses. This raises important questions concerning the roles of textbooks and syllabuses for educational design in religious and moral education. One question addresses the realization of textbook design elements and digital tools in classroom work. Another question concerns the role of textbook design elements and ICT in religious and moral education compared to other school subjects. While further research will be needed to answer these questions, the aim of the present study has been to add to a critical understanding of how textbooks provide digital tools as educational design elements.

References

Askeland, N. & Aamotsbakken, B. (2010). Hva skjedde med Ikaros og det hellige? Om lese- og skrivekulturer i lærebøker i RLE-faget. In J. Smidt, I. Folkvord & A. J. Aasen (Eds.), *Rammer for skriving. Om skriveutvikling i skole og yrkesliv* (pp. 243-259). Trondheim: Tapir Akademisk Forlag.

Engeström, Y. (1987). Learning by Expanding. An Activity-Theoretical Approach to Development Research. Helsinki: Orienta Konsultit Oy.

Engeström, Y. (1996). Non scolae sed vitae discimus: toward overcoming the encapsulation of school learning. In H. Daniels (Ed.), *An Introduction to Vygotsky* (pp. 151-170). London: Routledge.

Engeström, Y. (1999). Activity Theory and individual and social transformation. In Y. Engeström, R. Miettinen & R. L. Punamäki (Eds.), *Perspectives on Activity Theory* (pp. 19-39). Cambridge: Cambridge University Press.

Hauge, T. E., Lund, A. & Vestøl, J. M. (2007). *Undervisning i endring: IKT, aktivitet, design.* Oslo: Abstrakt Forlag.

Jørgensen, C. S. (2008). Skriving og engasjement. Om oppgavene i de nye lærebøkene i KRL. In R. T. Lorentzen & J. Smidt (Eds.), *Å skrive i alle fag* (pp. 181-190). Oslo: Universitetsforlaget.

Jørgensen, C. S. (2010). Skriftlige spor etter elevers lesing i religions- og livssynsfaget - en undersøkelse av elevers KRL-notater. In D. Skjelbred & B. Aamotsbakken (Eds.), *Faglig lesing i skole og barnehage* (pp. 141-162). Oslo: Novus Forlag.

Kaptelinin, V. & Nardi, B. A. (2006). *Acting with Technology. Activity Theory and Interaction Design.* Cambridge MA: The MIT Press.

RE (2006). *Læreplan i religion og etikk - fellesfag i studieforberedende utdanningsprogram*. Retrieved 6.1.2011 from: http://www.utdanningsdirektoratet.no/grep/Lareplan/?laereplanid=167612.

RLE (2008). *Læreplan i religion, livssyn og etikk*. Revised version 2008. Retrieved 6.1.2011 from: http://www.utdanningsdirektoratet.no/grep/Lareplan/?laereplanid=707207. *[Curriculum for religion, philosophies of life and ethics].* Retrieved 6.1.2011 from: http://www.udir.no/upload/Curriculum_for_religion_philosophies_of_lifeandreligion.rtf.

Selander, S. (2008). Designs for Learning - A Theoretical perspective. *Designs for Learning*, 1, (pp. 10-22).

Skrunes, N. (2010). *Lærebokforskning. En eksplorerende presentasjon med særlig fokus på Kristendomskunnskap, KRL og Religion og etikk.* Oslo: Abstrakt Forlag.

Wartofsky, M. (1973/1979). Perception, Representation, and the Forms of Action: Towards an Historical Epistemology. In M. Wartofsky (Ed.), *Models. Representation and the Scientific Understanding* (pp. 188-210). Dordrecht: D. Reidel Publishing Company.

Winje, G. (2009). Å være digital i religion, livssyn og etikk (RLE). In H. Otnes (Ed.), *Å være digital i alle fag* (pp. 67-83). Oslo: Universitetsforlaget.

Winje, G. & Aamotsbakken, B. (2010). Å lese om islam og andre emner i RLE på 5. årstrinn. In D. Skjelbred and B. Aamotsbakken (Eds.), *Faglig lesing i skole og barnehage* (pp. 123-140). Oslo: Novus Forlag.