

# Students' Digital Strategies and Shortcuts

– Searching for Answers on Wikipedia as a Core Literacy Practice in Upper Secondary School

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PEER REVIEWED ARTICLE

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## Abstract

When the classroom is connected to the Internet, the number of possible sources of information is almost infinite. Nevertheless, students tend to systematically favor the online encyclopedia Wikipedia as a source for knowledge. The present study combines quantitative and qualitative data to investigate the role Wikipedia plays in the literacy practices of students working on school tasks. It also discusses how different tasks lead to different strategies.

**Keywords:** Assessment, Digital literacy, School tasks, Wikipedia

## Introduction

In the past, students' choice of knowledge sources while solving school tasks was determined by what was available, either in class, at the school library, or at home. Today, many students may choose between an almost infinite quantity of digital sources available through the Internet. Even though there is a vast amount of possible sites that can be accessed for schoolwork resources, one particular site stands out as far more popular than the rest, namely the online encyclopedia Wikipedia.

The aim of the present study is to assess how Wikipedia is becoming a part of the school context and how school literacy is changing through access to more information than that available in the traditional subject textbooks. Specifically, we investigate this by studying how a sample of Norwegian students at upper secondary school chooses information sources in order to perform school tasks. These are students who have access to both traditional textbooks and the Internet at school and at home; and we want to know more about their course of action when they need subject-relevant information, and why some literacy practices are more prominent than others when engaging in formal and informal school tasks.

The present study combines data from a quantitative survey on students' attitudes toward Wikipedia and qualitative contextualized interviews. Together, these data sources explore why and for what purposes students use Wikipedia and more traditional print-based texts, in this case textbooks. The overarching goal of the study is to explore students' literacy practices regarding sources of knowledge by asking "which role does Wikipedia play when students are doing school assignments?" We also investigate *how* Wikipedia entries are used by the students, and how different tasks might lead to different strategies and different sources of information.

## Wikipedia entries versus textbooks in an educational setting

In the following review we focus on empirical findings on how Wikipedia is becoming integrated in educational settings that were previously dominated by school textbooks alone. Students' literacy practices develop over time and hence we have included a few relevant studies from lower grades and college level. The college level is also relevant because the students in our sample attended their final year in upper secondary school (year 13) at the time the survey took place, and thus qualified for university less than a semester after this.

Wikipedia is an online encyclopedia that was launched in 2001, thus making it a relatively new potential source of information in schools. In educational discourse, Wikipedia is controversial. Eijkman (2010) claims the controversy revolves around the content itself, students' (mis)use of the information found on the site, and in the ways in which the organizational model of Wikipedia challenges established practices of knowledge production and dissemination. There is an apparent contradiction, as discussed by Hilde Brox (2012), between Wikipedia's popularity among students (Blikstad-Balas, 2013; Lim, 2009; Raine & Tancer, 2007) and its reputation in academia.

Historically, the most important written knowledge source in school has been the textbook (Cuban, 1983), associated primarily with schools and teaching (Barton, 2007). While published textbooks are often evaluated and approved by professionals on the subject they concern, written with educational goals according to the national curriculum, and have clear expectations of prior knowledge, Internet texts are typically not written to serve educational purposes, they are in general not approved or evaluated by professionals in the field, nor are they designed to fit a specific age

group with an intended amount of prior knowledge. It should come as no surprise then, that while the role of Wikipedia in education is disputed (Brox, 2012), the vast majority of teachers use textbooks in their class (Cuban, 1983; Martin et al., 2012; Mullis et al., 2012). An important point here is that the extensive use of traditional textbooks implies that students are traditionally used to reading material where the appropriateness of the content is checked in advance (Kiili et al., 2008).

The international trend of relying on textbooks is also found to be a core practice for Norwegian teachers, who report that by using school textbooks they ensure that their teaching follows the national curriculum (Rambøll Management, 2005). Not only are the textbooks tailored to the school, the classroom is also tailored to the textbook: when planning and performing their teaching activities, teachers say that the subject's textbook actually plays a more significant role than the national curriculum does (Bachmann, 2004). Up to 90% of a sample of teachers in upper secondary schools in Norway report using the textbook when planning their classroom activity (Rambøll Management, 2005), which suggests that textbooks are a key element in intended educational literacy practices.

The dominance of the textbook might be challenged in the Norwegian context by the explicit focus on information and communication technology ICT and multiple texts in the new curriculum (Erstad, 2006; Rogne, 2009), the extensive use of learning management systems (Egeberg et al., 2012; Håland, 2007; Hatlevik et al., 2009), and the widespread access to the Internet in Norwegian schools (Egeberg et al., 2012; Frønes et al., 2011); all of which point to an increase in digital literacy practices embedded in the school setting.

While the textbook appears to be a consistently natural choice for teachers, Wikipedia seems to have become a natural choice for students. The digital encyclopedia is constantly among the most frequently visited sites on the entire Internet (Alexa, 2013). In the cluster of sites that concentrate on educational and reference material, Wikipedia draws nearly six times more traffic than the second most visited site (Raine & Tancer, 2007). Wikipedia's popularity is still increasing, more than the increase in the number of Internet users, and educational level continues to be the strongest predictor of Wikipedia use: higher education correlates with increased use of Wikipedia (Zickuhr & Raine, 2011).

In a study about how and why college students use Wikipedia, Lim (2009) found that one third of the sampled students reported using Wikipedia for academic purposes. Similarly, Head and Eisenberg (2010) report that the majority of college students use Wikipedia in academic settings. The Children Go Online survey, which was conducted in the UK, found that 60% of students aged 9 to 19 years would rather use the Internet than their textbook when searching for information for homework (Livingstone & Bober, 2004). Once a student is online searching for information, the likelihood of visiting Wikipedia is high, as search engines contribute to Wikipedia's popularity by locating Wikipedia articles in top positions. Whitmire (2004) found that the weakest undergraduate students tended to assume that search engines, such as Google, order the result according to both relevance and credibility. Shenton and Dixon (2004) found that students use one initial keyword, and their subsequent actions are determined by the response from the web – which is highly likely to be a Wikipedia entry.

Several studies suggest that while searching online, people do not always look for the best potential information. Metzger (2007) points out that web users are not meticulously evaluating web content. According to Fallis (2008), people usually choose easily available sources and tend to make the least possible effort in verifying them. The college students in Rieh and Hilligoss' (2007) sample were

sometimes willing to compromise credibility for speed and convenience, while the college students in Lim's (2009) study said they tended not to expect to find the best information when using Wikipedia; however they settled for reasonably good information. The Norwegian Monitor survey (Egeberg et al 2012) found that, paradoxically, the digital knowledge source Norwegian students in secondary schools trust the most, namely the textbook publisher's website, is the one they use the least; while Wikipedia, which they trust the least, is the most frequently used. Kiili et al. (2008) found that most students from upper secondary school in their sample seldom evaluated the credibility of obtained information, and these students also relied quite heavily on information found on Wikipedia.

Finally, students in the digital environment are faced with a serious challenge when evaluating the abundance of potential knowledge sources arising from a simple online search. Many adults lack the skills required to identify reliable online sources (Walton & Archer, 2004), and children's judgment of a website's quality often refers to visual aspects and the opportunity for interactivity (Livingstone, 2009). Habitually, students are in a situation where they need to find information about something that they are not familiar with, and therefore they are not always able to evaluate it. Leno (2006) shows that Finnish 15-year-olds consider access to information to be the main advantage of the Internet, but very few of them see unreliable and irrelevant information as a serious problem.

In summary, existing research indicates that even though the textbook is still an important basis for school literacy, the use of Wikipedia is increasing. Furthermore, the reviewed literature suggests that students are often positive toward Wikipedia. While younger students might not be fully aware that Wikipedia is considered to be potentially inaccurate owing to its lack of formal editors, older students seem willing to compromise credibility for speed and convenience.

## How to “do school” with words

Within the framework of New Literacy Studies, in which the present study is grounded, it is assumed that literacy is a critical social practice that is constructed in everyday interactions across local contexts through literacy events and practices (Barton, 2007; Barton & Hamilton, 1998; Gee, 2007; Street, 1995). Literacy events can be defined as all sorts of occasions in everyday life where the written word has a role (Barton, 2007). In these events, the role of the written word can vary: pictures, films, commercials, hypertexts, and artwork, can all be the basis of a literacy event, just as a more traditional print-based novel can be. Literacy practices are considered as a specific kind of social practice, involving written language (Barton, 2007). Street (1995) emphasizes that the term refers to behavior as well as the social and cultural conceptualizations that give meaning to the uses of reading and/or writing – which is also how we use the term.

Texts gain value depending on who their author is and on the power relations involved (Barton & Hamilton, 1998). It is therefore essential to consider power relations while exploring literacy, as the possibility of generating and maintaining textual hegemony is not evenly distributed. The power relation between a school textbook and Wikipedia entries might differ from classroom to classroom, or teacher to teacher, or lesson to lesson. However, the literacy practices based on textbooks are considered to be among the key ways of “doing” school on both the elementary and secondary levels (Cuban, 1983; Goodlad, 1984; Yore, 1991; Wade and Moje, 2000). Wikipedia does not have the same status in the educational setting (Brox, 2012; Eijkman, 2010), since it lacks the hegemonic role the textbook has played in school for centuries.

The “transmission model”, in which the role of texts and teachers is to transmit a large body of official knowledge and skills to the students (Wade & Moje, 2000), has been the dominant approach to teaching both reading and subject area content (Alvermann & Moore, 1991; Cuban, 1983; Goodlad, 1984). In this model, the textbook has a key role as the teacher-appointed official source of knowledge. As the main function of student-generated texts has been to document whether students have been able to process the information they obtained from teachers and textbooks (Wade & Moje, 2000), it is fair to claim that the practice of undertaking school assignments is one of the central literacy practices of the school domain.

Scardamalia and Bereiter (2006, pp. 101) distinguish between knowledge *about* something and knowledge *of* something: while knowledge *about* consists of declarative or descriptive knowledge, knowledge *of* consists of both declarative and procedural knowledge, “(...) it entails not only knowledge that can be explicitly stated or demonstrated but also implicit or intuitive knowledge that is not manifested directly but must be inferred.” According to Scardamalia and Bereiter (2006), knowledge *about* dominates traditional educational practice and predominates in textbooks, curriculum guidelines and subject matter tests, while knowledge *of* suffers massive neglect. As pointed out by Lajoie and Azevedo (2006), Internet search engines clearly support the search for declarative or factual knowledge. If students are given assignments focused on knowledge *about* something, and are given the opportunity to use search engines to find such knowledge, the results will often be a fact-oriented reproduction of some kind. Furberg and Rasmussen’s (2012) review on how students use web-based learning resources concludes that students often end up copying or reproducing fact-oriented texts they find in their textbooks or online. Students even describe their own strategies as “transporting and transforming” facts (Alexandersson & Limberg, 2004) and say they are “sampling” while cutting and pasting potential material in a “scrapbook” (Lund & Rasmussen, 2008).

## Methods and context

The present study used a dual approach (see Table 1): a quantitative survey of students in upper secondary school and qualitative in-depth contextualized interviews with four focus students who have also been recorded for a period of three weeks in three subjects: Norwegian language arts, History, and Religion and Ethics.

The survey on students’ use of Wikipedia in school was conducted in 2012, based on a sample of 168 students from eight different schools in the Norwegian counties of Oslo and Akershus. The chosen schools were selected from different areas, and the variation in grades and socioeconomic background reflects the variations in the overall population. All the sampled students were attending their final year of upper secondary school at the time the survey was conducted, and local regulations state that all students must have access to a computer provided by the school.

Table 1. Corpus data 1 and 2

<b>Primary data corpus</b>	
Video recordings	Sixty-four hours of recordings using head cameras placed directly on four focus students during a total of 18 lessons in three subjects
Interviews	Semi-structured interviews with the four focus students, using still pictures extracted from the video recordings and textual artifacts as contextualizing material
<b>Additional data corpus</b>	
Survey	A survey on students' attitudes toward Wikipedia in a school context (n = 168)

The survey consisted of an electronic questionnaire with a total of 35 questions, and apart from the question where the respondent is asked to identify himself or herself as male or female, all questions directly concerned the respondents' use of and attitudes toward Wikipedia in a school setting. The first 33 questions were multiple-choice questions with different kinds of Likert scales (see for instance Crocker & Algina, 1986, pp. 79), while the two final questions encouraged the respondents to write in their own words what they considered to be the advantages and the disadvantages of using Wikipedia in a school setting. The questions were written to be as clear and as precise as possible, following the recommendations of classical survey literature (e.g., avoiding multiple questions at once) (Crocker & Algina, 1986; Fowler, 2009), and the questionnaire was piloted with students who were encouraged to find potential sources of multiple meaning or difficult, confusing, or misleading language.

The qualitative interviews were conducted at an upper secondary school in Oslo in 2011. The students at this school all have above average grades, as the school's entrance requirements are high. Rather than asking general questions, the interviewed students were asked in pairs to talk about their own literacy practices by elaborating and explaining how they engage in re-occurring literacy events documented prior to the interview. This documentation of literacy events was performed by video recording activity in class and gathering all textual artifacts used in class preceding the interview.

All student activity in the three subjects was recorded using a small camera similar to a head lamp. Four focus students were recorded over a period of three weeks in three subjects. The students were chosen with help from their teachers. This purposive sample was made based on gender (two boys and two girls) and variation in their usual location in the classroom. In the following the students are called Stine, Andreas, Hedda, and Thomas; we have also changed the names of their teachers. The recording provided a clear record of what Stine, Andreas, Hedda, and Thomas spent their time doing during each lesson, what texts they read, how often they engaged in different literacy events, and what types of knowledge sources they used when doing assignments in class. By utilizing this method, it was possible not only to observe, for instance, that students were using their computer, but also to see which site each student was accessing. Still pictures of prominent literacy events in the recordings were printed and shown to each student in the interview, along with the actual textual artifacts they used, such as books, digital presentations, tasks, and so on. In pairs, the students were asked to comment on actual texts and actual pictures of prominent activities, rather than talking about school literacy in general. In this article, the focus of analysis is literacy practices connected to school tasks. Thus, we provide analyses of interviews where the students talk about specific tasks they engaged in during the three weeks of data collection. The references to tasks in the following interviews are all from the subject Norwegian language arts, where tasks were often

intended to be done during class. The different strategies employed by students while working with tasks are thus well documented in the video recordings, which makes Norwegian language arts particularly relevant for our enquiry.

The transcriptions of the interviews are analyzed thematically, organized in what Gee (2011, pp. 74) refers to as “stanzas”, that is “groups of idea units”. The stanzas we have chosen to present in the following analyses were selected because we considered them to be good representations of the students’ discursive perspective, or “take”, on their own literacy practices, especially those concerning Wikipedia use. They were chosen precisely because they all explicitly concerned how the four interviewed students described their own literacy practices when doing school tasks in the subject Norwegian language arts. The themes that form the basis of the following analyses concern the topics (a) use of textbooks, (b) the students’ strategies when searching for information, (c) cut and paste practices, and finally, (d) the difference between formal and informal tasks.

## Data analyses

### Survey: Positive attitudes toward Wikipedia

Rather than reporting the whole survey, we provide only the main findings, which are directly relevant for our discussion. For a full report on both methods and results of the survey, see Blikstad-Balas (2013).

In the survey, all the respondents affirmed that they had visited the online encyclopedia Wikipedia. While they had all visited the Norwegian version of the site, 99% (all except one) had also used the English version, and 39% had used the Spanish version. The Swedish (30%), Danish (28%), German (17%), and French (17%) versions were also cited as used, as well as “other languages” (9%). An overwhelming 99% strongly agreed or agreed with the claim “I find it easy to find information on Wikipedia”; 71% strongly agreed or agreed with the claim “Wikipedia is a good source of information for school tasks”; while 29% either disagreed or strongly disagreed with the same claim. “The information on Wikipedia might be wrong” was a claim that 96% of the respondents either strongly agreed or agreed with. Not surprisingly then, 89% disagreed or strongly disagreed with the claim that “Wikipedia is as trustworthy as their textbooks”. Consistent with other research, the recognition of Wikipedia as a less trustworthy source of information does not stop the students from using it or liking it; 83% of the respondents strongly agreed or agreed with the claim “I enjoy using Wikipedia for school purposes”.

In the open-ended questions, the students were asked to express what they considered the advantages and disadvantages of using Wikipedia for school purposes. Wikipedia encompasses broad knowledge *about* a lot of school-related topics, which is a predominating advantage according to the students. It was also described as easy to use, easy to read, and fast. As several of the students put it “it’s fast and easy, and you find the answers you need”. The main disadvantage reported by the respondents was that you can never be completely sure that the information you are using is reliable, even though it looks like it is. Several students also reported, as unfavorable, that teachers have a negative attitude toward Wikipedia, that it is tempting to copy the text from Wikipedia directly into your own text, that Wikipedia has a bad reputation, and that it is considered not to be a good choice of knowledge source. How the teachers feel about Wikipedia is difficult to measure without asking them directly, but to the claim “My Norwegian language arts teacher likes that I use Wikipedia

for school purposes” we obtained the following responses: 2% strongly agreed, 25% agreed, 52% disagreed, and the remaining 21% strongly disagreed. This variation was consistent across schools, which means that the same teachers received different scores from their students on this question, implying that there might be confusion as to whether each teacher approves of Wikipedia, or not, in a school setting. Combined with the statements from the open-ended questions describing teacher dissatisfaction with Wikipedia, the survey suggests that the majority of students do not perceive Wikipedia as an intended school source for information.

### **Interviews: Wikipedia and the textbook as competing sources of information**

In the interviews, as well as in the video recordings and in the collected artifacts from the classroom, we identified two competing sources of knowledge when the students received an assignment. Their main choice was between the subject textbook and the “Internet”. The students all followed the same procedure when performing an online search: they went to the search engine Google, typed in a selected keyword, and Google then suggested Wikipedia. In line with the research discussed in the review section of this article, we suggest that the actual choice the students made when deciding where to search for relevant information was between their textbook and Wikipedia.

Each student has their own copy of the textbook, provided by the school. There are several links between the textbook and the students' assignment. First of all, the textbook is full of tasks intended for students. Tasks are even considered to be one of the characteristic features of the schoolbook genre (Kress, 2003; Barton, 2007). When tasks are integrated in the textbook, they follow the structure of the textbook, and one should more often than not expect to find the answers to each task in the very book providing the task. In the class where our qualitative data collection took place, the teachers usually made their own assignments. Even so, in Norwegian language art assignments also had references to textbook pages that would be relevant for each task. Hence, even when the tasks were not from the textbook, the textbook appeared to be the intended source of knowledge. While the textbook was mentioned by the Norwegian language arts teacher both orally and in writing frequently during the three weeks of data collection, Wikipedia was never mentioned by the teacher at all.

While the teacher encouraged the students to use the textbook as a source of knowledge, the students all displayed negative attitudes toward their textbooks. In the interviews the textbook was a topic, and both Hedda and Thomas used the word “boring” to describe their Norwegian language arts textbook. Thomas referred to it as “a huge book nobody cares to read”. In the interview with Stine and Andreas, it was brought up that in the pictures of typical activities from class, the Norwegian language arts textbook was very often present, but always closed:

Stine: Yes, we never read that.

Andreas: It's – I think we only use it when we read such «read the text on page ...» if there's like a story there.

Stine: Yes, or if we are to write about some author and we don't find anything on the web, so we read this instead. But I believe...

Andreas and Stine recognized two potential uses for the textbook, one being as a place to find a specific literary text they are told to read, the other as a source of information for their own writing, if the Internet does not provide them with the information they need. As in several other studies (Head & Eisenberg, 2010; Lim, 2009; Raine & Tancer, 2007), the students were positive toward

Wikipedia as a knowledge source. The video recordings confirm that Wikipedia is a popular textual basis for literacy practices connected to school tasks.

The tasks talked about during the interviews were all tasks that required what Scardamalia and Bereiter (2006) label as “knowledge *about* something”, as this was the only type of task the students engaged in during the three weeks that the data collection took place. In these tasks the students are typically asked to provide biographical information about authors, define terms, or briefly describe the plot of selected literary works. During the interview, the students were encouraged to explain the strategies they adopted when looking for information while doing school assignments:

- Interviewer: But you try the Internet first, and then the book?
- Stine: Yes, preferably.
- Andreas: Well that's because if you are going to use the book then you must find the page and use the index and it becomes very complicated.
- Interviewer: So there's ...
- Andreas: (laughter) ... It's much easier to write from the Web.
- Interviewer: It takes more time though [The textbook]...
- Stine: Yes, it is – yes much easier to go on the Internet – but books work quite okay too, but that, I don't know, we simply do not use it so much anymore.
- Andreas: I think it's because there is so much there – in school books there is so much unnecessary stuff.
- Stine: Yes, that's certainly the case.
- Andreas: There's really a lot of padding.

It is worth noticing that the students described their textbook, written especially to meet their educational needs at a very specific point in their education, as containing too much unnecessary information, while the Internet, which is written outside the educational context, is described as more accessible.

How information from a knowledge source is used is crucial. As we mention in our review, students often tend to copy or reproduce fact-oriented texts. In the following stanza, Andreas and Stine described a practice of copying and pasting that can be used while doing tasks:

- Andreas: I think I use Wikipedia all the time.
- Interviewer: But...
- Stine: Yes?
- Interviewer: Do you write it down then, or just copy and paste?
- Andreas: Yes... With these exercises here [task about biographic facts on Norwegian authors] I normally write it directly off the Web.
- Interviewer: Yes?
- Andreas: I don't copy and paste, as it shows up in a frame, but I do write it straight down (laughter).
- Stine: I also write it down more or less as on the Web.

Hedda was also asked to explain how she used Wikipedia when working with the same task:

- Interviewer: How do you use Wikipedia when you are supposed to write about Olav Duun? [Norwegian author]
- Hedda: Hmm – that depends on the type of task, if it is just a quick task that is to be done as quickly as possible, then I cut and paste.

As Hedda emphasized, the *type of task* is essential when deciding what kind of literacy practices to engage in. There was a rigid dichotomy for the students between the tasks that would receive formal assessment, and those that would not. What Hedda labeled a “quick task” was referred to as a “small task” by Stine. Andreas described these tasks in the following way:

*It's a task where you don't learn anything, just like «write a portrait text of Sigurd Hoel» [Norwegian author] and you write it, but then you actually haven't learned anything, you're just doing it for the sake of doing it.*

According to Andreas, there was writing in these tasks, but no learning. He said he had to do them for the sake of doing them. Such assignments only require reproduction of knowledge, and Wikipedia is not only an adequate knowledge source for this purpose, but the students' preferred first option. When asked about these cut and paste practices, the dichotomy between formally and informally assessed tasks was emphasized further:

- Andreas: I don't do that [cut and paste] with, like, important tasks.
- Stine: But, like, with the other tasks, then I feel that I actually don't get anything out of them.
- Interviewer: But how do you then determine which tasks are important? Because you say that you do not do it on important tasks – what can be an important task?
- Andreas: You get a grade.
- Stine: It has to be handed in and so on.
- Interviewer: Why couldn't you just paste it in from Wikipedia when delivering it?
- Andreas: Because you...
- Stine: You'd be caught cheating.
- Andreas: Yes.
- Interviewer: Aha!
- Stine: (laughter)
- Interviewer: Don't you think that it is cheating with these tasks [task about authors] for example?
- Andreas: No.
- Stine: Not such small tasks as these here, since as long as I am learning something it's okay, but if it had been that it was really important to deliver it such that we got a grade or something – then it's – then in one way it has to be your own – product or whatever you call it.

Whether or not the task would be formally assessed predicted which literacy practices the students drew on. If the students were working on a task that would not be graded, they seemed to focus on obtaining the required answers as quickly as possible. As pointed out by Andreas above, the goal or meaning behind such exercises was not explicit. Hence, the students in this sample answered this requirement by reproducing knowledge from Wikipedia. As Hedda explained in the following stanza, this occasionally meant that they did not even find the answers to each question themselves:

- Interviewer: How is it that you do these tasks then? What do you do exactly?
- Hedda: Well, it depends partly about who it is, who is sitting with us – and (laughter) whether we can be bothered to do much.
- Interviewer: If you are bothered to work hard, what do you do then?
- Hedda: Then you do everything yourself (...)
- Interviewer: But if you don't find out yourself, then?
- Hedda: Oh, if we don't find out everything ourselves, we share the tasks between us.
- Interviewer: Hmm.
- Hedda: So if there's five of us we take one task each.

As illustrated by the quotes above, the students drew on Wikipedia as a knowledge source when doing assignments that were not formally assessed. It appears that their main goal was to finish the tasks as soon as possible, and Wikipedia came in handy when accomplishing that. During the three weeks that the data collection took place, this was the only kind of task the students did in the subject Norwegian language arts. Hence, we do not know for certain how the students work when doing assignments intended for submission, but they explicitly said that copying from Wikipedia was not really an option, as this would be cheating. When contrasting the subject Norwegian language arts with other subjects, Stine expressed that the textbook might play a bigger role in other subjects:

- Stine: But in Norwegian language arts, and Religion and Ethics for example, I have almost never used the book at all, but in History I've used it a lot.
- Interviewer: Why's that?
- Stine: Uh – I think we have much more, we have to deliver exercises every week in History, which means that we have to look at the book in order to find the answers and things, so – we need – well, we get everything we need from the class as long as it's put on the Web afterwards, so we actually don't need to read much in the books.
- Andreas: No.

Stine's justification for using the textbook more in History than in Norwegian language arts seems to have little to do with the distinction between subjects, and everything to do with the distinction in tasks. This also emphasizes again how formal tasks require something else than the tasks that are not intended for formal assessment. Thomas explained how he accesses a site called Daria ([www.daria.no](http://www.daria.no)), where one can find graded essays written by others, when working on tasks:

- Interviewer: Here [pointing at a picture from class] you have gone to that Daria page, what can that be used for?
- Thomas: That's to find other pupils' opinions, then...
- Interviewer: Hmm.
- Thomas: For the tasks or something.
- Interviewer: But is that – can that be for such short tasks or does it have to be for the really long ones?
- Thomas: It can also be for the short ones.
- Interviewer: Yes?

- Thomas: It depends how much stuff I want out of it.
- Interviewer: What do you use that page for?
- Thomas: If there's such big important tasks then – then I don't go and find stuff there, but I find the sources and get the stuff from the sources (...)

As Thomas indicated, there are some additional requirements when it comes to sources of knowledge when the assignment is to be formally assessed. It seems that Wikipedia is not such a natural choice in formal tasks, and he explicitly stated that he could not just use the “stuff” found on Daria either, other sources have to be found. This is in accordance with Stine's previous statement that tasks that receive grades have to be “your own product” and require more than identifying and reproducing a single answer.

These stanzas illustrate several issues. First of all, the students confirm that they gladly use Wikipedia and consider it fit for the vast amount of informal tasks they encounter at school. This is in accordance with the findings from the survey. How meaningful some of the informal tasks are is questioned, and the stanzas also illustrate how rigid the dichotomy between formal and informal tasks is for the students. While literacy practices of “transporting and transforming”, or cutting and pasting content, are predominant in the informal tasks, the very same practices are, according to the students, totally banned – and hence not an option – in the formal tasks.

## Discussion

As emphasized in our review, students tend to search for information where it is most accessible, and school tasks tend to ask for knowledge *about* something, rather than the deeper and more complex knowledge *of* something. Thus, Wikipedia's popularity in school per se should not surprise anyone, as it is an easy and fast way to find knowledge *about* a lot of school relevant topics. What we find worth discussing further is the role Wikipedia plays in the students' literacy practices connected to the school domain. We will focus on the striking differences and lack of continuity between practices the students describe as relevant in formal and informal tasks. The difference in hegemonic status between the textbook and Wikipedia in school will also be discussed, before we address the students' tendency to juxtapose the Internet and Wikipedia and the educational implications of this. Finally, we will argue that if the type of task is what really determines and predicts most of the students' literacy practices within the school domain, then improving these literacy practices can only be accomplished if we start by improving the tasks.

Whether or not the students in the qualitative sample considered Wikipedia to be a relevant informational source during schoolwork depended on the kind of task they were undertaking. Wikipedia was only considered relevant in assignments that would not be formally assessed. As the students themselves described them, the predominant tasks that are never formally graded seem always to be tasks where reproduction of knowledge is central – the students need to find the relevant information and reproduce it, either by copying everything or by rewriting parts of the text. In the distinction drawn by Scardamalia and Bereiter (2006), all the tasks performed by these students during the data collection asked for knowledge *about* something. When students were encouraged to find knowledge on specific topics, Wikipedia played the role of a dispenser of knowledge, a natural place to look for the required information *about* whatever it was the students were supposed to find out in their task.

As suggested both by the interviews and the survey data, Wikipedia is the first port of call for many students doing schoolwork. The students' reasons for preferring Wikipedia is that the site is easy and fast, and that one is very likely to find the desired information. These reasons relate to practical issues rather than to the overall quality of Wikipedia – a tendency that is well documented in the international literature found in our review.

There is a striking lack of continuity between the literacy practices the students engaged in when doing informal tasks, where Wikipedia was the preferred textual basis, and how the students described the requirements for the formal tasks – in which they emphasize how Wikipedia cannot be used in the same way, as the writing has to be “your own”. In the formal tasks, it would be considered cheating to copy and paste, and the survey suggests that many teachers would not approve if they saw Wikipedia cited in, for instance, essays intended for formal assessment. Consequently, it is only when working on tasks that would be formally assessed that the students said they had to refrain from their “usual” descriptive and reproductive literacy practices. In other words, the literacy practices the students develop when working on informal tasks are described as irrelevant when working on formal tasks, as these tasks require other literacy practices. This implies both that what is assessed in formal tasks are practices that most likely will not be used in other situations, and that the practices drawn upon in the predominant informal tasks are of little or no use when undertaking tasks intended for assessment. This is not in itself unanticipated, as descriptive tasks dominate traditional educational practice (Scardamalia & Bereiter, 2006). The question is: how useful is knowledge *about*? We will not argue that knowledge *about* is useless; rather we agree with Scardamalia and Bereiter (2006) when they claim that the usefulness of such knowledge is limited to “situations in which knowledge *about* something has value independently of skill and understanding” (*op. cit.*, pp. 101).

When it comes to the implicit and yet very natural role Wikipedia seems to be playing in students' literacy practices, one could ask whether the criticized hegemonic role of the textbook simply has been taken over by Wikipedia. It takes just as little critical literacy to find and reproduce all answers from a textbook, as it takes to find and reproduce the same answers from Wikipedia. Hence, some of the key reasons to connect schools to the Internet, namely the development of critical and digital literacies, appear unreachable if the students continue to choose only the same source over and over again. It can be argued that there is not even a choice involved. There is massive agreement that school should teach students how to deal with multiple sources of text and most countries today consider the Internet to be a natural part of school. In the Norwegian curriculum, digital literacy is emphasized as a basic competence, and the ability to critically assess and use sources is explicitly mentioned. The diversity of Internet texts may contribute to a broadening of school literacy, but not if the “Internet” is juxtaposed with “Wikipedia”. We even argue that it is questionable that the students are in fact “using the Internet” in their informal tasks if all they see of it is Wikipedia.

Wikipedia, and regular schoolbooks for that matter, tend to provide descriptive knowledge *about* a vast amount of topics. It would be unreasonable if we expected an Internet encyclopedia in itself to provide something other than descriptive knowledge. It is not unreasonable, however, to expect schools to provide students with diverse literacy practices. The question then becomes whether the time spent on descriptive tasks is time well spent. We would like to emphasize that even though Wikipedia might be relatively new in the educational setting, the reproductive literacy practice that in the present study goes hand in hand with Wikipedia is anything but new. Reproduction and knowledge *about* have traditionally dominated educational literacy practices, but factual knowledge has never been easier to access and integrate in one's own writing than today. There is a need for

further research on how not only students, but also teachers, relate to the vast amount of knowledge *about* that is now available in class, for instance from Wikipedia. Is the teachers' skepticism toward Wikipedia that we find in our data really skepticism toward the site itself, or the lack of critical literacy the use of it sometimes entails? The research community could also benefit from research on how some teachers have managed to incorporate Wikipedia, for instance, in literacy practices that require more than descriptive knowledge.

Wikipedia is described by the students as the perfect place to go if you are searching for reasonably good answers that you need fast. It comes in handy during a lot of their schoolwork, thus making getting information from Wikipedia a central literacy practice in the school domain. We have refrained from discussing whether Wikipedia per se is adequate or not in educational practices, as this is a discussion one can easily find elsewhere. Our conviction is that the textual basis itself is never good or bad for educational purposes: we must consider the actual practices the texts generate, enable and maintain. Needless to say, Wikipedia can be used in a number of ways and for a number of purposes. To say that Wikipedia in itself generates reproductive practices would be missing the mark, as such practices have been a well-documented part of school literacy for a long time. We argue that the key to going beyond descriptive knowledge *about* different topics lies elsewhere: if we want students to quit their search for quick descriptive answers, we must give them tasks that require a different approach.

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