How are Digital Dictionaries Used by Young Norwegian Learners of EFL?

A Case Study of Attitudes and Practices

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Attitude is a little thing that makes a big difference.

Winston Churchill

Actions speak louder than words.

[Early 17th century]

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http://www.duo.uio.no/

Sammendrag

Denne oppgaven tar for seg holdninger og praksis i forhold til digital ordbøker blant elever i engelsk i Norge. Oppgaven prøver å identifisere noen viktige særpreg og mønstre til holdninger og praksis sett i sammenheng med læringsmiljøet.

Hovedkilden for datainnsamlingen kom fra kvalitativt forskningsarbeid, men den ble supplert av en kvantifiserbar undersøkelse for å skape et bakteppe til de kvalitative dataene. Forskningsarbeidet ble utført på to videregående skoler i samme fylke. Skolene ble bevisst utvalgt siden de hadde gjennomført omfattende investeringer i bærbare datamaskiner til både elever og lærere. Tilnærmingen bestod av åpne observasjoner, ustrukturerte intervjuer og en nettbasert spørreundersøkelse. Observasjonene ble gjennomført i en naturlig setting i studieforberedende vg1-klasse med en minigruppe bestående av tre tilfeldig utvalgte elever. Intervjudataene kommer fra ustrukturerte intervjuer med disse elevene samt fra en minigruppe av til sammen fire lærere. Den nettbaserte undersøkelsen ble utviklet etter at observasjonene var ferdige, og den ble gjennomført på elevenes digitale læringsplattform.

Funnene mine viser at det er mye som er mangelfullt med hensyn til digitale ordbøker blant elever og lærere. Selv om elever ser ut til å like digital teknologi generelt sett, så viser mitt resultat at de slo sjelden opp i digitale ordbøker. Det var en klar prøve-og-feile praksis. Det synes å være en forbindelse til lærernes holdninger og praksis. Lærerne bruker heller ikke slike redskaper, og de lærer ikke sine elever å bruke og utnytte digitale ordbøkers forskjellige særpreg og muligheter. En annen forbindelse jeg fant var at fylkets abonnementsordning med digitale ordbøker ikke hadde et godt nok innhold, selv om det skulle erstatte papirordbøker til elever. I tillegg var innføringen av disse digitale ordbøkene preget av usikkerhet og manglende overordnet kontroll.

Hovedfunnene fra de kvalitative dataene kan ikke overføres til den totale elevmassen på grunn av det begrensede utvalget. Likevel kan de peke på tendenser i holdninger og praksis som er verdt å forske videre på.

Abstract

The topic of this study is attitudes and practices towards digital dictionaries among young learners of English as a foreign language (EFL) in Norway. The study seeks to identify some important characteristics of their attitudes and practices in light of their teaching and learning environment.

The primary data was collected from using qualitative research methods, but complemented by a quantifiable survey for systematic data collection to use as a backdrop. The research was carried out at two upper secondary schools within the same county. These schools were deliberately selected as they had heavily invested in computer laptops for their students and teachers. The mixed methods approach comprised more specifically of overt observations, unstructured interviews and a web-based questionnaire. The observations were undertaken in a class of first year students, involving a small focus group of three randomly selected student participants of this class in their natural setting. The interview data derives from debriefing interviews with the student participants and semi-structured interviews with a small focus group of four EFL teachers. The web-based questionnaire was developed after the observations and executed through the digital learning platform of the given school.

My findings show that there are serious shortcomings as to the teaching and learning environment of digital dictionaries. Even though students seem to like digital technology in general, my research objects did not consult digital dictionaries very often. Their practice was a result from trial and error. There is a connection to the teacher attitudes and practices, as teachers are rarely using such tools either and they are not instructing their students in how to use and exploit the variety of features found in digital dictionaries. Another connection I found is the incomplete content of the digital dictionary subscription arrangement provided by the county administration that was to replace student purchase of print equivalents. In addition, the implementation of the digital dictionary at the school was marked by uncertainty and lack of supervision.

The main results from the qualitative data are not automatically transferable to the student population as a whole due to the limited number of participants. But they point to tendencies in attitudes and practices that could be investigated in further research.

Contents

1 Introduction

When I was working in a small lower secondary school several years ago a separate computer laboratory was available for all classes. I took my classes there either when the pupils had larger projects and needed information, or to practice writing. I was fascinated by how many of the pupils aged thirteen to fifteen were comfortable users of digital technology, though of course there were those who seemed inexperienced too. However, it was with complete naturalness many of them manoeuvred through the different features of the programmes and websites. In was in this context I realized for the first time that online dictionaries existed, and my realization came from encountering the practice of the pupils. I had never heard of it or been taught about it, even though I had just finished my teaching degree. This experience triggered my interest in digital dictionaries.

Since then The Ministry of Education and Research has integrated digital competence in general as one of the basic skills in all subject curricula both in primary and second education in *The National Curriculum for Knowledge Promotion* of 2006 (LK06). Their vision is digital competence for all, involving infrastructure, competence development, digital teaching resources, curricula, and working methods (Ministry of Education and Research, 2006). As a result most Norwegian schools in primary and secondary education have, actually for many years already, undertaken major investments in schools to progressively bring computers into the classrooms. Success in fostering digital competence is connected to the accessibility and mastery of suitable tools. Many regional county administrations have invested in *laptop* computers for their upper secondary schools, renting them out to enrolled students, and in addition replacing stationary computers with laptops for the teachers.

Integrating the use of computers in teaching and learning environments is therefore spreading substantially. Such a mobile computer environment questions the traditional teaching and learning methods and tools. For example, many upper secondary schools are now investigating the possibility of teaching and learning without the use of textbooks, and rely on digital material only, at least in subjects where they find justified reasons to do it. We might suspect that many students are welcoming it.

The present common core English Subject Curriculum, as the other subject curricula, comprises the basic skill: “The ability to use digital tools”. Today many people both working

in education and elsewhere view such a skill almost as important as learning to read. The need for digital competence is growing in almost all societal areas, whether at work or in our homes; whether collecting our tickets at the cinema or using digital devices in our modern cars. Digital competence is today coined not only to traditional computers, but also to everyday life: The ability to use smartphones, advanced music devices like mp3s , digital TV-sets or hi-fi equipment, or touch-screen terminals at for example train stations and airports, to mention a few. To be able to comprehend, navigate in and employ such tools one has to reach a certain digital competence level, and this will vary according to which tools is being used.

Last April I visited a public upper secondary school in Washington, D.C. My group was given a tour at the school, and when we reached the library, I was startled by the scarcity of reference books, and by how small the room was. This was a school of around 2,000 students. I asked the librarian why, and she told me that it was mostly because students did not use such books as they used online reference websites instead, both free websites and reference aids subscribed to by the school. Moreover, she explained that the school conveniently saved space in the library by dispensing with all the reference books. This strategy was planned for, she told me. The school was only four years old.

This is probably a signal of what will happen also in schools in Norway. I predict that especially reference books will increasingly be replaced by digital subscription arrangements supplying the same content, but with the advantage of being constantly updated and available in an instant as long as you have access to a school computer. And access to school computers is steadily growing, as I have pointed to.

Also student dictionaries will be replaced, and this has already started. As will be explained in my study, a vast majority of the county administrations in Norway have ensured access to digital dictionaries for their upper secondary students. As of January 2011 eleven county administrations subscribed to the digital dictionary *Ordnett*, and six county administrations subscribed to *Ifinger*; both of these subscription arrangements may include both bilingual (Norwegian vs. English) and English monolingual dictionaries, in addition to an English thesaurus. In sum as of this year there were seventeen out of nineteen county administrations supplying digital dictionaries as a subscription arrangement to their altogether 282 schools,

i.e. almost 154,000 students[1]. I have not got any number of the school personnel, but of course they also comprise a substantial figure. I would estimate that around 200,000 students and school personnel, teachers included, are exposed to these digital dictionaries today, or at least have the *potential* of being exposed to them; the digital dictionaries are readily available for use for anyone at school. Only Telemark and Oslo did not have any communal subscription arrangements; it was up to each individual school to provide such tools. I will explore this matter further in chapter 2.3.2. This is obviously an endeavour to replace traditional print dictionaries.

1.1 Research statement and limitations

My curiosity about digital dictionaries eventually led to the embarkation of this study. My research question is:

> How are digital dictionaries used by young Norwegian learners of EFL?
> A case study of attitudes and practices.

The question asked seems straightforward, but is actually quite complex. "How" involves both description and analysis. I need to uncover facts as well as interpreting them. Moreover, the focal point is "attitudes and practices". "Digital dictionaries" needs to be defined. What is a digital dictionary? And as "young Norwegian learners" I decided on selected students from upper secondary education, since upper secondary school is an arena I know quite well from my own work experience the past few years.

The second part of the research question states what my main methodological approach is, namely a "case study". This involves, as I will explore further in the chapter of the methods used, a limited number of participants and such a study can in itself not generate any conclusions about students' attitudes and practices as a group. However, a case study will definitely throw light on important aspects of the issue concerned. My case study comprised of observations, debriefing interviews and semi-structured interviews both with a group of students and teachers.

[1] The numbers derive from student figures from websites of several county administrations; and from email correspondence with the other county administrations and with representatives from *Ordnett* and *Ifinger* publishing houses.

In order to give a backdrop to the case study, I developed a questionnaire to upper secondary students of English. This was done to complement the qualitative field study. Thus the methodology employed was in the end a mixed method approach. I have still kept the "case study" in my research question, as there is a clear emphasis on it throughout the thesis.

Some important questions that can be generated from this main focus are:

- In what learning activities do students use digital dictionaries?
- To what degree have they received training to use digital dictionaries?
- To what degree do they have a command of digital dictionaries?
- To what degree are students conscious of the advantages and disadvantages of digital dictionaries?
- And what are the attitudes of teachers?
- What do the teachers do to facilitate student command of digital dictionaries?

The important limitations of my study are that I have confined myself to investigating upper secondary education, as this is an arena where I am presently working. Furthermore, a thorough analysis and comparison of particular digital dictionaries does not belong to this study as this requires separate research. Thus it is not a study of digital dictionaries per se, but of attitudes and practices towards them.

1.2 Key definitions

All through the thesis there are important words and concepts that belong to a certain field, as for example in methodology or in theoretical explanations and discussions. I aim to clarify and define such specific terms in its right place.

However, there are more common words to the study, used in most chapters, which require their definitions at this point.

First of all I need to clarify the concept *digital dictionary*. *Digital* means that it is electronic or that belongs to a computer-related device. Often we thus see the expression *electronic dictionary*, often abbreviated to *e-dictionary*, instead of *digital dictionary*. The word *digital* is defined: "Involving or relating to computer technology" (ODE[2] in *Ordnett*, 2005), and "characterized by electronic and especially computerized technology" (*Merriam-Webster Online*, 2011). In comparison *electronic* is defined: "Carried out using a computer or other electronic device, especially over a network" (ODE in *Ordnett*, 2005), and "implemented on or by means of a computer: involving a computer" (*Merriam-Webster Online*, 2011). It is transparent that these two terms are closely interrelated, and many use them interchangeably in this context. I have for the most part chosen *digital* as this is the term most frequently used in documents from the Ministry of Education and Research, as well as from the Norwegian Directorate of Education and Training.

A dictionary is "a book that gives a list of the words of a language in alphabetical order and explains what they mean, or gives a word for them in a foreign language" (OALD[3] online, 2011). They can be either bilingual, for example a Norwegian–English dictionary, or monolingual, for example English-English dictionaries. ODE, OALD and *Merriam-Webster Online* that I have just referred to above, are such examples. Thesauruses on the other hand, are books that list "words in groups that have similar meanings" (OALD online, 2011), or synonyms, and are thus excluded from the proper use of the term *dictionary*.

From the facts given above, digital dictionaries are dictionaries available on the Internet as free resources or as subscription arrangements or they are corresponding off-line dictionaries installed on the computer. They are neither word processing tools such as spell checkers nor translation programs.

Other important terms are *attitude* and *practi*ces. In our context *attitude* is "a settled way of thinking or feeling about something" (ODE in Ordnett, 2005), or "the way that you think and feel about somebody/something; the way that you behave towards somebody/something that shows how you think and feel" (OALD online, 2011). In comparison, *practice* is "the actual application or use of an idea, belief, or method, as opposed to theories relating to it" (ODE in Ordnett, 2005), or "a way of doing something that is the usual or expected way in a particular organization or situation" (OALD online, 2011). Consequently, the attitude is primarily

[2] Abbreviation: see below.
[3] Abbreviation: see below.

internal (feel, think) or is transparent behavior that reveals your inner thoughts or feelings; whereas practice is external ways of doing things, visible to others. In my context practice is to be observed, but attitude is something I need to infer from behavior and interviews.

Finally, the following overview constitutes a list of abbreviations of important terms used in this thesis:

Abbreviations

CALL	computer-assisted language learning
e-dictionary	electronic dictionary
ICT	Information communication technology
EFL	English as a foreign language
ELT	English language teaching
LK06	National Curriculum of Knowledge Promotion
OALD	Oxford Advanced Learner's Dictionary
ODE	Oxford Dictionary of English
SCT	Sociocultural theory
SLA	Second language acquisition
ZPD	Zone of proximal development

1.3 Outline

I have arranged the thesis in a traditional manner: Research background, theoretical perspectives, methodology, presentation of field data, discussion and conclusion. Finally I will outline some future perspectives.

In chapter two we need to look at some important considerations from relevant research background. I will look into the need for dictionaries in general in language learning, what importance digital dictionaries have in the Norwegian context, which digital dictionaries that

are available and applicable in learning contexts, and finally a brief note on teacher training in this context.

In chapter three I will look into the theoretical framework: The socio-cultural understanding of learning, the concepts of mediated action and the irreducible tension between agent and cultural tools[4], continuing with a discussion of the input versus output hypothesis.

Chapter four is unveiling the methods employed in the field study. I will consider both the approaches chosen, the methods of data collection, namely observation, interviews and questionnaire, and the participants involved.

When reading chapter five we are presented for the empirical data from the field study, both the case study and the cross-sectional study, with an emphasis on the case units involving both selected students and teachers.

The purpose of chapter six is to analyze and discuss the findings in chapter five, especially those that I find address important and relevant issues shedding significant light on the research question.

In chapter seven I try to draw the ends together with a review of central concerns, giving a condensed answer the research question. I will also establish some important issues for further research.

[4] These concepts will be explained in this chapter.

2 Research background

This chapter presents research background to the usage of and attitudes towards digital dictionaries. I will first briefly address the general importance of dictionaries in English language learning. Next, I will investigate the current English Subject Curriculum and its focus on vocabulary and how this is linked to dictionary work. Further on, I will present a historical overview of English digital dictionaries of importance for the English language learner in secondary schools in Norway, before ending with a brief account of the importance of digital technology in teacher training.

2.1 Dictionaries in language learning

Dictionaries are typical reference aids in language learning environments. In language programmes especially for elementary learners high-frequency words are explicitly or intentionally taught, because as Alderson (2000) says, there is a linguistic threshold (or vocabulary size threshold) that must be overcome to enhance communicative abilities. A student needs to know a vocabulary size of 3,000-5,000 words for the comprehension of everyday subjects in English (Alderson, 2000: 35; Schmitt, 2000: 143), but at the highest level as for example university textbooks the vocabulary size is about 10,000 words (Schmitt, 2000: 143). Schmitt says that explicit discovery of the meaning of new words is very time-consuming and cannot be the only measure taken in order to enhance one's vocabulary, but we need to mix intentional and incidental language work. For intentional (or explicit) vocabulary learning, "dictionaries are the essential vocabulary reference aid" (ibid: 90, 145).

According to Knight (1994) the study of vocabulary is at the heart of language learning. In her study she investigated the practice of using dictionaries while reading. She found that

> "subjects who used the dictionary not only learned more words but also achieved higher reading comprehension scores than those who guessed from context. In addition, correlations between actual number of words looked up and recall scores reinforce the finding that comprehension does not suffer as a result of dictionary use" (Knight, 1994: 295).

She continues by questioning the common practice where students are advised to guess word meaning from context when reading even at higher learning levels. On the basis of her

findings she would encourage dictionary use instead as dictionaries both help comprehension and enhance vocabulary learning.

Doroszewska and Lew (2009) underline that vocabulary learning is not necessarily the only goal when a student looks up a word, but that dictionaries usually are being consulted to provide "immediate assistance in a variety of tasks" (Doroszewska and Lew, 2009: 239). However, "learning new vocabulary can be a useful by-product of dictionary consultation" (ibid) as well as a goal in itself as target words are made salient in the lookup process. They point to the use of electronic dictionaries as an exciting new area in language learning with a potential to serve multimedia. In their study they conclude among other issues that the high retention rates among their student participants result from "the engagement value of computer-based instruction, and the flexibility to look up words in the pattern that suits the individual preferences of the student", both "especially relevant in the context of electronic dictionaries" (ibid: 252)[5].

To sum up, in order to enhance one's knowledge of words in English, in a variety of tasks, dictionaries play an important role indeed. Consulting print dictionaries have always been considered by many to have the disadvantage of being too time-consuming. The entering of digital dictionaries in the EFL field has opened up what could probably be a time-economical world of intentional language learning.

2.2 English language teaching in Norway

The teaching of vocabulary in English has long been a less focused area in Norwegian upper secondary education. From the 1950s and two decades onwards the English subject curriculum in Norway was influenced by the international focus on frequency word lists[6]. There were word lists registering what words and expressions pupils at different competence levels should be taught. Simensen (2000) asserts that the last national English subject curriculum with an explicit focal point on vocabulary learning was *Mønsterplanen* from 1974[7]. Since then the concern has been on communicative methods where incidental vocabulary learning seems to have been at the forefront, according to Simensen. *The English*

[5]For a complete discussion of the high retention rates, see Doroszewska and Lew, 2009: 252-253.
[6] Michael West's word list A General Service List of English Words from 1953 is maybe the most influential one, containing 2,000 headwords of importance ('service') to learners of English.
[7] M74 contained word lists for each year.

Subject Curriculum of Reform 94 (hereafter R94) lists learning targets with *no* direct reference to explicit vocabulary work (The Norwegian Directorate for Education and Training, 1994).

There has now been a shift of focal point, and intentional vocabulary learning has got a more prominent place with the *English Subject Curriculum* in *The National Curriculum for Knowledge Promotion in Secondary Education and Training* launched in 2006 (hereafter LK06). The following quotes are from the revised *English Subject Curriculum* of August 2010. The objectives and the main subject areas for the Vg1-programmes state that there is a "need to develop our vocabulary", and that "good communication requires knowledge and skills in using vocabulary and idiomatic structures". Furthermore, the competence sections for Vg1-programmes state that "the aims are that the pupil shall be able to […] use a wide selection of *digital* and other aids independently, including *monolingual dictionaries*" (my italics), and that "the pupil shall be able to understand and use a wide general vocabulary and an academic vocabulary related to his/her own education programme" (*English Subject Curriculum,* 2010). These references underscore the importance of explicit vocabulary teaching and learning in upper secondary education, and place the use of digital dictionaries as one crucial means of both consolidating and learning new vocabulary.

Knowing how to use and how to best elicit information from digital dictionaries also increases student competence of using digital tools in general, which is one of the five basic skills in the *English Subject Curriculum*:

> "*Being able to use digital tools* in English allows for authentic use of the language and opens for additional learning arenas for the subject of English. English-language competence is in many cases a requirement for using digital tools, and using such tools may also help the development of English linguistic competence. Important features of the English subject in digital contexts include being critical of sources and aware of copyright issues and protection of personal privacy." (ibid)

Digital dictionaries are viewed as essential reference tools in the development of English linguistic competence, even though they are not specifically referred to in this subject curriculum. What digital dictionaries could then be promoted in an educational environment to fulfil the competence aims of the curriculum? The next point seeks to give an answer to this question.

2.3 The making of English digital dictionaries

The purpose of this section is to provide a backdrop of the world of English digital dictionaries of importance for the English language learner primarily in upper secondary education in Norway. It is not the purpose or role of the present thesis to assess or analyze digital dictionaries, though it is an intriguing task for future research.

The earliest history of English *digital* dictionaries goes back to the early 1990s when publishing companies in the English-speaking world realized the importance and value of digitalizing dictionaries once personal computers were introduced. For practical reasons I will limit the following descriptive presentation to some of the most well-known intermediate to advanced monolingual dictionaries from the United Kingdom and the United States, that non-native speakers of English at various competence levels may resort to. The second part of this section is devoted to major Norwegian publishing houses providing monolingual and bilingual English digital dictionaries both online and off-line. I have chosen a restricted focus on CD-ROMs and online or downloadable dictionaries, and have not entered the world of handheld versions, electronic books (hereafter e-books), and application software for mobile devices such as e.g. smartphones[8] and tablets. Since no coherent written presentations about the development of English digital dictionaries exist to my knowledge, I have assembled most of the facts referred to in 2.3 from e-mail correspondence and telephone conversations with respective company representatives[9]. Some information has come from websites, and these sources are given in the text. All sites referred to in 2.3 are operating as of February 2011. Again, this is a primarily a presentation if important digital dictionaries, not an analysis of them.

2.3.1 The UK and the US

Oxford University Press

According to my findings the first English digital monolingual dictionary created for public use was at Oxford University Press (OUP). In 1992 OUP published their first CD-ROM of the voluminous *Oxford English Dictionary* (OED). The massive twenty-volume set that took up

[8] According to *Macmillan English Dictionary Online* (www.macmillandictionary.com, 2011) a smartphone is "a mobile phone that also works as a small computer, allowing you to store information and write letters and reports".
[9] E-mail correspondence and notes from telephone conversations are available upon request.

four feet shelf space and weighed 150 pounds was now reduced to “a slim, shiny disk that [..] weighs just a few ounces” (OUP, 2011: The History of the OED). The production was extremely successful in terms of demand and sales. An online version based on a subscription service (login information required) was launched in 2000. The current online edition is undergoing a thorough revision and update, where every entry is scrutinized by seventy editors mostly in Oxford and New York (OUP, 2011: The OED Today). The OED is first and foremost a subscription service to native speakers of English, though advanced non-native speakers and learners of English may find it valuable in use. The site address is www.oed.com, and below a screenshot[10] of the dictionary’s home page is rendered.

Illustration 1: Oxford English Dictionary (OED)

[10] All screenshots in chapter 2.3 are retrieved either on 18 April 2011 or on 28 April 2011.

Oxford Dictionary of English[11] (ODE) was published as a CD-ROM in 2000. It is now published online as a substantial part of the *Oxford Dictionaries Online*, freely available at www.oxforddictionaries.com. Notably, it is included in the digital dictionary subscription offers from both Kunnskapsforlaget and Ifinger in Norway (cf. 2.3.2) and is therefore increasingly being used as the monolingual English dictionary reference among Norwegian upper secondary students, even though it is not produced for learners of English. A screenshot of *Oxford Dictionaries Online* (ODO) is rendered below.

Illustration 2: Oxford Dictionaries Online (ODO)

The first edition of *Oxford Advanced Learner's Dictionary* (OALD) on CD-ROM was the 5th edition in 1997. A few years later in 2000 OALD was launched as a website for the 6th edition. Today the 8th edition is on the market, both as an online version and as a print edition with a CD-ROM. OALD is the world's best-selling advanced learner's dictionaries (OUP, 18

[11] *Oxford Dictionary of English*, ODE, is not to be confused with *Oxford English Dictionary*, OED, just mentioned above.

April 2011), and therefore possibly one of the most used print dictionaries among English language learners in the world, and probably also in Norway. I have not been able to find any figures that measure its usage and popularity as a digital online dictionary. See below for a sample screenshot of its website.

Illustration 3: Oxford Advanced Learner's Dictionary

Merriam-Webster

A major American publishing company, Merriam-Webster, Inc, first published their monolingual CD-ROM *Merriam-Webster's Collegiate® Dictionary, Deluxe Electronic Edition* in 1995. That same year they also commenced an application on America Online[12] that could be considered a precursor to Merriam-Webster's first online dictionary, which was

[12] America Online is today AOL Inc., a global Internet services and media company from the US.

launched the next year in 1996 at www.merriam-webster.com. This is probably the first fully developed monolingual English dictionary launched *online*. This service, *Merriam-Webster Online*, is at present aimed at adult native speakers of English and it is based on the print version of the *Merriam-Webster's Collegiate Dictionary* for advanced users, though non-native speakers of English also are using it, including myself.

Illustration 4: Merriam-Webster Online

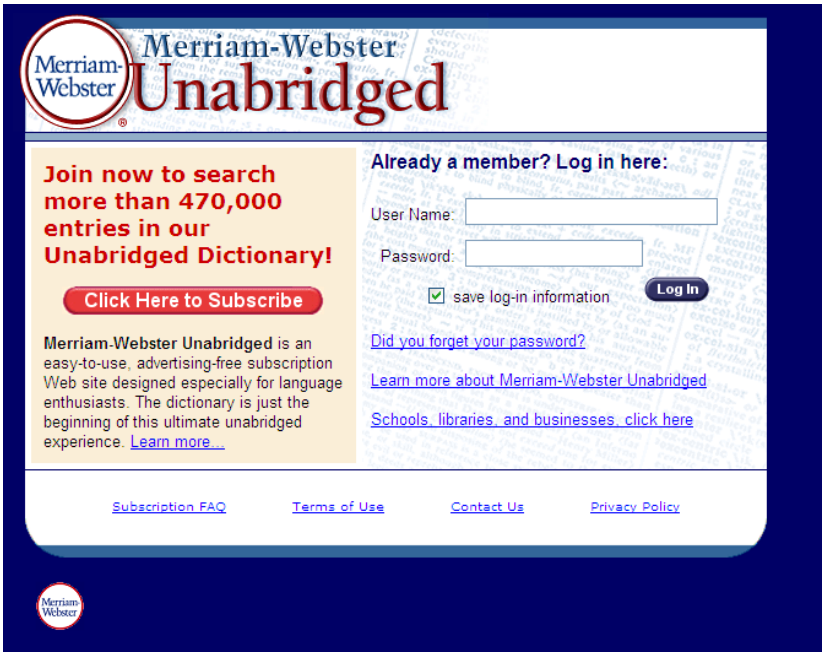
Throughout the years Merriam-Webster, Inc., has launched several other dictionary sites targeted at different audiences, gainful to learners of English as well; A student dictionary for young American native speakers in grades 6 to 8, *Merriam-Webster Word Central*, was created in 1998 at www.wordcentral.com, based on the print edition of *Merriam-Webster Intermediate Dictionary* (Merriam-Webster, 2011), also suitable for non-native learners of English at elementary to pre-intermediate level.

Illustration 5 Merriam-Webster Word Central

The company's most extensive version both for native speakers and advanced learners is the *Merriam-Webster's Unabridged Dictionary*, based on the print dictionary *Webster's Third New International Dictionary of the English Language, Unabridged* (commonly known as *Webster's Third*, or *W3*). It is provided online as a subscription arrangement since 2002 at http://unabridged.merriam-webster.com[13].

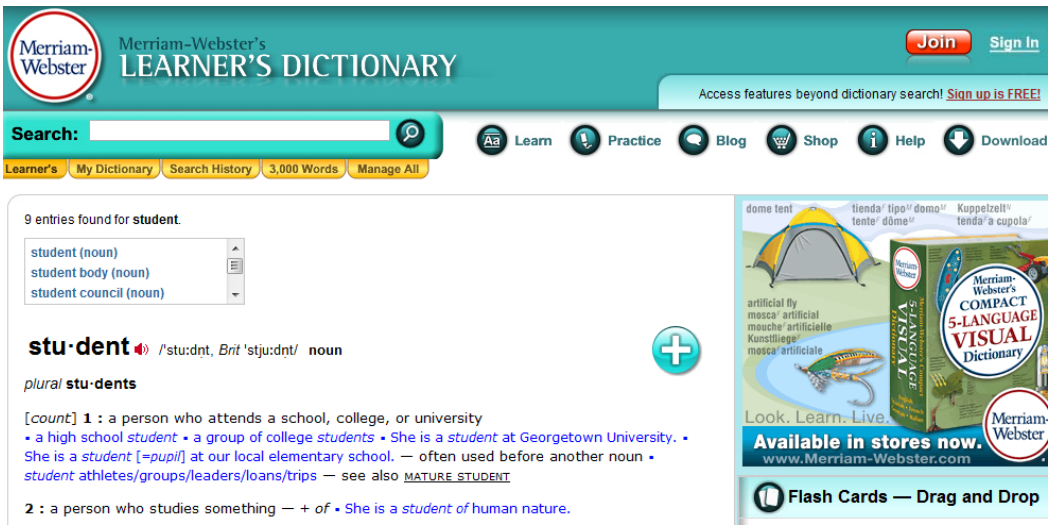
[13] Unfortunately I have not got any proper screenshot as I would have to subscribe to it.

Illustration 6: Merriam-Webster's Unabridged Dictionary



Finally, a site specifically tailored to EFL learners and teachers, *Merriam-Webster's Learner's Dictionary*, was launched in 2008 at www.learnersdictionary.com. The online version (see below) is based on the print edition *Merriam-Webster's Advanced Learner's Dictionary*.

Illustration 7: Merriam-Webster's Learner's Dictionary



Macmillan Publishers

Next is the UK based Macmillan Publishers Limited that has had vast success with their edition of *Macmillan English Dictionary Online* (MED), designed for advanced learners of English. It was first released as a print edition in 2002, accompanied by a CD-ROM. The MED online was first launched in 2004 and has been available in various guises from a password-protected site (to people who had purchased a print dictionary) to the currently free edition. For this work Macmillan Publishers won two prestigious British ELT awards in 2002 and 2004 (Macmillan Publishers, 2011: Dictionaries). After MED was revised in 2007 (Macmillan Publishers, 2011: About Macmillan dictionaries), the online edition became freely available in 2009, currently at www.macmillandictionary.com. The entries in the online dictionary are integrated with a thesaurus. The user may choose between American English and British English as a preference when looking up words. Macmillan has no other online dictionaries, but has several other print dictionaries accompanied by CD-ROMs for non-native speakers of English, i.e. *Macmillan Study Dictionary* for upper secondary and university students, *Macmillan English Dictionary – American English* for advanced learners of American English, and *Macmillan Essential Dictionary* for intermediate learners.

Illustration 8: Macmillan Dictionary

Brief comparison

As stated above, this is not an analysis of digital dictionaries, but I will briefly point to some similarities and differences. The above-mentioned online dictionaries provide definitions of the lookup word, example sentences, and a list of nearby related words. Some of them include sound applications to listen to the headword, and other features such as links to thesauruses, usage notes, topic word lists, origin of the word, to mention some.

One obvious likeness is they are available for free, except the most exhaustive editions as the ODE and the *Merriam-Webster's Unabridged Dictionary*. Ordinary users of online dictionaries are more likely to go to free dictionaries rather than subscribing, so they win 'customers' in this way.

One distinction that strikes a user of these digital dictionaries is the presence of advertisements on the websites. *Merriam-Webster Online* and *Macmillan English Dictionary Online* are both integrating ads on their websites. *Merriam-Webster* has several more of them than MED, and the ads are multimedia, which also can be seen on the sample screenshot above. Note also that some of the advertisements are connected to the lookup word, which means there are intelligent systems 'reading' the user. Such ads can be quite disturbing to the user, and may certainly create off-task diversions.

Another distinction between the American Merriam-Webster's digital dictionaries and the British publishing houses is that the sound application of the American dictionary sites only gives American pronunciation, whereas the British sites provide both British and American pronunciation. They are clearly more international-minded.

2.3.2 Norway

As to the situation in Norway, I have restricted the presentation to three companies that Norwegian upper secondary schools are mostly familiar with, namely digital dictionaries from the publishing houses Ifinger[14] Ltd. Norway, Kunnskapsforlaget, and Clue Norway ASA.

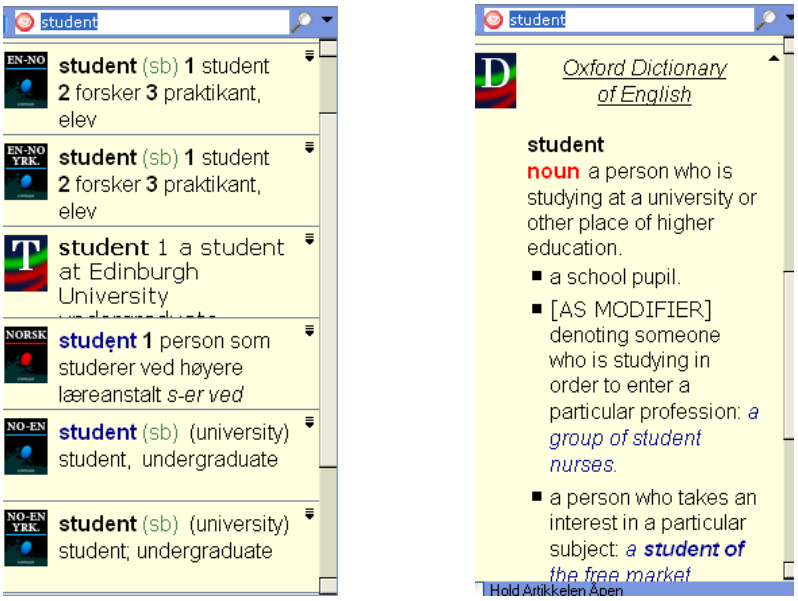
Ifinger

Ifinger Ltd., a Norwegian registered foreign company with headquarters in the UK, launched their digital dictionary services in 2000 at www.ifinger.no (Ifinger Ltd., 2011*: Om Ifinger*). From a smaller beginning in Norway, it now offers more than 120 electronic reference titles. The digital dictionaries a user is requesting are first to be downloaded, whereby they are accessible whether in offline and online modes. The user is charged with an annual subscription fee according to the number and types of digital dictionaries ordered. Students in Norwegian upper secondary education are today an important target group, and currently six[15] out of nineteen county administrations in Norway are subscribing to Ifinger, comprising 97 upper secondary schools, in addition to several individual schools (Ifinger Ltd., 2011: *Referanser*). Ifinger offers schools flexible and extensive education packages of digital

[14] The publishing company presents itself as iFinger Ltd., but in my text I will follow the standard and recommended rule of proper names and names on enterprises, which is to write them with a capitalized initial.
[15] I have collected the data about which counties that are subscribing to Ifinger and *Ordnett* from the websites of Kunnskapsforlaget and Ifinger Ltd., and from email correspondence with company representatives. The upper secondary school figures in the counties are derived from half of the counties' websites and from email correspondence with the other half as of February and early March 2011.

dictionaries (Ifinger Ltd., 2011: Skole og utdanning). Relevant to mention are the bilingual English/Norwegian digital dictionaries based on the equivalent print editions from Cappelen Damm and Vega publishing houses, and the monolingual English ODE from OUP. In addition a book of synonyms are included, namely *The New Thesaurus of English*.

Illustration 9: Ifinger. Two lookups. First an overview of all the hits. The second is uncovered when opening one of them (ODE).



Ordnett

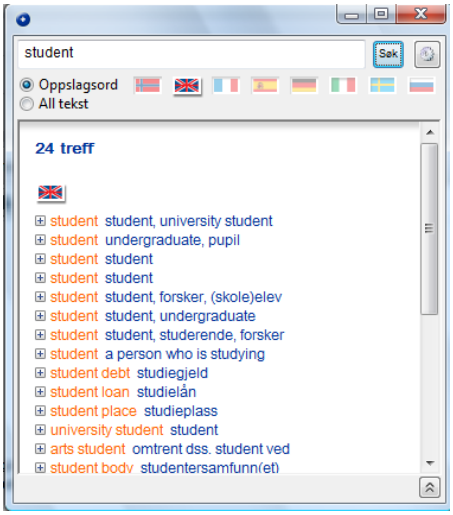
Kunnskapsforlaget is the chief rival for Ifinger on the digital dictionary market in Norway. In 2004 Kunnskapsforlaget launched an online dictionary called *Ordnett* at www.ordnett.no, based on an annual subscription arrangement (login information required), and the subscription fee varies according to the number and types of digital dictionaries requested. At the start there were six digital dictionaries offered in *Ordnett*, including bilingual English/Norwegian digital dictionaries based on the print editions from Kunnskapsforlaget. The number of digital dictionaries has steadily grown to an offer of 32 digital dictionaries for several languages (January 2011). The same monolingual English reference material from OUP as Ifinger is offering, was incorporated in 2006, i.e. ODE and *Oxford Thesaurus of English*. In addition they provide the *Oxford Dictionary of Quotations*.

Illustration 10: *Ordnett* online, bilingual dictionaries

Illustration 11: *Ordnett* online, here with the monolingual dictionary and thesaurus

In 2007 *Ordnett Pluss* was released as a downloadable offline service, to be updated online whenever the user is connected to the Internet, and with the same content as *Ordnett*. It pops up as a little box (see below) on top of any document or websites on your computer.

Illustration 12. *Ordnett Pluss*.



Originally these products were targeted at companies and private professionals. However, Kunnskapsforlaget has also experienced a high demand from schools in secondary education. As of January 2011 eleven out of nineteen county administrations in Norway are subscribing to *Ordnett*, comprising 190 upper secondary schools, in addition to individual subscriptions from 10 upper secondary schools in Oslo.

Four different standard combinations of digital dictionaries are available for educational institutions and schools: *Ordnett* Basis, inclusive of a basic version of Norwegian-English / English–Norwegian dictionaries; *Ordnett* Basis Advanced with an extensive set of bilingual Norwegian-English / English-Norwegian dictionaries in addition to the basic ones just mentioned; the Oxford Combination consisting of ODE, *Oxford Thesaurus of English*, and the *Oxford Dictionary of Quotations*; and lastly the Foreign Languages Combination, consisting of French, German and Spanish dictionaries (Kunnskapsforlaget, 2011: *Utdanning*).

At the school where I did my research, *Ordnett* Basis was provided, and I will come back to a discussion and analysis of the content of this subscription arrangement in chapter 6.

I find it in place to give a short personal assessment of *Ordnett*, since this is the dictionary used during my observations. I have had access to *Ordnett* online a bit on and off since 2007. I like the swift moves between looking up a word and working on a text. To me both as a teacher and as a master student it is first and foremost valuable for written tasks. The content is very exhaustive, as I have had access to all the bilingual and monolingual English dictionaries[16]. As an advanced user I most of all consult ODE or the thesaurus in *Ordnett*. I am especially attracted to the hybrid effect where one hit gives both bilingual and monolingual information of the headword, as well as synonyms. I can have the cake and eat it too, idiomatically put. I found this very time-saving and helped me stay on task.

I find it rather peculiar, though, that Kunnskapsforlaget has included ODE as its only English monolingual dictionary, and not OALD, which is specifically developed for learners of English, and which is probably the most used English print dictionary in the world among learners of English. For upper secondary students of English having ODE as their first monolingual dictionary might be dispiriting as it is more complicated to understand compared to OALD. It is definitely more suitable for advanced users and not for pre-intermediate to intermediate users as upper secondary students for the most part are. I have yet not received a precise answer of the reason when I raised this question to the company's representatives. They have previously stated that ODE probably was included since OALD was available free of charge online. In that case they underestimate the attractive hybrid effect as mentioned above, and they overestimate their users' comprehension skills. Today ODE is also provided for free online, but under another name as it is integrated in ODO, which means that their assertion no longer is applicable.

Furthermore, I was also looking up words in *Ordnett* Basis provided for the school where I was during my time of field research, and too often I did not find a match, or the information given was incomplete. I consulted it for typical words the students also might need to look up, and the insufficiency of the subscription was to me very obvious. It was quite frustrating at times, and I personally concluded that this version of *Ordnett* was not an option, not for me nor for the students. Personally I rather consulted OALD or *Merriam-Webster Online*.

[16] With the compliments of Kunnskapsforlaget during my research.

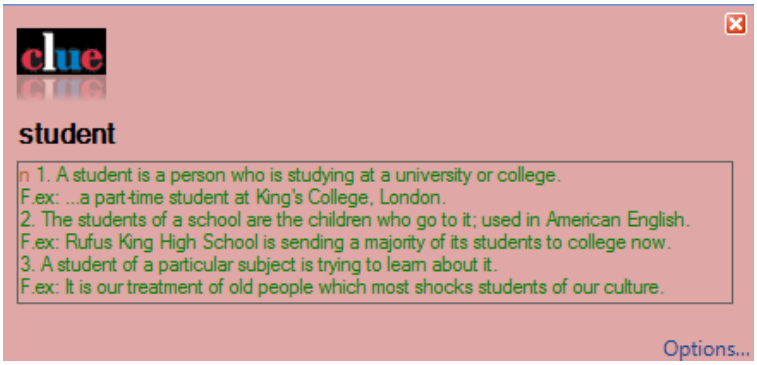
Ordnett, however, is not a matter of systematic investigation. I have no research data to refer to, only data from my own experience that I think is also valuable. To analyze and compare digital dictionaries for pedagogical concerns could be of interest for future research.

Clue

The Norwegian based company Clue Norway ASA was very early in creating computer-based dictionaries from their own sources. In 1987 they first launched *Clue* as a bilingual Norwegian/English dictionary set on 3 1/2" HD discs[17], and their prime target was business and trade. An English monolingual dictionary was integrated in 1990. Many dictionaries of other languages have followed, but I will not focus on them here. In 2002 the CD-ROM replaced discs, and version 5 of *Clue* was only distributed on CD-ROMs from 2003. From 2008 they disposed of CD-ROMs. Today *Clue* is offered electronically only, i.e. downloadable, as a subscription arrangement where the customers can select dictionary sets according to their needs. When accessing *Clue* therefore, the user need not be online as it is downloaded and accessible off-line, and the user can either open a complete version (illustration 13) or right-click a word to disclose a pop-up box of headword information (illustration 14).

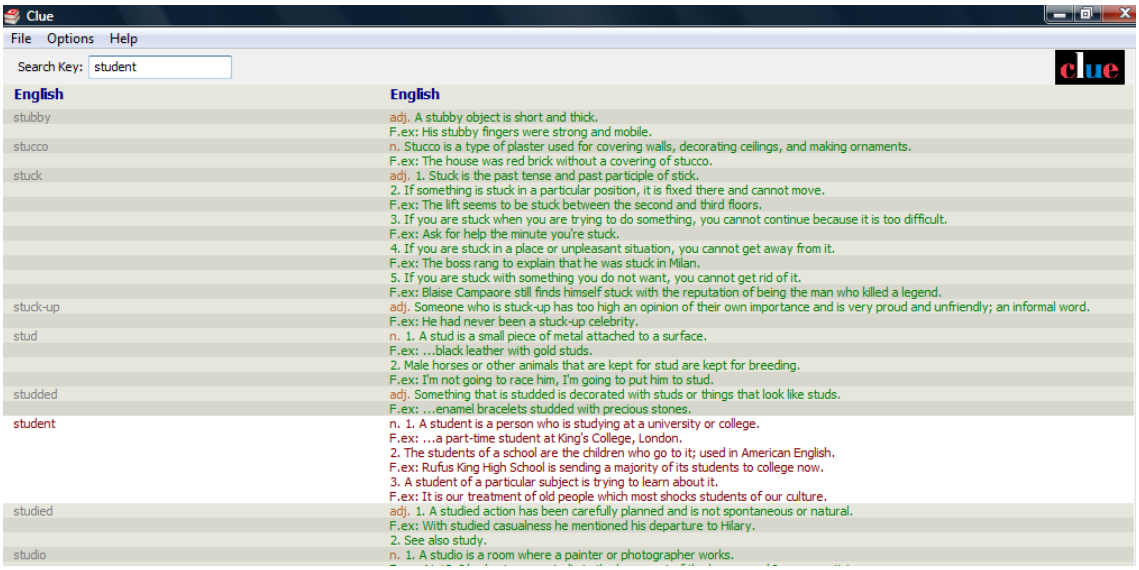
Schools started to use *Clue* in 1992, and today four county administrations subscribe to it providing it to their upper secondary schools. In addition there are 60 upper secondary schools all over Norway that have individual subscription arrangements of *Clue*.

Illustration 13: Clue pop-up box



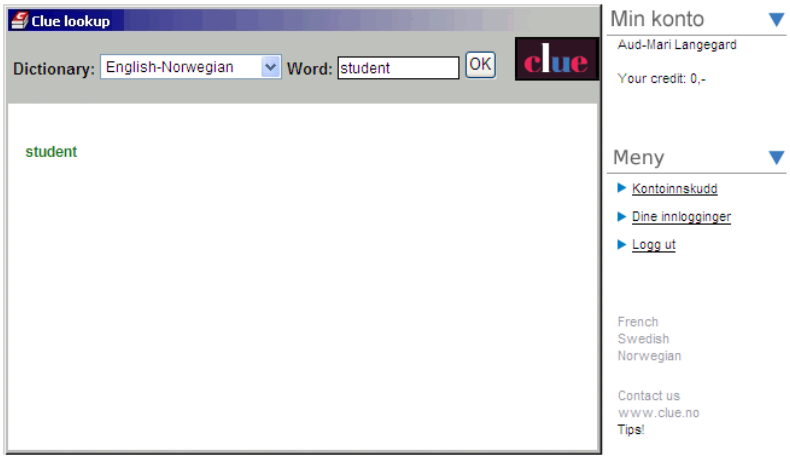
[17] The information given here derives from email correspondence with a company representative, and from their website.

Illustration 14: Clue, complete version



Another application was released in 2006, named *Clue Lookup*. This version is only accessed online, and is developed for private use. It includes Norwegian/English bilingual dictionaries, as well as dictionaries in a few other languages such as Swedish, German, French and Spanish. It is possible to subscribe for only a day, or a week, month or year at the time.

Illustration 15: Clue Lookup



2.3.3 A broader view

To summarize, in the beginning of the 1990s when personal computers started to become common property the publishing companies felt they were an additional platform where

dictionaries could be made available. They first created dictionary technology that was a more like a print dictionary that had found its way into the digital world, first as discs (Clue Norway ASA) or CD-ROMs . To meet with the acceleration of the World Wide Web in the late 1990s, online dictionary services have been launched in an increasing tempo, becoming more and more directed towards specific audiences, whereby reaching more popularity than CD-ROMs. They have also become more and more multimedia. Thus we now see the magnitude of English digital dictionaries online, both freely available and as subscription opportunities, of which I have presented just a few. For EFL purposes updated, extensive quality monolingual English digital dictionaries are accessible free of charge on the websites of most of the major publishing houses in the English-speaking world[18].

The multimedia options offered by digital dictionaries are increasing and will facilitate students to internalize lexical meaning and form. Such options deal with both accessibility and content. Examples are listening to the pronunciation of a word both in British and American English[19], listening to example sentences[20], visualizations[21], links to thesauruses[22], links to quotations including the headword[23], topic word collections[24], making your own profile on the site (for instant to create your personal vocabulary lists)[25], list of rhyming words[26], links for transferring headword information to social networking sites such as Facebook and Twitter[27], adding the dictionary as a lookup box to your browser[28], to mention a range of possibilities.

However, Norwegian learners and teachers are still without *free* and *advanced* bilingual English-Norwegian digital dictionaries on the Internet. They have to resort to subscription

[18] In addition to OUP and Merriam-Webster, Collins, Longman, Cambridge and Harpercollins all offer free monolingual dictionary services up to advanced level for non-native speakers of English. Cf. References for a more extensive list of digital dictionaries. Hodder Education Group offering *Chambers Dictionary* is the only major dictionary for ELT purposes that neither has a CD-ROM nor an online version.
[19] Those that fail to include sound are *Cambridge Dictionaries Online,* CED, *Factmonster,* LDOCE (there are samples online, though), and ODO, together with the subscription arrangements of *Clue, Clue Lookup, Ifinger,* OED and *Ordnett* online. (However, the downloadable *Ordnett Pluss* includes sound.)
[20] For example LDOCE (samples only).
[21] *Visual Dictionary Online.*
[22] Not included in *Cambridge Dictionaries Online,* CED, *Clue, Clue Lookup,* LDOCE, *Merriam-Webster's Learner's Dictionary,* and ODO. However, from *Cambridge Dictionaries Online* you can connect to a *visual* thesaurus (demo-version) that you can subscribe to.
[23] OED and *Ordnett* online, and partly in *Merriam-Webster Online.*
[24] For example LDOCE and OED.
[25] For example *Merriam-Webster's Learner's Dictionary* and OED.
[26] For example *Merriam-Webster Online.*
[27] For example *Cambridge Dictionaries Online,* CED, LDOCE, MED, *Merriam-Webster Online, Merriam-Webster's Learner's Dictionar,* and OALD.
[28] For example *Cambridge Dictionaries Online,* OALD,

services, the most extensive and advanced products coming from Clue Norway ASA Ifinger Ltd or Kunnskapsforlaget. Such subscription arrangements are made available to public upper secondary schools by most county administrations[29]. The advantage and attraction of these products for Norwegian students of English are that they are made available offline. Thus they can be consulted in test situations at school where computers are allowed, but where the Internet is blocked.

2.3.4 Future perspectives

Representatives from the publishing houses I have had personal communication with express that CDs are now a declining technology[30]. The future for digital publishing of dictionaries lies in adding on to existing sites, together with a substantial increase in mobile-platform dictionaries in coming years. They say the focus will be on redesigning the dataset to allow faster and more intuitive access to the information. This means that students in the future will have digital reference aids at hand not only with their computers, but also with smaller portable digital devices like mobile phones, tablet computers and e-book readers.

2.4 The importance of digital technology in teacher training

Knowing the pedagogical value and importance of electronic dictionary use, based on sound pedagogical criteria when it comes to the intentional discovery of new meaning, is of primary concern among educators, institutions and programmes preparing or training further educators. Kessler identifies a distinction between training teachers for digital literacy and "preparing teachers to use technology for instruction" (Kessler, 2007: 174), the former having the concentration. He then continues to argue that this focus alone might disserve the coming educators (ibid). It's a real challenge for modern teacher training programmes to both have updated ICT technology *and* the knowledge and experience of its pedagogical implications.

[29] There are two county administrations with no such subscription services to their upper secondary schools. They are the county administrations of Oslo and Telemark. (Oslo comprises 23 schools with 14,500 students, and Telemark has 13 schools with about 6200 students.)

[30] Derived from correspondence with company representatives from Merriam-Webster's, Inc. , Macmillan Publishers, OUP and Kunnskapsforlaget. Correspondence and notes are available upon request.

Up to now research on digital technology in the classroom has mainly focused on student attitudes, the implementing of digital technology in the classroom, and on how effective technology-focused approaches are (Kessler, 2007: 173). Kessler, however, points to a fairly neglected area thus far, namely the relation between the teacher and ICT technology (ibid). He researches the attitudes towards ICT among teachers and coming teachers, and he concludes that their digital comfort level corresponds with their *informal*, ad-hoc repertoire, viz "what teachers know about technology for language teaching results from informal or self-study, not from instruction" (ibid: 174).

This view is in line with Tor Arne Wølner, who states that teacher training in Norway does not help coming teachers to achieve mastery of digital technology He is afraid that it will stay paused "until a new generation of teacher trainers who are born with "digital tools" between their hands" will come to rescue (Wølner, 2010: 19; my translation).

It might therefore be high time for teacher trainers to address the digital challenges a coming teacher will face even more pronounced, including the pedagogical implications of digital dictionaries in the English language classroom.

In this chapter I have provided some important research background. I will now go on to consider essential aspects of the theoretical framework of this study.

3 Theoretical framework

The purpose of this chapter is to outline the theoretical foundations for the research in this study. A theoretical perspective will help giving a systematic and consistent approach to the data analyzed and offer concepts that can have various degrees of explanatory power. My point of departure is a sociocultural perspective on learning, and this will briefly be explained at the start of this chapter. I will limit the presentation to this perspective in the interest of space[31]. Subsequently, Wertsch's view on mediated action and how it can be related to my problem area will be elucidated. Important concepts are cultural tools, mediation, and active agents. And finally I will explain Swain's concept of output as a mediator of language development and her view on how collaborative dialogue is facilitating construction of new knowledge.

3.1 A sociocultural understanding of learning

The terms 'sociocultural theory' and 'sociocultural perspectives' are interchangeable terms now used by many sciences such as psychology, sociology, and the learning sciences - including education, such as for example foreign language learning and the teaching of English (Lund, 2003; Lantolf, 2000). It is not part of this thesis to explicate the different sociocultural variants (it is an umbrella term for many related strands), but I will point to keystones in sociocultural theory (SCT) that are common to most researchers.

SCT has its roots from the second and third decades of the 1900s (Lantolf, 2006) with the emergence of Russian psychologist Lev Semyonovich Vygotsky's research on the relevance of culture to the development of the human mind. His works was first repressed before being brought to light from the late fifties[32]. Since then researchers all over the world have analyzed and further developed his work, resulting in different understandings or perspectives of SCT

[31] There are many theories on perspectives of learning, mainly as threefold division into behaviorist approaches, cognitive and constructivist approaches and sociocultural approaches. I will not enter a discussion on the different approaches here.

[32]The first English publication of one of his books, "Thought and Language", came in 1962. "Mind in Society: Development of Higher Psychological Processes" is a selection of his writings translated into English as late as 1978. After this publication the impact of his work grew considerably in the Western world (John-Steiner and Mahn, 2011).

(Lund, 2003). Vygotsky himself never directly used the term 'sociocultural'[33], but he is often cited in support of it (Lund, 2003).

Vygotsky's research led to his understanding that the human mind develops through activities that take place in a cultural environment. The activities are mediated by language or other symbolic and material artefacts and are more completely comprehended when investigated in their historical contexts. His foundational tenet is that there is a dynamic interdependence between individual and social processes. Learning[34] should not be considered in isolation. It has to do with the processes of both interaction, and individual appropriation and mastery. Learning itself is dynamic; as a social activity it takes place in interactions in the zone of proximal development (ZPD) (Lantolf, 2006).In the ZPD, a more knowledgeable peer will assist and support the learners so that s/he may develop beyond her or his current competence. Such support or mediation may also be given by available cultural tools. "... the ZPD is not a place at all; it is an activity; a historical unity, the essential socialness of human beings expressed as revolutionary activity." (Newman and Holzman as rendered in Lantolf, 2006: 289).

3.2 Mediated action

In his book *Mind as Action* James V. Wertsch bases his sociocultural analysis on the notion of 'mediated action', which encompasses an emphasis on agents and their cultural tools. An 'agent' is someone who initiates action. The action or the collective activity is mediated by available cultural resources such as e.g. scientific concepts, signs and symbols, and material artefacts such as computers – and in my case – digital dictionaries. Wertsch (1998) also advises against a too narrow focus on the agent in isolation, - human activity is always distributed in the sense that it involves cultural tools and other people.

"Cultural tools" are the mediational means used by agents in cultural, institutional, and historical contexts (Wertsch, 1998: 24). To Wertsch "cultural tools" and "meditational means" are interchangeable concepts. His foundational tenet is that "mediated action is characterized by an irreducible tension between agent and mediational means" (or cultural

[33] He used the term 'cultural-historical psychology' (Lantolf, 2006: 1).

[34] 'Learning' is a complex term, related to psychological understandings, biologically based understandings (e.g. brain research), and to social sciences. I will not enter a discussion here on the different understandings of learning due to limitations of space.

tools). One does not exist without the other; they are never independent of each other, and therefore must be examined as they interact. In itself the cultural tool is powerless to do anything. Cultural tools "can have their impact only when an agent *uses* them" (ibid: 30).

Even though Wertsch claims that all cultural tools have material property, he distinguishes between "primary artefacts" (or tools) such as physical objects, and "semiotic artefacts" such as speech. In my research context the agents are the students I am observing, and the cultural tools in question are their digital dictionaries. The digital dictionaries have an obvious materiality, both tangible and visible. They are also physiological tools, as they can help acquiring vocabulary in context.

In my outline of mediated action I am primarily concerned with Wertsch's analysis of an agent's skills needed in order to use cultural tools. From Wertsch's perspective, "the use of particular cultural tools leads to the development of particular skills rather than on generalized abilities or aptitudes" (ibid: 46). The more an agent practises using a certain cultural tool – in my case, using a digital dictionary – the more he will experience mastery of the skill of using it. "When speaking of mastery, I have in mind "knowing how" (Ryle, 1949) to use a mediational means with facility" (ibid: 50). Wertsch prefers to speak of mastery, intertwined with appropriation, instead of internalization[35]. Appropriation is understood as "the process of taking something that belongs to others and making it one's own" (ibid: 53).

If we consider this aspect in a learning environment, a student has first to be introduced to a cultural tool before practising might occur. And a student's mastery of a cultural tool is facilitated through teacher intervention in a ZPD environment. Stetsenko argues for the unification of social interaction and cultural tools (in Wertsch's term: mediated action) with the ZPD (as rendered in Lantolf, 2006: 288). The following is a slight rewrite[36] of Stetsenko's quote (ibid) in order to make it applicable to the present thesis:

> The student makes progress under the guidance of his teacher, because the latter, as a representative of human culture, provides the student with new, more efficient tools. These cultural tools have to be introduced first on the external, interpersonal level (i.e. in the student-teacher shared interaction), because these tools are ... activities that have to be actively played out and reproduced in the course of interaction in order for the student to

[35] The concept of 'internalization' is widely used, but can be misleading according to Wertsch. There is no space to elucidate the issue here, but I will refer to his discussion (Wertsch, 1998: 48ff). However, refer to footnote on Swain's understanding of internalization below.
[36] 'child' and 'adult' are replaced by 'student' and 'teacher'.

> acquire them. In the course of such interactions, a teacher introduces and reveals the meaning and function of new cultural tools to the student, as well as ways to operate with the help of these tools. Gradually, these actions .. get internalized by the student, thus constituting the student's advanced cognitive functioning. By virtue of mastering new efficient cognitive tools in which essential characteristics of cultural practices are embodied in a schematized and abbreviated form, the student becomes able to progress to a new stage of development and, for example, to independently perform more complex tasks.

Furthermore, Wertsch claims that the consequence of introducing a new cultural tool is the probability of a transformation of the mediated action. An imbalance will occur due to the new tool, and may create changes in the agent, changes in mediated action and even may give rise to "an entirely new form of mediated action" (Wertsch, 1998: 43). To clarify his point he gives an example of the invention of the fibreglass pole that was introduced to pole vaulting in the beginning of the 1960s. Pole vaulters using the earlier bamboo and metal poles seemed destined to not being able to better the record of about 4.9 metres. However, within three years of the introduction of the fibreglass pole the world record had been beaten by 0.6 metres, which was considered quite a dramatic increase. This did not happen without a strong controversy as some vaulters could not accept the new pole quality, complaining that the "trick was one of "hanging on and letting the pole do the work"" (ibid: 43). It was not the accomplishment of the athlete, but of the pole. A counter-argument was that those who complained were those who couldn't master the new tool. The fibreglass pole was later standardized and is now used by all vaulters.

We may also consider the introduction of the V-style in ski jumping by Jan M. Boklöv in the mid-80s[37]. In a V-style the skis after take-off are formed to shape a V, in contrast to the Daescher technique where the skis are kept parallel to each other. At first Boklöv was punished with style point reductions, and he was heavily criticized and ridiculed. He was called a 'crow' and 'hedge clippers'. The chairperson in the international skijump committee in FIS (International Ski Federation) said in 1988 that it was a shame that Boklöv won international ski jump competitions and that he even with his best jump could never get more than 17 style points (of a maximum of 20) (Hjorten, 2009). However, the V-shape clearly bettered the jump length, and young jumpers started using it. Actually it caused the length from the take-off hill to exceed by around 10% compared to the previous style. From early

[37] Facts in this sections derive from different online encyclopedias like Encyclopædia Britannica, Wikipedia and Store Norske Leksikon, and from the archives of the Norwegian Broadcasting Corporation, NRK (see *References* for further information).

1990s the V-style was approved and standardized. However, only very few ski jumpers accustomed to the Daescher style were able to adjust to the V-style.

According to Wertsch such examples illustrate that "cultural tools provide the context and standard for assessing the skills of an agent" (Wertsch, 1998: 45). The skills in question are not to be regarded as timeless, but as reflecting a contingent sociocultural setting. Agents may change the use of a cultural tool when being introduced to it, and when changes take place, they may even transform the thinking about the tool or the action applied to it, as with the pole vaulting and the V-style mentioned above. One might then argue that there has to be a price to pay when introducing new cultural tools. In the discussion of my findings in chapter 6 I will come back to the implications of mediated action to my research question.

3.3 Output hypothesis

Up to the 1990s research about interaction in second language learning was dominated by a view of interaction as providing input to learners, and how to make such input comprehensible (Swain, 2000). Rooted in a sociocultural understanding of learning Merill Swain in her article "The Output Hypothesis and Beyond: Mediating acquisition through collaborative dialogue" (2000) claims that Krashen's tenet of 'comprehensible input' is not enough for second language acquisition. 'Comprehensible input' is the hypothesis that second language acquisition is caused by input that is understood. A researcher must broaden his focus as it is too reductionist only to focus on input or output. Rather, knowledge-building and problem-solving *collaborative dialogue* "facilitates the appropriation of both strategic processes and linguistic knowledge" (ibid).

What is 'collaborative dialogue'? In her article Swain provides data supporting her claim that

> "it is dialogue that constructs linguistic knowledge. It is what allows performance to outstrip competence. It is where language use and language learning can co-occur. It is language use mediating language learning. It is cognitive activity and it is social activity." (2000: 97).

Her material shows that collaborative dialogue between students in a variety of tasks "provides them both with opportunities to use language, and opportunities to reflect on their own language use" and that "together their jointly constructed performance outstrips their individual competencies" (2000: 111). Dialogue as a tool through external speech (or external

writing) is therefore serving second language learning. It serves as a bridge between social interactions through language and the internalization[38] of linguistic knowledge of individual learners. The process of internalization is mediated by the tool of language, which is a very strong semiotic tool. Furthermore, language when used as collaborative dialogue facilitates knowledge-building processes even more profoundly, she claims (ibid: 110, 113).

My empirical data displays one learning activity that involved collaborative dialogue and the use of digital dictionaries. This was a translation exercise where the students could work in pairs. In this activity the Nick – on behalf of him and John - looked up headwords in Clue six times, which was the highest number of searches in a digital dictionary during my observation period. I will comment on this activity in the discussion in chapter 6.

In addition, output is more than oral production. Written tasks could also work as output. Input is transferred through cognitive and knowledge-building processes to perform output as a written text.

Now I have outlined some key concepts in the theoretical framework of my thesis. I will now continue with examining the methodology of the data collection.

[38] According to Swain "external activities are transformed into mental ones" through a process of internalization (ibid: 103). "In other words [..] psychological processes emerge first in collective behaviour, in co-operation with other people, and only subsequently become internalized as the individual's own 'possessions'" (ibid).

4 Methods

A complete research "is a process for collecting, analysing and interpreting information to answer questions" (Kumar, 1999: 7), which is the 'what', 'how' and the 'conducting of the study' (Kumar, 1999: 17). As a reminder, the 'what' is my research question "How are digital dictionaries used by young Norwegian learners of EFL? A case study of attitudes and practices". What are prevalent practices among students and teachers in the English language classroom? And what are the underlying attitudes behind?

Methodological considerations deal with the 'how' of my research. I will present the methods of data collection from the field work I initiated. Furthermore, the selection of the participants[39] will be described in more detail.

4.1 Research design

A research design is defined as "a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately, and economically" (Kumar, 1999: 74). The research design I decided on was first and foremost the case study, since my aim was to get beyond the surface level and explore as much as possible students' underlying attitudes and their application of digital dictionaries in the learning classroom. Qualitative methods are often applied to studies in SLA research and in social sciences like sociology, anthropology, history and psychology (cf. ibid: 10, Holter & Kalleberg, 1996: 10). Interviews, observations, field studies, group activities, and conversations are parts of the method repertoire (Holter & Kalleberg, 1996: 10-11).

Since the use of digital dictionaries in a learning environment is hardly researched in Norway, very little is known about attitudes and practices. To complement the case study I found it strategic and relevant to collect data from a larger population of students in a cross-sectional study to find patterns and distributions of attitudes and practices to use as a *backdrop* to the case study. Many researchers emphasize the complementary relationship of quantitative and qualitative research (Kumar, 1999: 12, Grønmo, 1996: 75, Kvale, 1996: 68, Tschudi, 1996: 109), called a mixed method approach, method triangulation (Grønmo, 1996: 98) or comparative research (Sivesind, 2007). The interaction between the two is needed in the

[39] I will use the terms participants and single case units interchangeably.

whole research process, Kvale claims (1996: 69). To my research question the main focus is giving individuals a 'voice' to expound the factors behind statistical patterns. However, at the same time it is interesting and relevant to describe the spread of digital dictionaries usage, and students' attitudes towards them, and compare with the case study.

I have chosen observations and un-structured interviews as qualitative approaches in the case study, and a questionnaire as the quantitative tool in the cross-sectional study. I will now describe the two study designs more closely, as together they form what could be called a mixed methods approach.

4.2 Mixed methods approach

4.2.1 The case study

The case study provides the most important data collection in my research as the cross-sectional study is to be used as a backdrop of added perspective and understanding.

Case studies in the qualitative tradition seek to describe a situation, a phenomenon, a problem or event in order to *understand*, without having to reveal patterns or systems (Kumar, 1999: 10). I was interested in the participants' attitudes and practices in natural situations, i.e. in their "life world" ("Lebenswelt") (Kvale, 1996: 54), and not in constructed, controlled scenes. The importance is on how the issue is "experienced by the subjects[40]" here and now (Kvale, 1996: 52), and "that the important reality is what people perceive it to be" (ibid). Especially in socio-cultural research it is necessary for participants to be given the possibility to describe the issue concerned in detailed manners.

[40] There is an ongoing discussion about the term *subjects* in today's research. Kvale uses the term "subjects" as cited here throughout his introduction to qualitative research (Kvale, 1996). However, some would say there are good reasons to avoid this term as it might be perceived as biased. "*Subjects* is a fairly nondescriptive, passive term. Identifying human subjects as *participants, respondents, children, patients, clients*, and so forth increases specificity. (*Subjects* is perfectly appropriate when the person cannot himself or herself provide informed consent.)" (Apa Style.org, 2009: http://www.apastyle.org/faqs-answer14.html). Opponents of this view might state that they "prefer "subject" to "participant" because the latter term implies that these experimentees are involved in construction, design, conduct, and analysis of the experiment". (Salzinger, 2007: http://www.apa.org/books/4311007c2.pdf). I will adhere to the term "participant" for the most part in this paper.

The case study is a careful analysis of a phenomenon through following one or a few case units (cf. Kumar, 1999: 99, Johannessen, Tufte & Kristoffersen, 2006: 84). This means that there can only be a limited selection of participants due to time constraints, both because of limited researchers in a field study, as in my case (only one researcher), and as deadlines have to be met. The case unit could be an event, a person, a group of people, an organisation and so forth. Studying a small group of students in an upper secondary school, as in my field research, is a case unit. There were three participants in my selection. I will come back to the participants below.

Furthermore, the main unit of analysis is the students' computer activities in the classroom during English classes and their relation to the teacher's instructions. The analysis is first based on observational notes on a micro-level (small-scale) and debriefing interviews notes with both the student participants and the English teacher. These results will then be compared with statistics from the electronic survey conducted among a large group of students provided as a backdrop on a macro-level (large scale). The next unit of analysis is the interviews with English teachers. This analysis is rooted on notes and transcripts from selected sequences. It is purposeful to compare these results with the main unit of analysis. The motive is to bring out some examples I have found of general characteristics or patterns, and reveal what to me are some interesting aspects related to the research question.

Field research (observations, interviews) over a period of time with careful data collection is needed in case studies (Johannessen, et.al: 84). The data collection and the time involved in my study will be described in the empirical chapter (chapter 5).

4.2.2 The cross-sectional study

I found it necessary in my research to compare the case study with the analysis of patterns and distributions of attitudes and practices among a larger group of students in order to answer the research question more completely. Finding and processing such data favours quantitative tools. Quantitative approaches are by some called "the systematic, scientific or positivist approach" (Kumar, 1999: 12), and are often the chosen approach in physical sciences. Questionnaires and opinion polls are typical and perhaps the most common methods in quantitative designs.

A structured questionnaire to a large group of students about their use and attitude towards digital dictionaries would provide cross-sectional data material, that brings insight into quantifiable patterns of practices and attitudes. Such a cross-sectional study design, "also known as one-shot or status studies" (Kumar, 1999: 81), involves only one contact with the study population (ibid: 83). I will be able to generalise the results, looking at likenesses and variations of the data.

A disadvantage often voiced of such a study design is that it cannot describe changes in the study population. It happens once (cf. ibid). If I were to study *change* I would have to employ another cross-sectional study at a later time. However, in my research question the study of change is not of interest. Therefore it is not applicable.

The making of the questions was a demanding task, and I repeatedly cross-checked questions with both colleagues and my journalist husband (more about this in chapter 5). The form of the questions was extremely important "as they have an effect on the type and quality of information obtained" (Kumar, 1999: 116). Considerations I had to make was to use everyday language, to avoid ambivalent wording, not to ask more than one question at a time, not to make them too long, as well as not to ask judgemental, leading or presumptuous questions. In sum, the questions must be relevant, simple and unambiguous (Kumar 1999: 119ff; Johannessen et.al. 2006: 222ff).

In the case study it was rather time-consuming to collect the data. In contrast the time employed in the cross-sectional study was conducted on the shaping of the questions. Once the questions were made up, the data collection from the questionnaire was very easy and fast to carry out.

4.2.3 Complementation: A mixed method approach

A mixed method approach is a combination in varying degrees of both qualitative and quantitative tools of research. It is also called a method triangulation (Grønmo, 1996:98) or comparative research (Sivesind, 2007).

Some claim that only quantitative data provide true research. This view is represented by Kerlinger, cited by Kvale: "Scientists are not and cannot be concerned with the individual case. They seek laws, systematic relations, explanations of phenomena. And their results are

always statistical. … (The scientist) is chained to group data, statistical prediction, and probabilistic estimates." (1996: 66-67). Or as cited by Grønmo: "If you can't count it, it doesn't count" (1996: 73). The benefits of quantitative methods are that they can elucidate overall patterns and frequency given that the requirements of reliability and validity are met. Now, if Kerlinger and his like are right, my field work would be restricted to the questionnaire, as the qualitative tools of observation and unstructured interviews of individual participants would give data of no scientific value.

An obvious disadvantage of quantitative approaches is that they do not always show what processes are behind the data or the phenomenon. What constitute the phenomenon? What factors lead to the data given? Therefore, to operationalize the topic question into measures of qualitative tools could answer questions that quantitative methods fall short of revealing, namely what deciding factors contribute to the phenomenon of use and attitudes towards digital dictionaries or what are the processes behind this question.

Another catch of quantitative tools might be a lack of precision of the variables developed. A practical downside many researchers voice is that the size of the data collected might end up too demanding and time-consuming to process and analyze before a finishing date. However, with digital questionnaires this might only partly be true in our time.

Grønmo says that the distinctions between these quantitative and qualitative designs are more concerned with the properties of the data collected than with the methods used (1996:73). Data consisting of numbers is quantitative data contrasted to data consisting of text which is qualitative data (ibid: 74) to put it simply. At first they might appear to be two opposing terms, but they are not necessarily dichotomous as you might find the types of data as text and numbers on a gliding scale with the extreme positions to each side (ibid:74). Even though my main focus is the case study, it is supplemented with a cross-sectional study. According to Johannessen et.al mentioned above a case study could integrate cross-sectional material as part of the design (2006: 84). One might therefore argue that my research consists of a case study only. Nevertheless, the mixed methods approach is to me a more appropriate design tag, to accentuate from where my material comes.

A mixed method approach, even though it might challenge the limits of time, is hoped to strengthen the validity and reliability of the research. "If you find something that exists in all clusters, then this is the essence. The essence is the 'invariata', that which doesn't alter

despite different data. The essence is our new wholeness" (Gunnarsson, 2002; my translation). An integration of methods can better balance and elucidate as much as possible of the phenomenon or the "universe" (cf. Tschudi, 1996: 111) to find this essence of it all.

To sum up, case studies profit from combining qualitative tools (in my research observations and unstructured interviews) with quantitative tools (a structured questionnaire) to acquire single case data for revealing particulars besides a large quantity of data to describe patterns or systems. A combination is recommended and favoured as they complement each other (Kumar, 1999: 12, Grønmo, 1996: 75, Kvale, 1996: 68, Tschudi, 1996: 109). The interaction between the two is needed in the whole research process, Kvale claims (1996:69). The mixed method approach is therefore hoped to give as many answers as possible to the investigation of my topic question.

I have now outlined the processes behind conceptualising my research design. In the remaining section I will further expand what set of instruments I chose to use, and what their benefits and disadvantages are.

4.3 Methods of data collection

I had to consider both what was appropriate to the research question and what was practically suitable within the time constraints given to prepare the tools, to carry them out, and to process and analyse the data.

I decided to conduct overt observations and unstructured interviews for the provision of qualitative insight and to construct a survey for the systematic data collection (cross-sectional material) to use as a backdrop. All of these provide primary data as they give direct access to the sources (cf. Kumar, 1999: 104).

4.3.1 Overt observation with debriefing interviews

The first and most important part of the collection of data was based on observations and interviews. I wanted to collect primary data material through overt observation of a few students while working in the language learning classroom. Systematic observation is "a purposeful, systematic and selective way of watching and listening to an interaction or phenomenon as it takes place" (Kumar, 1999: 105). As I was interested in the student

behaviour towards digital dictionaries, observation is a very good means to collect this kind of information. Overt observation can be seen in contrast to covert observational techniques. This entails openness in the observational arena about who I am, what my role is and what the topic of my research is, but not necessarily about what I am observing.

I intended the observation setting to be natural in contrast to controlled ones, or according to Kvale, from the "Life World" (1996: 29). According to Kvale it gives the truest information about student behaviour. The real life setting is in the hot seat, not settings with intervening measures.

During observations I was primarily concerned with the monitors of the laptops of the participants. I wanted to check on when they entered a digital dictionary under what circumstances or activity. I had detailed a categorical recording diagram, i.e. an observation checklist, in advance that I followed closely (appendix 4).

After I had observed a session, I immediately carried out a short debriefing interview with the participants including the teacher, based on a semi-structured interview guide, mainly with open questions (appendices 5 and 6). I will add more in the next part about interviews.

The main drawback of overt observational techniques is "the tendency for individuals to modify their behaviour when they know they are being observed" (Forsyth, 1990: 29) and this is called the Hawthorne effect. Kumar also warns against this out-turn (1999: 106). This means that the student behaviour I observed may not be representative for their normal behaviour. Another catch is that the observer - me - may interpret what I am observing due to bias. This means that another researcher might end up with other interpretations due to biases different from mine.

4.3.2 Debriefing interviews

The reason for the short debriefing interview was to bring out more information about the participants' attitudes towards using or not using digital dictionaries during a session. Such a technique may reveal more of the complexity of the issues involved and it may supplement the data acquired during the observation (Kumar, 1999: 115). It gave the participants a chance to voice their own reflections at that point of time.

The questions of the debriefing semi-structured interview were designed to trigger them to unfold their reasons for using or not using digital dictionaries, what dictionaries they were using if any, whether they actually found what they were looking for, and their perceived value of the entries found, all taken from the teaching session just completed.

The debriefing interview with the teacher dealt with the teacher's own reflections about the need for vocabulary acquisition through the use of dictionaries based on the tasks in the session.

A positive side-effect is that it refined the relationship between me and the participants. Even though the relationship was asymmetrical, the debriefing interviews removed some of the uncertainty of my role as an observer and were experienced as an arena of mutual respect and understanding of my role as an observer and their role as participants, thus making them more at ease and 'real-life' to having me observe behind their backs.

4.3.3 Semi-structured interviews with teachers

Another part of the aim of the field research was to collect data about teachers' general use and attitudes towards digital dictionaries. To get this data I constructed a semi-structured interview guide (appendix 7) and interviewed a small focus group comprising four English language teachers comprehensively on a one-to-one basis. A semi-structured interview is defined as "an interview whose purpose is to obtain descriptions of the life world of the interviewee with respect to interpreting the meaning of the described phenomena" (Kvale, 1996: 5-6).This type of interview requires a sensitivity of the interviewer, and was challenging for a novice practitioner like myself. The interviewer is like a traveller or explorer, metaphorically speaking (ibid: 4), which "refers to a postmodern constructive understanding that involves a conversational approach to social research" (ibid: 5). The interviewing process is a craft that requires certain skills of the interviewer. Kvale outlines and explains ten qualification criteria (ibid: 148-149): The interviewer needs to be knowledgeable, structuring, clear, gentle, sensitive, open, steering, critical, remembering, and interpreting.

I aimed at fulfilling these criteria to enable an interview product of rich content and thus "doing justice to the ethical demands of creating a beneficial situation for the subjects" (ibid: 148). I experienced a progress of especially the steering criteria as I was conducting the semi-

structured interviews. I was more concerned of avoiding digressions from the second interview on to avoid losing control and end up with too much irrelevant information.

The interviews were not symmetrical interactions. I defined what to focus on and what line of course to follow reflected in the ready-made question guide I had developed sequenced according to themes. At the same time I wanted to promote a dynamic setting, as I viewed the respondents as rational and interacting persons. The focus of the conversation was to let them talk without me steering too rigidly about their experiences and attitudes towards digital dictionaries. This was a sensitive balance. I tried to include for instant follow-up, probing and specifying questions to uncover new layers of reflections from the respondents.

In order to be a free participant, I had arranged for a recording device to tape the conversations that I had tested earlier. This allowed mutual eye-contact, and I experienced that it was easier to concentrate on the respondent and the direction of the conversation as I did not need to worry about laborious note-taking.

According to ethical research criteria I included no traces of personal identification in the stored material, and I erased the conversations as soon as they were of no need to me any more (cf. Balto, et.al: 19). The respondents were informed about what would happen to the recordings, and they all had given their consent in advance.

4.4 Questionnaire

To complement the qualitative part of my research I constructed a questionnaire on the basis of what I had observed in class. The purpose was to get an understanding of the attitudes and practices of digital dictionary use from a large population with comparable variables to mirror the qualitative part of my field data. I organised it mostly with structured questions, which are closed questions with no possibility to add text. There were 31 questions altogether. The anonymous participants were to check off the suitable variable given. Some of the questions were open, in that they could add text if the correct variable was not given. For example in question twelve the students were asked to tick off what digital dictionaries they had been trained to use. If they ticked off the final option “Other”, they are asked to write the name of this digital dictionary in the next question (cf. appendix 10).

As mentioned earlier, my aim with the questionnaire was to write the questions as clearly and unambiguously as possible. To rule out EFL obstacles I designed it in Norwegian. I tried to be strategic with the choice of words so that even minority students would meet as few obstacles as possible. For example I wrote 'grunn' and not 'årsak' (reason, cause) as the latter is more rarely used in Norwegian. Minority students I have met even in upper secondary education often have a more restricted vocabulary in Norwegian. Furthermore, I tried to avoid ambiguous and dual questions, the latter also called double-barrelled questions (Kumar, 1999: 120).

All of these considerations were important to me. I continually tested the formulations of the questions on my journalist husband and two colleagues at work to weed out undesired features. I then presented the questionnaire digitally to two test groups of students on their learning platform It's Learning. Testing proved valuable both to enhance the questions and to test out how it was to read and analyze the data material provided.

An email with a link to the questionnaire was finally sent out to the entire student population having English as a subject at a selected upper secondary school. The email contained a description of the objectives of the study, an assurance of the participation being anonymous, indication that it was voluntary and a request of answering within a set date. When entering the questionnaire the participants first had to read an accompanying covering letter giving a succinct description of the main objectives and the relevance of the study, a definition of what a digital dictionary is and is not, and a short presentation of me. I also included my contact information in case of inquires. The results from the entire questionnaire is enclosed (appendix 11).

There were 162 answers to the survey within the set date, which is quite a high number of respondents.

4.5 Method considerations: Validity

Before continuing I need to point to some constraints of this study. I am not going to analyse the whole process, though. The main concern now is to emphasize that there are always factors that may influence my findings, and the aim is to give examples of such from my study.

The overriding principle when evaluating research is the "verificiation of knowledge" (Kvale, 1996: 229). In this context researchers use the concepts of validity and reliability. Validity is "the ability of an instrument to measure what it is supposed to measure" (Kumar, 1999: 137). In qualitative research this is a challenging issue. I will try to throw light on it by investigating some aspects of validity, namely reliability and transferability.

4.5.1 Reliability

Reliability is a concept that deals with how trustworthy the research is. It "pertains to the consistency of the research findings", and it can question the whole process involved. I will point to some possible constraints of my study:

The main drawback of overt observational techniques that I conducted is "the tendency for individuals to modify their behaviour when they know they are being observed" (Forsyth, 1990: 29) and this is called the Hawthorne effect. Kumar also warns against this out-turn (1999: 106). This means that the student behaviour I observed may not be representative for their normal behaviour. However, one of the students did explain in a debriefing interview (more below in chapter 5) that he often forgot that I was there, which implies at least for his case that his behaviour was representative for him and not constrained by my presence.

Another catch is that the observer - me - may interpret what I am observing due to bias. This means that another researcher might end up with other interpretations due to biases different from mine.

Another example from the small focus group of teacher interviews is I was clearly a new to the experience. If I had tried out the questionnaire first, I would have gathered valuable experience. When I interviewed Nanette, the third respondent, I had learnt some of the pitfalls and constraints of the setting and questionnaire, so that I adjusted the interview accordingly and the interview became much more focused. This was also the case in the fourth interview with Linda. One example is that some questions tended to make the respondents repeat themselves, which was especially obvious in the first interview. I regretted not sharpening the focus of the questions by using one or more trial respondents. I could have avoided spending time and effort on subordinate issues, and it could have enhanced the focus and quality of answers. Furthermore, I could have deleted some superfluous questions.

My last example has to do with being able to refer back to the material. As I have stated throughout this study, all the data collected can be traced since they are stored (anonymously for protection rights). Thus they can be verified or further explored if needed. In addition, the complete survey *is* included here so that anyone reading may verify the content.

4.5.2 Transferability

Transferability, or generality[41], involves making general claims about the findings. Are the results generalizable? The main point here is to establish that they cannot be transferred to the whole upper secondary student population due to the limited sample. There are too few respondents in the qualitative part of the study, which constrains the validity. However, they might point the way for future research issues.

Secondly, the results from the survey *are* transferable due to the high number of respondents, but probably only to the school in question, as the respondents were all students at the same upper secondary school. However, the few questions concerning *lower* secondary school might be generalizable to the school district at least, as the respondents came from different lower secondary schools.

This concludes the discussion and evaluation of the methodology applied to the research. I have given examples of some important aspects that might question the reliability and transferability of my findings.I will now go on to present the results of the collected data in the following chapter, before analyzing and discussing them further on.

[41] Kvale prefers the concept "generalizability" (for example Kvale, 1996: 231), whereas Johannessen et.al. quotes the English concept as "generality" (2006: 200).

5 Empirical data: Results

This chapter is a descriptive presentation of the results by going through the observation and the debriefing interviews, the results from the questionnaire, ending with the results from the teacher interviews.

The material is based on field notes and debriefing interview notes with both the student participants and the English teacher. These results will then be juxtaposed with statistics from the electronic survey conducted among a large group of students, and with notes from the four teacher interviews.

Bearing in mind the main research question, "How are digital dictionaries used by young Norwegian learners of EFL? A case study of attitudes and practices", I will now go on to the first part of this chapter.

5.1 Observation

5.1.1 The school

The observation of students was conducted at an upper secondary school that has integrated student use of laptop computers in all subjects at the Programme for General Studies (hereafter PGS) since 2005. Laptop computers were introduced during a trial period of four years, before being introduced at all levels in the autumn of 2007 and implemented as standard artefacts from 2008. The students are now renting laptops from the school on a long-term basis. WLAN (wireless local area network) is introduced.

The school practises ninety minutes sessions[42], and there is a widespread custom of allowing a break of about five minutes at the midpoint of the session, even though the school rule allows for none. Both students and teachers are supplied with laptops from the school. The digital platform It's Learning (www.itslearning.com) is an integrated part of communication and teaching between the members of the school community. The digital dictionary *Ordnett* (www.*Ordnett*.no) published by Kunnskapsforlaget, is provided by the regional county

[42] In many of the upper secondary schools in the county of my field study there is now an established practice of both lessons and sessions; Lessons are of ordinary length of 45 minutes, and sessions are twice as long. The school of my field study only practised sessions. I have not investigated the practice in other counties.

administration to all students and school personnel at upper secondary schools in their area. The students are expected to replace traditional dictionaries with *Ordnett*, and it is added as a link by their English language teacher on the platform. Last academic year students and teachers could access *Ordnett* at home. But this academic year (2008/2009) it has been restricted to the school network as the publishers are not allowing *Ordnett* for home use. This means that both students and teachers do not have the digital version provided for by the school outside the school arena.

Some students have been able to install the downloadable *Ordnett Pluss*, but there has been much confusion about this software among the ICT-staff, teachers and the management. According to the head at the ICT office both students and teachers already had *Ordnett Pluss* installed. On my initiative the head of the English department brought this matter up for discussion at a meeting, revealing disorientation and uncertainty about digital dictionaries on the whole, he explained to me afterwards. Not everyone had it installed. Some teachers said that the students had complained that it was slow and complicated to use, dispiriting them from using it. However, the head of the English department told the teachers to make sure both they and their students had it downloaded so that they could make use of it during spring exams.

5.1.2 The class

After having been accepted to observe, I introduced myself to the class explaining that my role was to observe first the whole class to get a grip of how it is working as both a student and an English teacher in a laptop environment. They were a level one (Vg 1) PGS class and comprised twenty-seven students. Secondly, I told them I would later like to observe two-three students directly, so that they could start considering whether to be a part of this direct observation or not. I further assured them I would by no means reveal to anybody names of students linked to data from the observation, and that my notes would not disclose any personal identification of any students. The students readily consented to having me in. I then started observing from the back of the classroom.

I had been told by the teacher that the class performs at an average level. All of these students had laptops, but there was a shortage of sockets in most classrooms, including theirs. Two fairly short extension cords were helping out, but not sufficiently. Therefore, the socket situation made the students cluster to the sides and to the back of the room for their charger

flex to be plugged in to the mains. I therefore observed the PGS class from a back seat jammed between students. For three sessions I tried to get an overall impression of how it is like being a student in a laptop classroom environment. Most of them were having their laptops open on their desks most of the time each session. Even though this was not my main focus of my research, this time of observing gave valuable insight into the tremendous ease and comfort most students handle some of the possibilities created by the web and other laptop offers, and simultaneously how engaged they could get in laptop diversions.

5.1.3 The participants

The third session three students were selected to provide detailed observation data. I had asked the English teacher to choose students that she thought would be able to relax and act in a natural way when having me observing behind them, as I wanted to collect real life data. All three readily consented and expressed actual interest in the research. I gave them a letter of introduction they were to bring home to their parents or guardians (appendix 2.) since they were below eighteen years of age, and also a declaration of consent to fill in (appendix 3). The letter of introduction explained the aim of my research and the assurance of the protection of the personal identification of the students involved, in compliance with the generally accepted guidelines from the national ethics research committee (Balto et.al. 2006). The letter of informed consent was to formalize their cooperation, with the date of the research onset, and their personal name. Since they were over fifteen years of age, they could agree to the observation without their parents' approval, according to the guidelines above (2006: 16). This is the only place where their names were written down in my research documents. Therefore, as part of the declaration of consent I had also signed an obligation to first store these consents in a safe place, and then to destroy them immediately after the observation phase was finished.

For the purpose of this presentation, I will hereafter name them Elisabeth, John and Nick.

At their lower secondary schools none of them had been trained to use digital dictionaries. Elisabeth had no previous knowledge of digital dictionaries, but John and Nick had had some experience with a digital dictionary called Clue that their English teacher at the time had shown them. Clue is a CD-ROM digital dictionary of several languages, including bilingual versions of Norwegian-English, English-Norwegian as well as an English-English version. At one point during my observation Nick exclaimed that he had just discovered another feature

of *Clue* which was very helpful. Normally you left-click the headword to get the details. By mistake he had *right*-clicked a word in the bilingual version and thereby discovered an extensive pop-up box of example sentences and grammar commentary, equivalent to the information you find of the same headword in the monolingual version. This was a typical example of how trial and error is an important factor on how they were learning to use *Clue*.

None of them had received any training on how to use the digital dictionary made available to them at their present upper secondary school, viz the online subscription resource *Ordnett*. However, they were all active users of digital dictionaries. At school Elisabeth and John preferred using *Ordnett*, whereas Nick preferred *Clue* that he had installed himself on his laptop. At home they said *Google translator*, *Clue* and *Tritrans* were most commonly used, as *Ordnett* was not accessible there.

5.1.4 The sessions in detail

I spent seven sessions, each of 90 minutes, observing the three students over a period of five weeks. With a systematic observation form I had developed I noted down what I made out from the students' screens. The content of the observation form was altered to a degree after the first two sessions, but on the whole it stayed the same (appendix 4). Furthermore, I made session outlines according to time and activity. I recorded the data directly on my laptop, which was a suitable tool in this classroom environment. After each session I carried out a debriefing interview with each participant (appendix 5) to explore their meta-thinking and attitudes about their consultations/non-consultations of digital dictionaries, and likewise with their teacher.

I will give a summary of each session. Where relevant I will include data from the debriefing interviews. It is essential to include observational data concerning the concentration of the participants relevant to the computer environment the class is experiencing, and I will assess this data in my later analysis.

Session 1

The students were told to read from the novel *Boy* the whole session while the teacher was having small interviews with some of the students in the corridor. Only John and Nick of the

three participants were present, and none of them used dictionaries during this reading task. They stayed on task the whole session.

Session 2

Again the student activity was to read from the novel *Boy* the whole session while the teacher was having short interviews with the rest of the students in the corridor.

Elisabeth: The first eight minutes of the class activity she was interviewed by the teacher in the corridor. Back in the classroom she stayed on task in between other activities for altogether five minutes. The rest of the session was spent on Skype (21 minutes), Youtube (25 minutes) and small talk with other students (20 minutes). When on task she consulted *Tritrans* once, but she did not find what she was looking for.

John: He was generally on his reading task, but was making small talk for a length of time (20 minutes). He made no searches in digital dictionaries.

Nick: He started off on his reading task, but for the last twenty minutes he too was talking to other students. He made no searches in digital dictionaries. However, he did explain that his favourite digital dictionary was *Clue*, because it is easy to access, not to difficult to use, and it has the information he usually needs. He is not fond of using *Google Translate* as it is unreliable in his experience; he would need to check in another dictionary afterwards.

Session 3

A substitute teacher managed the class today with oral activities on recapping the plot of the novel *Boy* thus far, oral and written exercises on modal verbs and ending up with the students reading from the novel.

Elisabeth: She stayed on task for all the activities for about ten to fifteen minutes. The rest of the time was spent on Skype, Facebook and a few other websites even when the teacher was presenting material and asking questions, in addition to small talk with neighbouring students during the reading activity. She was not using any digital dictionaries this session.

John: He was mainly focusing on the lesson activities. Five minutes was spent on playing a computer game (he turned down the data display light while playing). He made no use of digital dictionaries.

Nick: He was on task until the break midway. After the break he followed John and played a computer game for five minutes. He seemed to have lost concentration, and partly stayed on task, partly chattered on with his neighbours. He did not consult any digital dictionaries this session.

Session 4

The first part of the session was information about the rest of the term and about examinations in the spring (20 minutes). The remaining part consisted of various written and oral activities about the inaugural ceremony of the new President in the US. The last half hour after the break was spent watching the inaugural ceremony on Youtube.

Elisabeth: On the whole she was on Youtube for five minutes, doing German exercises for about six minutes, and she skyped[43] from the beginning of the lesson every now and then (I was not able to keep track of the total amount of time), all of which was replaced in a snap by the "correct" web page or document if the teacher passed by. In addition she seemed to be listening to music from an MP3 until the break midway. She searched for one entry in the dictionary, but for the German exercise.

John: After the general information by the teacher, he played a computer game for altogether 22 minutes before the break. In between he was making notes on a writing activity for seven minutes all in all. During this task he was looking up an entry (inaugural) in two digital dictionaries while reading: First *Ordnett* and then Google Translate. He got a match in Google Translate, not in *Ordnett*. He said afterwards that if he had spent more time searching in *Ordnett*, he might have found the correct meaning. His objection to *Ordnett* is that it generally gives too little information. In the debriefing interview he could not remember the word he looked up.

[43] It is now common especially among young people to say "skype" when chatting or phoning using the Internet network Skype (www.skype.com). According to both *Oxford Dictionaries Online* and the *Wiktionary* to "skype" is to make a telephone call or chat through Skype (http://en.wiktionary.org/wiki/skype).

Nick: He was mainly on task the whole session. However, he played a car game for three minutes and was checking out information about the next school year on It's Learning for a couple of minutes. He made three searches in Clue while reading, and got a match immediately. He could not remember the words in the debriefing interview.

Session 5

Today's activities by the teacher were questions about a text they had read at home, translating and understanding a poem and starting to write an essay.

Elisabeth: She was swapping between Youtube music videos (using earphones), "Nettby", Google searches and note-taking in a document concerning the writing tasks. She would open the document as soon as the teacher was nearby. The estimate was that she spent 25 minutes only watching Youtube. Other non-task activities totalled eight to ten minutes. When on task she made one consultation in *Ordnett* while reading, and checked four other entries while translating the poem. She had immediate hits all five times.

John: He was on task the whole session, apart from the last ten minutes which was spent on prattling. He made no searches. The translation activity was in pairs, and his partner Nick made the searches, and they were done on Nick's initiative.

Nick: He was doing the class activities the whole session, except from chatting with John the last ten minutes. During the translation task he looked up headwords in Clue six times and had immediate hits every time. After class he said that his strategy was first to try to understand the meaning from the context. If this failed, he would check in Clue. He was not able to recap the words to me afterwards. He remarked that he often forgot that I was sitting behind him.

Session 6

The activities initiated by the teacher consisted of her introducing new words. Then she presented a short story followed by oral questions to the class, she made the students read and translate parts of the short story orally, and finally they were to continue writing the essay.

Elisabeth: Her laptop remained closed until midway of the session. She was on task the whole time, following the presentation of the teacher, reading the short story and translating it orally with her neighbour. When starting to write the essay, the students were allowed to work elsewhere. Elisabeth then took her computer and went out of the classroom. I did not observe any searches in dictionaries before leaving.

John: He did class tasks the whole time, only interrupted by spending two minutes on a web newspaper. At the end of the session he spent much time chattering with his neighbours at the same time as he was trying to write on his essay. He made one dictionary search in Google Translator, and got an immediate hit. He remembered the word afterwards (*ought*).

Nick: He was mainly doing his tasks, though popping into "Nettby" several times (a time estimate was hard to make). In the last half hour of the session he was talking with his neighbour and watching a fellow student in front of him playing a car computer game for ten minutes, but rewound and wrote on his essay at the end. He made one dictionary consultation in Clue when reading, and two consultations when writing on his essay. In the debriefing interview he explained he wanted to find a synonym to 'childhood', which he did find. He could not remember it, but said he now knew there were more than one word for "childhood" and that he could easily find it later.

Session 7

The first 35 minutes the students spent on applying for subjects the next year guided by the school counsellor. There were three-four students with computer problems, creating a lengthy period of waiting for the others of about 30 minutes, spent on small talk, before the students came back from the IT help desk and the counsellor was ready to wrap it all up. The remaining activities consisted of the introduction of a new topic and a new text, reading activity, and after the break a writing activity where they could choose to continue writing their essay or answering questions from the text.

Elisabeth: She stayed on task the whole session, expect for popping into "Nettby" for one minute. She did not use any dictionary.

John: He was doing the reading and writing activities as prescribed the whole session without looking anything up.

Nick: He started the session doing maths exercises, but finished when told by the teacher. He showed on-task behaviour the rest of the session. At one point the teacher interrupted the reading activity to question the class about the meaning of a vital expression from the new text: 'affirmative action'. One of the students in class answered "positiv handling", which he had got as a hit in Google Translate. The teacher dismissed it. Nick consulted Clue and was able to answer "kvotering", which was correct. The class continued with the reading activity, and he later searched for 'black jack', but he explained afterwards he had got too little information from Clue to understand it.

5.1.5 Sessions as a whole

The seven sessions I was observing the three participants, lasted not more than 80 minutes each due to the teacher normally commencing in class 2-3 minutes after the bell, and mid-way there was a recurrent break of 5 to 10 minutes[44]. This sums up the actual time to spend on learning activities in seven sessions to 560 lesson minutes, instead of 630 minutes.

The observation from these sessions indicates that the time spent on class activities varied significantly from participant to participant, and from session to session. Of a total of 480 lesson minutes[45] Elisabeth spent about 192 minutes on irrelevant activities, mostly on the computer, making up a total of 40 % of the time. Of a total of 560 lesson minutes John spent 64 minutes on irrelevant activities, making up 11 % of the time, whereas Nick spent 40 minutes on irrelevant activities, making up 7 % of the time. This is shown graphically below.

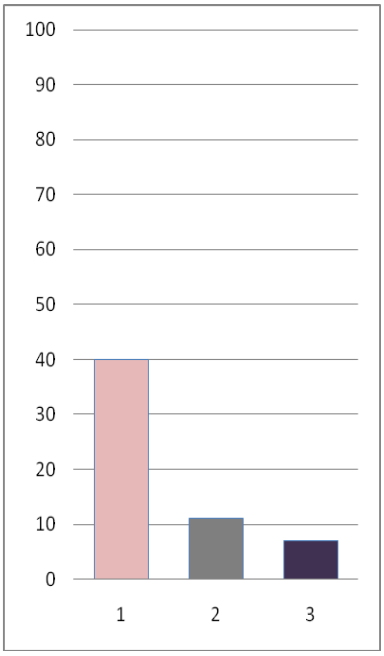


Figure 1: Irrelevant class activities in percentage

1: Elisabeth 40%
2: John 11%
3: Nick 7%.

[44] The session activities are outlined according to time in my observation notes. They are available on request.
[45] She was away one of the sessions.

The participants consulted a digital dictionary chiefly during writing activities (13 consultations, i.e. 57%) followed by reading activities (9 consultations, i.e. 39%) and speaking activities (1 consultation, i.e. 4%), as the pie chart below displays.

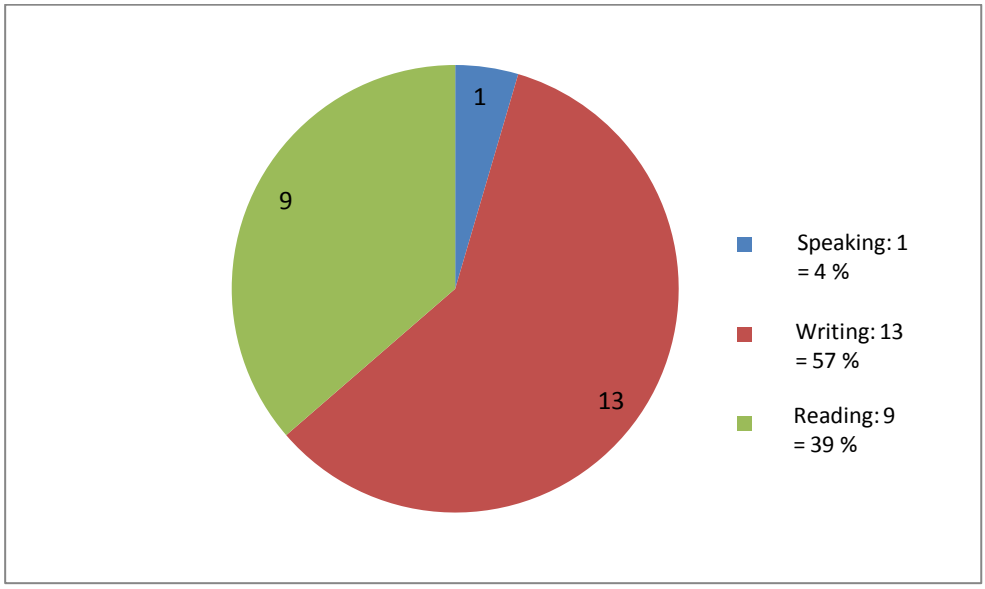


Figure 2: Dictionary searches according to activity

Elisabeth looked up headwords from the digital dictionary six times during 480 lesson minutes, averaging once every 80 minutes. John consulted the dictionary three times during 560 lesson minutes, averaging once every 187 minutes. Nick consulted the dictionary fourteen times during his 560 lesson minutes, which was once every 40 minutes. Balancing the results in this manner we note that Nick was consulting the dictionary twice as often as Elisabeth, and about five times as often as John.

The grid below lists these numbers of dictionary consultations during the observed sessions, allocated to reading, writing and speaking activities (R = reading, W= writing, S = speaking):

Student	**Session 1**	**Session 2**	**Session 3**	**Session 4**	**Session 5**	**Session 6**	**Session 7**	**In total**
Elisabeth	-*	1 R	0	0	5 = 1 R 4W: translating	0	0	**6 =** **2 R** **4 W**
John	0	0	0	2 R	0	1W: essay	0	**3 =** **2 R** **1 W**
Nick	0	0	0	3 R	6 W: translating	3 = 1 R 2 W: essay	2 = 1 S 1 R	**14 =** **5 R** **8 W** **1 S**
In total		**1 R**		**5 R**	**11 =** **1 R** **10W: translating**	**4 =** **1 R** **3 W: essay**	**2 =** **1 R** **1 O**	**23 =** **13 W 8 R** **1 S**

Table 1: Dictionary consultations during the sessions * *not present*

The total of these searches spread over the following activities:

Class activity	**Number of searches**	**Description**
Reading	9 (39 %)	*1: reading (blackboard)* *7: novel reading*
Writing	13 (57 %)	*10: translating*
		3: essay writing
Speaking	1 (4 %)	*class discussion*
Total	**23**	

Table 2: Dictionary searches according to activity

Even though a written translation task only took place twice during seven sessions, it is clear that the dictionary was especially employed then, making up 43.5 % of the total number of searches (10 out of 23).

5.2 Questionnaire

A quantitative survey of a given school population was desired as a comparable backdrop to the qualitative data from the observation. In developing the questionnaire I tried to avoid the pitfalls of ambiguous, leading, double-barrelled questions (a question within a question) and to use simple and everyday language (Kumar 1999: 119-121). I had in mind students who are struggling with understanding English as I wrote out the survey in Norwegian. The majority of the questions were formulated as closed-ended. The respondent would tick off one or more categories from a ready-made list. However, for each question I included a category called "other" "to accommodate any response not listed" (Ibid 1999: 116).

The areas I wanted to cover in the survey were relatively easy to determine, but the actual wording of questions or statements was a very tedious process. Here I got valuable help from my journalist husband on whom I tested the wording of the questions again and again.

When the survey was finalized, I pre-tested it in two classes (one vocational class and one class from the Programme of General Studies). In light of the results from the pre-testing, I made some corrections. An example is that I had only given one option for the overall achievement mark for English in 10^{th} grade, whereas students in the pre-test informed me of the need for two options, one for oral and one for written English. On the whole the pre-test proved to be a valuable implementation in improving the reliability of the questionnaire.

I was not given permission to conduct the survey at the same upper secondary school where I made my field research. The school management explained they wanted to avoid student reluctance to electronic surveys (appendix 8) as there had been several such surveys recently. However, I was able to implement the questionnaire at an upper secondary school of similar size and programme offers, which also made use of the digital learning platform It's Learning.

I invited students to take part in the questionnaire in an email within the It's Learning platform. In the email a brief introduction and explanation to the survey was given, together with a link directing them to the questionnaire. The covering letter (appendix 9) of the

questionnaire contained a more exhaustive introduction of the main objective of the study and an explanation and delimitation of the term "digital dictionary". I also thanked them of any voluntary participation, and informed of my contact details[46].

The questionnaire was conducted in the 9th–10th week of the second term of the school year. The complete questionnaire with results is attached (appendix 11) [47].

5.3 Questionnaire results

There were 162 respondents to the questionnaire, 40.1 percent boys and 59.9 percent girls. Most of them attended the Programme for General Studies (hereafter PGS) (82.7 %). Of these 36.3 percent students were part of year one, 29 percent year two and 17.3 percent year three. The remainder were students at vocational programmes (12.9 %) and supplementary studies for higher education (3.7 %). Most of these were attending an English course at the time of the survey (88.9 %).

On the question if the respondents had received any instruction concerning the use of digital dictionaries at the *lower* secondary school, 89.5 percent of the respondents answered no. Some important reasons for not using the digital dictionaries were as follows[48] (my sequence by percentage):

9. Multiple choice	**Percentage**
If 'no' in question 8: What is the reason for not using digital dictionaries in English at home or at school? You may tick off more than one answer.	
I was never trained to use digital dictionaries in English.	23.5 %
I did not know about digital dictionaries at the time.	19.1 %
We did not have enough access to computers at school.	9.3 %
I did not know which digital dictionary to rely on.	9.3 %

[46] I drew on Kumar's section on what to include in a covering letter (1999: 113).
[47] The questionnaire was conducted in Norwegian. In this thesis I have translated the relevant data into English.
[48] The questions and answers from the questionnaire are translated from Norwegian, as mentioned above. The original version is appended.

I did not like to interrupt my work by looking up words.	5.6 %
I preferred paper dictionaries.	5.6 %

The open category included some interesting answers:

- we weren't given information about it, they [the teachers, *my comment*] never said we could use it and we didn't know it existed
- had to go to a computer lab to use computers and the teacher didn't like that. So mostly we used paper dictionaries
- didn't know there is something called "digital dictionary"

When at *upper* secondary school almost the same number of the respondents, 85.2 percent, answered 'no' to the same question about receiving instruction. Just the same, the majority was still consulting digital dictionaries. Only 18.5 percent, i.e. 30 respondents, ticked off that they did *not* use them, giving the following reasons (my sequence by percentage):

15. Multiple choice	**Percentage of total number of respondents**
If 'no' in the previous question: Why do you not use digital dictionaries in English (at home/at school). You may tick off more than one answer.	
I did not know until now that there are something called digital dictionaries.	8,6 %
I have never received any instruction on how to use digital dictionaries in English.	8,6 %
I do not know which digital dictionary in English to rely on.	2,5 %
I prefer paper dictionaries.	2,5 %
I have problems understanding the information I get in digital dictionaries.	1,9 %
I have tried digital dictionaries a little, but my experience is that they are cumbersome or complicated to use.	1,2 %
I do not like to use computers.	1,2 %
I do not like to interrupt my work by looking up words.	0,6 %
We have not got enough access to computers at school.	0,6 %

Some student comments in the open category were as follow:

- I have no idea how it works, and don't know any yet. Have used one in German, but have not found any good ones in English
- I sometimes use it, but only if I had no wish in using the paper dictionary. But those I am using are unfortunately not very good, and the others I have been looking for have been incomprehensible

From this it is clear that the main reasons for not using a digital dictionary is because they have not received information or training on using them.

The respondents at large, however, are consulting digital dictionaries. The most popular ones are (question 17)[49]:

Tritrans	58.6 %
Google translator	38.3 %
Clue	29.6 %
Ordnett	12.3 %

The primary activities for consulting digital dictionaries are when writing English (question 19):

- When I write in English, I use a digital dictionary from Norwegian to English to look up words I do not know.

67.8 percent of the respondents answered every time (20 %), very often (25 %) or quite often (22.8%).

Nearly 60 percent (56.6 %) answered positively about consulting the dictionary when coming across unfamiliar words when *reading* an English text (another choice in the grid of question 19):

- When I read an English text and come across unfamiliar words, I look them up.

Every time	9.4 %
Very often	22.2 %
Quite often	25.0 %

They were also asked what kind of dictionary preference they had, either paper editions or digital editions:

Question 29: What type of dictionary do you prefer to use in English?

Paper dictionaries	24.1 %
Digital dictionaries	68.5 %
Not using dictionaries	6.8 %
Not answered	0.6 %

To follow up the respondents were asked to give reasons for their dictionary preference in an open-ended question (question 30). I sorted the answers into several categories, to highlight the different attitudes (appendix 11). Here are the categories I find to be most relevant[50].

[49] The number supersedes 100 % because they could tick off more than one answer.
[50] All the categories are to be found in the appendix just mentioned.

Those who preferred the paper editions argued for their *reliability and quality* (43 %), *availability* (27 %), and their *convenience* (20 %). In contrast the respondents who preferred digital dictionaries favoured their *speed* (46 %), their *convenience* (38 %), and their *quality* (13 %).

On the whole the respondents seemed positive about using digital dictionaries. Some of the comments in the final open-ended question at the end of the questionnaire were as follows:

> "I think we should have free digital dictionaries at school. "
>
> "Could we receive training in using them at school? We receive little help to translate in the subject."
>
> "I think this is relevant in English."
>
> "We HAVE TO be able to use digital dictionaries!"
>
> "I think many could benefit from using digital dictionaries if only they know about them! Fewer books, less pollution."
>
> "Digital dictionaries make it easier to find the answer."
>
> "English teachers should make time and pursue sufficient knowledge to teach us students about the dictionaries we have access to."
>
> "What is the purpose of this questionnaire? Will it be possible to for us in the future to use digital dictionaries on tests and so on?"
>
> "Digital dictionaries are an advantage, but you need to know how to use them!"
>
> " Everyone should have access to digital dictionaries both at school and at home. This makes work faster, at least in my case."
>
> "I think digital dictionaries in English are very practical and handy to use."
>
> "I want to continue using Clue!"
>
> "Yes to digital dictionaries!"
>
> "Teachers should be given training and/or tips about USEFUL dictionaries on the Internet, and consequently show students where there are dictionaries that come in useful to them."
>
> "I want to say that all the students in my IB class are using Clue. And I hope it will be possible to introduce digital dictionaries so that everybody can use them, since they help you a lot. And not only in English, but in French and German too."

"We should receive better training in this at school."

"I think it should be used more, think many will find them helpful."

There were also a few negative remarks:

"Access to digital dictionaries is not always easy because most of them and the best versions cost money!"

"They should be more accurate! They should show more meanings of the word I look up..."

"Most dictionaries must be paid for. I have experienced that they have been paid for at school, but we have rarely been given the opportunity to work with texts on the computer due to shortage of computers."

"I still don't know what a digital dictionary is."

These data conclude the comments about the questionnaire. In the next chapter (chapter 6) I will analyze and discuss some of the different aspects focused on here.

5.4 Teacher interviews

This part of the study is based on condensed summaries of four teacher interviews[51]. I am not going to analyze the interviews in detail. I am concerned with finding the essence of what they think their students' practices and attitudes are towards digital dictionaries in the classroom. Thus my purpose was not an analysis of the conversations. Their viewpoints and opinions were important, and from these I can unearth the essence.

Specifically, four teachers who were monitoring learners in Vg1 Programme of General Studies were interviewed. Their students were 15-16 years old. My aim was to better understand the teacher attitudes and practices, and to fortify this understanding. The first three teachers were interviewed before the observations took place as I was in the process of writing a term paper with its respective research question being: "To what extent do teachers in upper secondary education view online dictionaries as an important resource for vocabulary acquisition for their learners?" I added a fourth teacher during the present field study, namely the English language teacher of the class I had observed.

[51] The interviews are not appended, but are available on request.

After having accepted being interviewed, the respondents got a letter of introduction with a fill-in response sheet to provide background information. I used a semi-structured questionnaire (appendix 8). The questions addressed what online/CD-ROM resources were available, the teacher's own opinion on digital dictionary work, their practices with digital dictionaries in the classroom, and their comprehension of student attitudes towards such resources. I hoped that these different focal points would reveal both pronounced and underlying attitudes.

The Department of Teacher Education and School Development at the University of Oslo kindly lent me a digital voice recorder to log our conversation, saving me from the restrictions of notes. For the fourth interview which took place at a later stage, I used my private mp3-player with an excellent recording device. This helped me in taking correct notes afterwards.

I have given the teachers an alias, and below you will find a profile of each one including information about online resources at their respective schools (from the first part of the questionnaire). Three of them preferred to have the interview in Norwegian.

5.4.1 Barbara

Presentation

Barbara, a native speaker of English, has taught at an international upper secondary school for ten years. She has majored in English, and in addition she has other English Education diplomas. She is the head of languages at school. At present she is teaching several ESL groups at different levels, and her Vg1 group consists of twenty students.

Her school has in recent years heavily promoted the use of laptops in the classroom, making network available through WLAN. However, the students are not supplied with laptops by the school. There is no learning platform at present. And there is no policy on which web resources to promote in ESL, as with other languages at the school. Barbara requires her students to be able to use a conventional print dictionary, namely *Collins Cobuild Dictionary*. A free online dictionary is quite popular among her students, called *Dictionary.com* (http://dictionary.reference.com). Barbara is not using online dictionaries either, neither on her own nor for classroom activities. She is relying on print dictionaries. She shows slim knowledge of online dictionary sites.

Attitudes and practices

Barbara has a pronounced and condensed view on general dictionary work. It is not just a matter of checking the spelling or the translation of words. Rather it is a matter of meanings and definitions, about understanding the contexts where the word is used, and having an awareness and expectation of words often having more than one meaning. Good dictionaries can give you all of this information, she says. In her experience Norwegian students have stock sets of words. Therefore they need intentional vocabulary learning. This includes dictionary work as one of several approaches. However, as she has never used online dictionaries herself, she has no views on how well they provide the above-mentioned information.

The outward advantages of online dictionaries are that they are instant, they are "tactile", they have a potential for using images to a larger extent, and they are constantly being updated. Most students are comfortable and feel competent using computers and computer-based aids and resources, and maybe more importantly, they *like* this technology. Then she is likely to have a more captive audience when teaching. She says the main differences between traditional and online dictionaries are that conventional dictionaries require more time in looking words up, and to access them takes a deliberate, mental effort to a greater degree than for online ones.

Barbara is just vaguely informed about online dictionaries. Her reluctance to consciously working with them is dependent on the denied access to Internet on tests and on final exam. Therefore she focuses her teaching on the conventional dictionary. In addition she encourages the students to ask her, "I can explain it to them" (appendix 4). However, she has of course noticed that many students are using online dictionary resources. Talking to me she is realising that she needs to address her own gap of knowledge.

Barbara's general ICT competence is a result of her own trial and error. She has never received any formal training on the issues of instructional dictionary work, let alone digital dictionary work. She would like training sessions to improve her skills and knowledge in this area.

The following three teachers, Nanette, Sara and Linda, were all working at the same school where I also conducted my observation. This school is part of a laptop computer project in the

region, resulting in computer-integrated teaching and learning in all subjects as described above.

5.4.2 Sara

Presentation

Sara has been working at her upper secondary school for two years. She has English as a minor subject in her MA teaching degree. Her other subjects are Mathematics and Norwegian (which is her major subject), which she is also currently teaching. She has two ESL groups in the Vg1 programme, each of them consisting of thirty students. She shows confidence in CALL-related work.

Attitudes and practices

Sara ascertains that students usually infer meaning of words when reading, but it is when producing text they need to check words. She says it is important that the students know how to use the dictionary in order to produce sensible language and expand their vocabulary size. It is not just a matter of looking up the spelling, but also checking the expressions, idioms and examples, viz looking at the context of words.

To her, an online dictionary such as *Ordnett* has many gains. It is much faster to look up words than conventional dictionaries. If she does not remember a word in class, it is conveniently handy to find its meaning. When she is correcting student work, it is very easy and comfortable to check spelling and usage of words. No need to carry an extra, heavy book. The dictionary is always accessible as your laptop is with you anyway.

The main drawback is that the WLAN is not reliable. Every now and then they are unexpectedly disconnected. This is vulnerable to the students, especially for tests allowing online dictionaries and other online aids. In addition the online dictionary is not comprehensive enough, resulting her having to check in the conventional dictionary.

Sara's general comment from her own practice with online dictionaries in the classroom is that exercises have to be creative. If not, the students won't take the trouble to do them. They regard dictionary work as tedious. They could have competitions. However, Sara's answers are vague. She has no *concrete* examples of how online dictionary work could be organized.

Rather she is pointing to examples of dictionary work in New Norwegian. Nevertheless, her most emphatic concern is to raise awareness of multiple meanings of words and the need to read everything about the entry word.

In general Sara expresses confidence with CALL approaches in the classroom. She has never received any formal training regarding teaching online dictionaries, but says it works for her. She would welcome peer exchange, though, but so far this has not been an issue in any teacher forums.

5.4.3 Nanette

Presentation

Nanette has been teaching for one year at the same school as Sara. She also has English as a minor subject. Besides English she is teaching Norwegian. Presently her ESL work consists of one Vg1 group of thirty students. She has not used online dictionaries before she came there.

Attitudes and practices

Nanette has little experience with the use of online dictionaries, but the students are expected to use them and so must she. She has always liked conventional dictionaries, but is eager to learn more about online dictionaries, *Ordnett* especially. It is important to be able to search for words properly. *Ordnett* can be difficult to use if a hit is not clear enough. She says it is a great advantage that she knows what to look up most of the times. In a conventional dictionary you can get information from the surrounding words. The online dictionary gives a list of nearby, related words to an entry, but clearly less comprehensive. She notes that the students like *Tritrans*, maybe because it is simple to use, but she has never used it. The students are often using spell-check as a replacement for dictionaries, ending up using the wrong words. A dictionary provides the meaning of words, their suffixes and derivations, and students need to learn how to use it wisely and strategically.

The benefits of online dictionaries are that they are instant and available, and you do not need to bring *another* book. Some disadvantages in the classroom are that the WLAN is not reliable, and that she herself has so little experience with it. Furthermore, she says the students

express uncertainty about which words, expressions and/or idioms to use from a search result, and that they cannot *find* words they need there.

Nanette has never specifically instructed the students in how to use online dictionary resources. She assumes that she would have taught this in the beginning of the first term, connected to grammar work. The earlier the better, as they will need this competence throughout the year. Her present practice is to give advice as needed when they are using online dictionaries in the classroom. She does refer them to looking words up themselves, and not just asking her.

When asked about her own competence in online dictionary work, she says she has never received any formal training, nor has it been an issue at school. She is very comfortable with CALL in general, but not confident concerning online dictionaries, hence expressing a need for more training in this area.

5.4.4 Linda

Presentation

Linda has a university bachelor teaching degree (with additional training), specialising in English, History and Norwegian, English as the majoring subject. She has been working as a teacher at different schools for fifteen years, at the present upper secondary school for three years. She is teaching Norwegian, English and Social Science at present. She has one English group consisting of 27 students at the Vg1 Programme for General Studies. She displays confidence in general CALL work, but has little experience in using digital dictionaries.

Attitudes and practices

The school has provided *Ordnett*, and Linda has used it a little. She has no experience with the offline version *Ordnett Pluss*, but she assumes it is available to the students. She explains that both *Ordnett* online and *Ordnett Pluss* are accessible at home for the students, showing her unawareness of the limitations of *Ordnett* online[52]. However, she does say that she thinks some students are struggling accessing it at home.

[52] As explained previously, *Ordnett* online is only available on the school network.

A benefit of online dictionaries is that they are fast, though she asserts they should be even faster. Drawbacks are many, she says; They are not as complete as print dictionaries, as they are not containing enough information; If you spell the word wrongly, you don't get suggestions to the word. *Ordnett* just states "Sorry, no hits" (my translation[53]). She believes the dictionary should help more as the technology is here today, for example by giving a list of suggestions, asking "Did you mean this word?" In addition, *Ordnett* should interface with the user so that automated completions[54] of words pop up when starting to type. Because of these disadvantages she thinks students might be discouraged from using *Ordnett*. Personally she prefers print editions as they provide better content. Conventional print dictionaries like *Oxford Advanced Learner's Dictionary* and *Webster's Third New International Dictionary of the English Language* are her first choices when she needs to check on words.

In her opinion dictionaries are generally important for the students as by learning to use them properly they become more independent, which prepares them for life after upper secondary school.

Nevertheless, she doesn't teach her students to use *Ordnett*, and she misses start-up manuals or guides in using digital dictionaries, *Ordnett* in particular, that she could teach her students from. She explained to her students what *Ordnett* was and where to find it at the beginning of the school year, but it came along with a considerable amount of other school information. To be specific, she has included *Ordnett* as a link on their shared English site on their learning platform It's Learning. She remarks they could add it to their favourites list on their web browser to make it more accessible, but she does not know whether they have done it or not, and she has not told them to, either.

Her impression is that the students do not use digital dictionaries much. Instead, they ask her. Her response is, however, to look up in *Ordnett* first. If they do not find it, she tells them she will come back and explain. She notes that many students only need to become dictionary-conscious, and that it takes time as they are slow to learn to look up in *Ordnett* as their first choice.

Linda expresses confidence in digital technology in general. What she knows about digital dictionaries in particular is self-taught as she has never received any training in using them at

[53] It says "Beklager, ingen treff" in Norwegian.
[54] This was commented by Linda in 2009. When checking *Ordnett* early in 2011 it now has automated completions of words.

any time during her teacher training and during her fifteen years of teaching practice. To her knowledge there has not been any offer of such courses either, and it has never been addressed at the English departments at the different schools of employment.

5.5 Summary of teacher interviews

Above I have accounted for the most relevant findings from respectively Barbara, Sara, Nanette, and Linda's attitudes and practices of digital dictionary work, and now I will give a summary of some important issues addressed.

They all prefer print dictionaries, but are on the whole positively tuned to digital dictionaries,. They view digital dictionaries as beneficial as they are easily accessible, have instant lookups, and are constantly updated. Their students seem comfortable using this technology on the whole, and they like digital dictionaries. Print dictionaries are, in contrast, heavy to carry (thus not always in their school bags), lookups are time-consuming, also involving a deliberate, mental effort to look up words in them.

A negative aspects about digital dictionaries in their view, is that they are web-based. Onlining is not always permissible in test situations, nor possible if the network connection is down. Furthermore, *Ordnett* can be confusing according to Sara, Nanette and Linda who have some experience using it. Often it is missing out on words, and the information given is little or incomplete.

Sara and Nanette have English as a minor subject in their bachelor, which means one year of English, whereas Linda and Barbara have majored in English. However, there seems to be little distinction between their attitudes and practices in light of their English education. None of them have received any training in educational digital dictionary use, though. They are all self-taught, and they refer to many of the same issues and share corresponding reflections about the usage. However, Barbara is more precise and clear in her description of dictionary usage among students. In response to how digital dictionaries should be taught, they seem too inexperienced and are more brainstorming with me rather than pointing to their own practice.

They welcome further training possibilities and peer discussions as they all express shortage of knowledge in this area. None of them have experienced that educational usage of digital dictionaries have been addressed in their respective English departments.

These four teachers might be described in terms of different teacher types in relation to dictionary teaching and learning. Barbara is the "Supplier". She has a clear understanding of why students need to know the lookup information in a (print) dictionary, and she teaches them how to use it and understand it. In addition she regards herself as the 'online' dictionary in class as she encourages them to ask *her* if they do not know the meaning of a word or how to use it. In relation to *digital* dictionaries she is the "Inexpert teacher" as this is a totally new area for her.

Sara and Nanette are both knowledgeable concerning general usage of dictionaries, but in class they are the "Improvisers". The interview data display that they are not addressing dictionary use as an issue on its own, but are helping individual students ad hoc, when needed. Teaching digital dictionaries is also not addressed in class, though both of them have some experience using *Ordnett*.

Linda is the "Trainer". She is very conscious of having the students look up words themselves without asking her first, as she wants them to become independent learners. To ask her should be their last option. She proceeds methodically, referring to *Ordnett* as their digital dictionary source. However, as mentioned above she still has questions concerning an educational approach to digital dictionary resources and lacks such material for teaching the students.

This sums up the essence of the teachers' attitudes and practices. I will now continue with analyzing and discussing the collected data.

6 Analysis and discussion

The analysis of the results draws upon concepts from sociocultural perspectives, which I have précised in previous chapters, to clarify and understand the observations, interviews and questionnaire. I am especially drawn to Wertsch's understanding of mediated action and Swain's collaborative dialogue as mentioned in earlier chapters. The main unit of analysis is the students' computer activities using digital dictionaries in the classroom during English classes and their relation to the teacher's instructions, but I will also analyze their activities in the light of the survey and the teacher profiles.

6.1 Student attitudes and practices

In this section I will first of all analyse and discuss how the participants were using the digital dictionaries. I will connect this part with the concepts of mediated action, output and collaborative dialogue. The teacher's attitude and practices in relation to digital dictionaries will also be investigated. In what way does the teacher encourage the use of digital dictionaries? And is there evidence that it affects the students' attitude and use of digital dictionaries?

My research question focuses on the attitudes to and practices with digital dictionaries by young Norwegian learners. In the data presented in chapter 5 it became evident that working with tasks that could include the use of digital dictionaries seemed to be a very solitary issue for students. The digital dictionaries were referred to mostly during individual tasks. In the debriefing interviews right after the lessons the students said that consulting the digital dictionary was useful when doing the task, but they were unable to remember the words afterwards. Only once did one of them, John, recall the word he checked (*ought*). It did not seem to matter in what type of activity the searches had taken place, whether it was during reading, speaking, listening or writing activities. One might then be led to conclude that students referring to digital dictionaries are still in accordance with Krashen's hypothesis; comprehensible input is given from the words they look up. However, does this behaviour really lead to the *internalizing* – or appropriation if we are to follow Wertsch's preference of concepts - of new linguistic knowledge? My data shows that student knowledge of new words has most likely not increased. Transfer seems to not have taken place. To internalize the meaning or the usage of a word requires more than a single exposure to it.

On the other hand, even though the participants did not remember the exact words they looked up, they did sometimes have clear associations with them. For example, Nick said he consulted the digital dictionary to find a synonym to 'childhood', and he did find it. Even if he did not have a clear memory of it, he said he now knew there were more words for "childhood" and that he could easily find it later. Furthermore, John in his debriefing interview had associations of "innsettelse". He could not recall the English word, but he knew that it could not mean "jomfrutur" in the text given in class, which was his hit result in *Ordnett*. This data is in accordance with Schmitt who states that a learner will likely only pick up "some sense of the word form and meaning" on first exposure. He says that internalization of words presupposes several exposures, which could be both verbal and in writing (Schmitt, 2000: 117-118). John and Nick had clearly picked up *some* information about the lookup word even though the words were not consolidated.

Now I will shift the focus to some of the different classroom activities. The students had reading, speaking and writing tasks in which they consulted a digital dictionary. In the first four sessions reading the novel "Boy" was a substantial lesson activity. During these sessions while reading John never consulted the dictionary and Elisabeth looked up one word. She said afterwards that she did not find what she was looking for. Nick checked three words in the fourth session, but had no memory of them afterwards. On the whole they were not concerned with detailed understanding of individual words and phrases. It might seem that during reading tasks – especially long reading tasks as this was – using a dictionary as a tool for understanding would presumably disturb them achieving the main idea of the content. In other words, they did not worry about exact meanings since what they derived out of context was sufficient in their own eyes. If following the concepts of Wertsch the novel is the cultural tool that the student – the agent – interacts with. Many would say that the students mastered this tool as their emphasis was on comprehending the general meaning and therefore ruled out the use of another tool, the digital dictionary, most of the time.

Other classroom activities involved production skills as speaking and writing. Only once during speaking activities did one of them, Nick, consult a dictionary. While discussing a text about African Americans the teacher asked what a vital English expression meant (*affirmative action*), and Nick responded after checking in his digital dictionary first, and his answer was accepted as correct (*kvotering*). Afterwards he could not remember the English word, but as above he could remember something about it, namely the Norwegian word and that the

English word could not be translated directly. This was probably due to the fact that one of the other students in class had also had a hit in this activity, but in Google Translator, translating *affirmative action* to *positiv handling*, which the teacher ascertained as meaningless in this context. (This leads to another interesting question about the *quality* of the cultural tools they students are interacting with. I will come back to such a discussion further down.) Even though a production activity, just finding a word or expression in response to a question about meaning is not enough for the internalization of new knowledge. The transfer of linguistic knowledge has not taken place. The required output in the Swain sense was too weak if the teacher's aim was to teach them a new concept, but definitely not in vain as the student had acquired some knowledge *about* it. Again pointing to Schmitt, several exposures would probably be needed in order for complete transfer of meaning and form to happen.

In the last three sessions of the field study a substantial part of the class assignments was requiring the students to produce written texts. In two successive sessions there were translation tasks and in all three sessions they were to work on an essay based on the novel *Boy* for about half an hour. During these tasks they consulted digital dictionaries 13 times, i.e. 59 % of all the searches they made during my field study. Ten of these searches were made during the *translation* assignment. It is obvious from this data that when accuracy is required, they resort to digital dictionaries as their main reference, their prime tool. In the debriefing interviews with them Elisabeth said that there were words she could not understand in the text, so she needed to check the Norwegian translation. She could not recall the English word to me, but she remembered the translation, namely "poppel" and that it was a tree. We see again that complete transfer has not taken place, but associations are acquired.

Nevertheless, my material only shows that they heavily resorted to digital dictionaries during such production tasks. It does not show their complete *comprehension* of the headwords and their contents. This issue might require another research approach.

Furthermore, the students worked on the translation activities in pairs. These two tasks required an accurate knowledge both linguistically and in terms of understanding the meaning of the texts given, and involved deliberate and conscious joint effort, or collaborative dialogue (Swain, 2000). At least, that was the purpose of the task. However, the way Nick and John worked on the translation was quite asymmetrical; one tried to translate, and the other student

more or less copied his results[55]. My data does not give an explanation to this result as there was no mention of it in the debriefing interviews. According to Wertsch mediated action is characterized by "an irreducible tension" (1998) between agent and cultural tools. We must analyze the agent *as well as* the cultural tool (or mediational means, as Wertsch also names it). On this basis one might infer a following argument: Nick consulted the digital dictionary *Clue*[56] (his cultural tool) that not only gave him a Norwegian translation, but also listed example sentences with the headword. Therefore it might have been easier and quicker for him to extract good translations. In other words, his 'cultural tool' was well-suited for the task, as there were both bilingual and monolingual reference aids in his digital dictionary, unlike the digital dictionary accessed by John, *Ordnett* online, that only included basic bilingual dictionaries with no example sentences[57]. If this really was the reason for the imbalance in their collaborative dialogue, it underlines the need for relevant and appropriate cultural tools in mediated action.

Another argument is that John might be inexperienced in using *Ordnett* as a reference aid and that he might not find what he needs there[58]. This can be elicited due to him indicating in a debriefing interview that he might find words in *Ordnett* if only he keeps on searching and does not give in too quickly and also that he thinks it gives too little information in general. The teacher, however, is responsible for teaching and guiding the students. The quality of the students' effort, in this context collaboratively producing a meaningful text from English to Norwegian, presupposes the preliminary introduction and explanation of their cultural tool by their teacher. Yet she had never assigned tasks in class on learning to master a digital dictionary and understanding the different types or forms of its content[59]. According to ZPD theory the teacher is the facilitator; when students are introduced to a new tool, they should also learn how to exploit or master it. Could John's evasive use of digital dictionaries in this task therefore be traced back to the absence of learning how to master them? In addition, is this absence of teaching due to the teacher's own partial or defective knowledge and experience of dictionaries as a tool for language learning? My field data does not specifically answer such questions, but possible explanations seem to be connected to the teacher practices in class (or lack of practices). However, John's lack of using *Ordnett* could also be

[55] Cf. chapter 5, session 5.
[56] *Clue* was provided and installed by Nick. It was not provided for by the school as did *Ordnett*.
[57] A discussion of *Ordnett* is to be found below.
[58] See the above reference. It seems obvious from my field study that the provided version of *Ordnett* is incomplete with respect to their needs.
[59] This is discussed below in the teacher interviews.

due to its limitations. He did believe that it was lacking content. It was therefore not a cultural tool suited to his needs. His solution was to resort to another digital dictionary (*Google Translate*) or not to use digital dictionaries at all.

Another issue is that the students were consulting the digital dictionaries quite rarely on the whole. As explained in the empirical account, John consulted a digital dictionary only three times during seven sessions, which equals once every 187 minutes; Elisabeth averaged once every 80 minutes (six times altogether); and Nick every 40 minutes (fourteen times altogether). The majority of searches were made during written tasks, especially the translation tasks. There could of course be several reasons, but my concern here is whether they actually found information about the headword in *Ordnett* and whether that information was meaningful to them. As I will argue further down, the content of the reference aids in *Ordnett* online provided for them is not sufficient. Hence the argument that both John and Elisabeth, who primarily used *Ordnett*, seemed to have learnt *not* to consult *Ordnett* since it too often did not contain the required information. Nick, on the other hand, was using his digital dictionary *Clue* twice as often as Elisabeth and almost five times as often as John. His tool was definitely much more comprehensive than *Ordnett* online, and it seemed that he was able to extract meaningful content applicable both for receptive and productive assignments given.

Moreover, Nick displayed mastery of his digital dictionary, not because someone had instructed him how to use it, but rather due to his own trial and error. For example, by 'mistake' he had discovered a pop-up function revealing definitions and example sentences in English even though he was looking up words in the bilingual dictionary. This enabled him to swiftly move between Norwegian and English definitions, which he found particularly useful. In one of the debriefing interviews he explained that he only used *Clue*. It was his favourite digital dictionary, he said. His attitude towards it was one of content and he described it as very user-friendly, easily accessible and not too advanced. Thus he operated confidently, knowing the functions of it.

Another issue is the range of possibilities that a laptop computer with access to the Internet can offer, for example instant messaging, computer games, watching films, listening to music, and surfing the Internet. This was a major cause of off-task activities. Elisabeth spent a profoundly 40 % of her sessions on surfing the Internet, listening to music on *Youtube*, and digital chatting (i.e. skyping), but she was also off track chit-chatting in quiet tones to

neighbouring students, listening to her MP3, and so on. This is sizeably more than John, whose equivalence was 11 %, and Nick, whose equivalence was 7 %. Elisabeth was off-task in every session except one, in contrast to John and Nick who were on-task most of the time. However, in one or two sessions they were especially drawn to car racing games on their laptops. There seemed to be too many tempting diversion options. The teacher did not practise any restriction on computer usage in the sessions. Probably it would have helped the students to focus on task if the teacher was in control of when to open their laptops and when to close them.

To summarize, it is evident that on the whole the students consulted their digital dictionary rarely. They expressed discontent with the supplied online version *Ordnett.* One of them expressed satisfaction with his own digital dictionary *Clue,* which was clearly more comprehensive than *Ordnett*. They remembered very little from their searches, but they did have some associations of the words. We can therefore conclude that *some* transfer of linguistic knowledge about meaning and form took place from using the digital dictionaries. The teacher had not instructed them how to use and understand the content in digital dictionaries, but seemed to take for granted that they would be able to take in and apply the information given as she merely referred them to use *Ordnett* when they asked for comprehension help. Moreover, she did not practise restrictions on laptop use in the classroom so that the students diverted to off-task options most often connected to the laptops.

6.2 Lack of training in preferred tool

The survey[60] was undertaken to provide a backdrop of the case study, i.e. the observations of the three students mentioned above. There were 162 respondents to the questionnaire. From the results two clear issues stood out. First I will analyse and discuss instruction and training in the use of digital dictionaries, and secondly dictionary preferences and the reasons given for them.

Most of the respondents were already using digital dictionaries, but still quite a few (18.5 %, i.e. 30 students) were *not* using them. When asked why they did not use digital dictionaries, the two most highlighted reasons are that some of them (8.6 %, i.e. 14 students) had never heard of digital dictionaries before, and some (also 8.6 %) had not started using them since

[60] I will use the terms *questionnaire* and *survey* interchangeably. The results from the survey are appended (Appendix 10).

they had never received any instruction on how to use digital dictionaries in English. It was quite remarkable that many of them had never heard of digital dictionaries. The survey was conducted at a very similar school to where I conducted my field study, where classes had relatively easy access to computer lab or laptops. The implementation of digital dictionaries had lasted for almost two years, so it is very odd that they had not been exposed to them yet. Some of the comments underline how important the respondents view such a resource, which I have also described in chapter 5:

> "We HAVE TO be able to use digital dictionaries!"
>
> "Could we receive training in using them at school? We receive little help to translate in the subject."
>
> "Digital dictionaries are an advantage, but you need to know how to use them!"
>
> "I think many could benefit from using digital dictionaries if only they know about them! Fewer books, less pollution."
>
> "English teachers should make time and pursue sufficient knowledge to teach us students about the dictionaries we have access to."
>
> "Teachers should be given training and/or tips about USEFUL dictionaries on the Internet, and consequently show students where there are dictionaries that come in useful to them."

Both of the above reasons are in all likelihood to be referred back to their teachers. The respondents' lack of knowledge both about their existence and about how to use them is probably because their teachers were not using digital dictionaries or calling attention to them. As we can see in the four teacher interviews they all favoured print dictionaries, even though they expressed interest in and were attracted to digital dictionaries. Probably this is a very common attitude among teachers in general. They have always used a print dictionary and are reluctant to start using a digital equivalent, like *Ordnett*, especially when it seemed to be of lesser quality at the time, as I will argue for below. Thus these teachers seemed to abstain from both learning to use it and instructing their students to use it, subsequently leaving some of their students unaware of the existence of such dictionaries. From this it is clear that the main reasons for not using a digital dictionary is because the respondents had not received information or training on how to use them. This is the task of the teacher, and it is clearly not addressed. As we will see in my discussion below (6.4.2) the teachers seem not informed themselves and are inexperienced. There is clearly a missing link between the cultural tool provided and the competence in using and teaching them. Could it be due to the fact that 'everyone' takes it for granted that a teacher should know how to use a digital dictionary?

The other main issue drawn from the results is the strong preference of digital dictionaries. Some of the respondents' comments just mentioned above emphasize their positive attitude towards digital dictionaries. In addition I also would like to point to the following comments, rendered in chapter 5 as well:

> "I think we should have free digital dictionaries at school. "
>
> "I think this is relevant in English."
>
> "Digital dictionaries make it easier to find the answer."
>
> " Everyone should have access to digital dictionaries both at school and at home. This makes work faster, at least in my case."
>
> "I think digital dictionaries in English are very practical and handy to use."
>
> "I want to continue using Clue!"
>
> "What is the purpose of this questionnaire? Will it be possible to for us in the future to use digital dictionaries on tests and so on?"
>
> "Yes to digital dictionaries!"
>
> "I want to say that all the students in my IB class are using Clue. And I hope it will be possible to introduce digital dictionaries so that everybody can use them, since they help you a lot. And not only in English, but in French and German too."

In general most of them are very positive towards digital dictionaries, as this selection of comments clearly reveals. At the end of the questionnaire I asked them to explain their preference with a comment, and a sizeably 144 respondents wrote their reasons. I classified their comments into two main categories, namely those who wrote favourably about digital dictionaries and those who favoured print dictionaries. It is not surprising that a substantial 79 %, i.e. 144, of the respondents commented positively about digital dictionaries. I have described their reasons in chapter 5[61], and in sum they are speed, convenience, quality, and availability. Hence there is a match between the agent and the cultural tool. They have found that the tool is corresponding to their needs, and is helping them to apprehend new meanings and forms. The digital dictionary they refer to in these comments, is *Clue*[62]. *Ordnett* is not mentioned in this context. They might be attracted to speed because it does not cause disruption in the same way as a print dictionary; it is incorporated in another tool they are used to (computers), and they are writing on a computer anyway, hence the dictionary is

[61] A complete overview is given in Appendix 11.
[62] This school was subscribing to both *Ordnett* and the downloadable *Clue*.

conveniently only one or two clicks away. It is easier to stay focused on the assignment. Moreover, the swift lookups make it possible for more exposures of words, which in itself help internalizing new meanings and forms according to Schmitt.

In sum, the discussion above shows that a clear majority of the respondents like the digital dictionary, especially *Clue*. It is incorporated in a technology they are used to. Moreover, many are requesting more training in using digital dictionaries as hardly any of them have received such instruction.

6.3 The teacher interviews

I will mainly discuss one important issue extracted from the teacher interviews, which is their reluctance to teach the use of digital dictionaries, as I have already pointed to above. They have themselves never attended any courses or pedagogical discussions about digital dictionaries, but they would have if they had been given a possibility. In addition they all say they prefer print dictionaries, probably because they are used to them. Some of them describe the digital dictionaries as incomplete. If we collate these views we understand that they are inexperienced users of digital dictionaries themselves, not because they do not like it, but because they keep to what they are used to as they do not trust that the new tool will help them.

There is clearly a need for competence building among these teachers, and probably among teachers in general. Wertsch says that cultural tools can have an impact only when an agent uses them. Only referring to them as Linda usually does, is actually incomplete. The teacher is probably overestimating her students' mastery of digital dictionaries, as mentioned above. She has to introduce the tools in a student-teacher shared interaction, according to Stetsenko (Wertsch, 1998). Only under the guidance of their teacher will students make progress, he says. However, how are students going to master a digital dictionary if their teachers are less knowledgeable and experienced than themselves? How can the teachers guide them? It is a general claimed dilemma in the world of digital technology, that students are mastering digital tools better than their teachers, and in my own experience as a teacher for many years it is true. The students have surpassed their teachers, at least as to usage. However, for the *content* comprehension most students are dependent on teacher intervention in a ZPD environment. Mastery of digital dictionaries does not only deal with knowing *how* to exploit all its

possibilities, but certainly also the *comprehension* of meanings and forms given. What if teachers could help students in their explicit language acquisition if they assign more class tasks involving collaborative dialogue where students are given opportunities to reflect upon meaning and on their language use? According to Swain *input* only is not enough. There has to be production, i.e. output, either orally or in writing. If not coined to a task involving what she calls collaborative dialogue with *reflection* on their language use, students will struggle more to acquire new linguistic knowledge. Is there still too much focus on "comprehensible input" by these teachers and teachers in general? Do they underestimate *output* when dealing with digital (or print) dictionaries? My claim is that the majority of teachers probably do, and from the teacher interviews we see that their strategy is first and foremost to *refer* to the dictionary, and secondly to provide answers themselves to the students when requested.

6.4 Overriding concerns

In the following I will analyze and discuss the school system or infrastructure that can either facilitate or hinder students' and teachers' use of the digital technology provided. Who is in charge for the digital technology provided, and who is responsible for follow-up? Are the classrooms prepared for this technology? And is the actual content of the digital dictionary suited for the needs of the students and teachers?

6.4.1 Who is responsible?

During the time of observation there was a clear display of disorientation and uncertainty among both students and school personnel about what version was available to them (online *Ordnett* or the downloadable *Ordnett Pluss*). What the ICT office thought was the case was not the reality among many teachers and students. The head of the ICT office declared to me that *Ordnett Pluss* was installed on all students' and teachers' laptops, which I knew was not the case among the students in the class I was observing in. However, he did explain that there had been difficulties in downloading the application, without giving details.

The head of the English department did not know what the status was as he himself was not a user of the digital dictionaries and no-one had yet addressed the matter at an English department meeting. When he brought it up at the next meeting, it became evident there was

some confusion concerning *Ordnett*.[63] Very many of both students and teachers were not using *Ordnett*, probably because it was not installed on their laptops, he said. Many teachers did not know the difference between *Ordnett* and *Ordnett Pluss*. Students were using different online dictionaries, and many of the teachers were not using digital dictionaries at all. Since the English exams now were only two months away, it was important for the head of the English department to find solutions so that the students would have a digital dictionary available offline.

The data from the observation, and also from the interviews and the questionnaire, underscore that the digital dictionary *Ordnett* provided by the regional county education administration had not been implemented as a workable tool at all levels in the school community. Both the heads of the ICT-office and of the English department did not know the accurate status of *Ordnett* among the users. This reveals a need of systematic follow-up. The digital dictionary software provided for was not rolled out to all of the users (teachers and students). When I started to ask my questions about *Ordnett*, there seemed to be no role clarification as to who was responsible for the implementation of it at school, and as to who could provide correct, up-to-date information about the situation of *Ordnett* at the school.

In addition, there seemed to be a need of an introductory course of *Ordnett* to the teachers of the school. Most of the teachers themselves said at the English department meeting mentioned above that they were not using *Ordnett*. Again, it had not been taken into consideration to introduce the new resource thoroughly to the teachers. Who was responsible for the implementation? This was not clear. If an introductory course had been executed early on in the school year, the teachers would have had a very different experience of and mastery of *Ordnett* than was the case seven months later during my research there.

Given these facts one might argue that the school infrastructure needs a "power user". A power user is defined by Oxford Dictionary of English as a person who is "a knowledgeable and sophisticated user of computers" or of a computer program, who is able to use more advanced features of the program beyond the abilities of ordinary users (Wikipedia, 2011: *Power User*). In this context a power user of digital dictionaries at the school would be the knowledgeable and responsible person for the implementation of such dictionaries, though he need not be responsible for the technical side of it, such as the downloading of *Ordnett Pluss*.

[63] I have notes from the English department meeting in an e-mail correspondence with the head of the English department. They are available on request.

This would be of concern for the IT office. A power user would reduce the disorientation and uncertainty of the application of *Ordnett* among the users. He could for instant ensure that information about *Ordnett* reached students and teachers, and that a crash course in the pedagogical use of the digital dictionaries was offered at a suitable time, e.g. at the beginning of the school year, or have the authority to call in an *Ordnett* representative from Kunnskapsforlaget so that a crash course could be given. *Ordnett* is not just a matter for the English teachers as the dictionaries in *Ordnett* cover Norwegian, English, German, French and Spanish, so a joint crash course for teachers of all languages could be considered.

6.4.2 The classroom environment

The school was built over forty years ago and consisted of traditional classrooms. In such a traditional classroom environment thirty students were working, - their laptops on their individual desks. I sat at the back, and it felt very crowded. In most of the sessions the students sat together in smaller or larger rows. Especially at the back corner four-five male students usually made a row, making it impossible for the teacher to monitor the innermost ones. Though not one of my participants, I could clearly observe one of them now and then, and for the most part he was playing a car racing game on his laptop.

Further on, there were not enough sockets in the classroom for everyone's laptop chargers. They had to take turns charging, and it easily caused disruption of class activities when students had to stand up to remove or insert their plugs.

From these facts it is obvious that the classroom was not equipped to suit the students' usage of laptops as learning tools. It was too crowded, preventing the teacher to approach some of the students. There were too few sockets, causing too many and unnecessary disruptions.

Another major realization arose as I was sitting at the back observing all the thirty computer screens between me and the teacher. There were operative screens wherever you looked. The classroom environment was certainly a confusing "fog" of information glaring at the students, especially those on the back rows. We were easily led from attention to distraction, thus missing out on instructions or teaching by the teacher. Perhaps the teacher should have a clearer classroom policy on when the laptops could be open or not. At the time there seemed to be no restrictions; the laptops were opened at once entering the classroom and remained so

during the sessions even though classroom activities did not require its use. The listening activities conducted could be such examples.

The overwhelming number of screens in a crowded room with no obvious restrictions on usage might explain why two of the participant students chose to spend a considerable time off-task on the whole, though we also must say it did vary from session to session. The overriding principle is for the student to be digitally competent, or to be able to use digital tools as stated in the *English Subject Curriculum*. As it was now, I would agree that they were quite digitally competent, but some of them were not *wise* in applying their digitally competence.

6.4.3 The accessibility of *Ordnett*

Due to restrictions given by Kunnskapsforlaget, the online version of *Ordnett* could only be accessed at school when connected to the school's network, and with the Internet up-and-running. The downloadable *Ordnett Pluss* when installed was accessible offline whether at school or at home. When connected to the Internet, it would upgrade the dictionary data automatically.

Obviously *Ordnett Pluss* is the more advantageous of the two, due to its availability offline. This enabled the students to access it during tests and exams. Moreover, and equally important, students (and teachers) with school laptops also had the opportunity to use it at home.

Many of the students in the research class seemed unaware of *Ordnett Pluss*. Very few of them were using *Ordnett* online and offline. There seemed to be a lack of information to the students about the possibilities of *Ordnett*, and simultaneously a lack of *Ordnett* dictionary practice in class. Moreover, no-one seemed to raise questions about this issue either.

6.4.4 The content of *Ordnett* provided for the students

Furthermore, I would like to discuss the English dictionaries contained in *Ordnett*[64]. The regional county administration has an advisory committee for educational IT resources in the upper secondary schools in the county. For the school year of 2008/2009 their advice had

[64] *Ordnett* is described in 2.3.2.

resulted in a subscription of a basic version of *Ordnett* online, *Ordnett* Basis. This gave the students digital access to Kunnskapsforlaget's bilingual English-Norwegian/Norwegian-English dictionaries in *Ordnett* online when at school due to the restrictions of home use. There was no English monolingual dictionary in the arrangement, though the leader of the advisory committee in the regional county administration claimed[65] that there were 2,000 licenses[66] for the English monolingual dictionary for both students and teachers at this school and at one other of the county's upper secondary schools. Furthermore, he expressed that the monolingual dictionary probably was not installed if it was not a part of *Ordnett* on the laptops. Thus he indicated that the licenses were for *Ordnett Pluss* only and not for *Ordnett* online, which did not need downloading[67].

Again we see that the digital resource provided is not necessarily what is rolled out to the users. There is clearly lack of connection here too: Assumptions about reality and actual facts about reality did not correspond. This reveals once more a lack of systematic follow-up, or infrastructure, underscoring what I have mentioned above. Someone should have been responsible of assuring that the digital resource was actually reaching out to all levels of users in each school.

I find it also remarkable that only the subscription arrangement of *Ordnett Pluss* and not *Ordnett* online included an English monolingual dictionary. The school told their students that *Ordnett* online and *Ordnett Pluss* would replace print dictionaries. Only students using school laptops could get *Ordnett Pluss* installed, which at the school of my field research would include most classes. However, classes using stationary computers would not have access to the monolingual dictionary. The target group of *Ordnett* online and *Ordnett Pluss* also included English teachers, whose access to English monolingual dictionaries is indispensable. Furthermore, the national English Subject Curriculum[68] clearly states that the students "shall be able to use" such a dictionary, as I have accounted for in chapter 2. Another problem is that

[65] E-mail correspondence with the leader of the committee is available on request. He was not always clear whether he referred to *Ordnett* online or *Ordnett Pluss*.
[66] He did not give the exact number for the school where I was researching.
[67] It was a difficult task to get accurate information about the subscription arrangements of *Ordnett* for the school. It seemed not to be clear to those involved what the product actually consisted of. In my present thesis I have accounted for information given by the head of the advisory committee of the regional county administration (email correspondence), and by the leader of the IT office at the school.
[68] The competence section for Vg1-programmes states that "the aims are that the pupil shall be able to […] use a wide selection of digital and other aids independently, including monolingual dictionaries" and that "the pupil shall be able to understand and use a wide general vocabulary and an academic vocabulary related to his/her own education programme" (LK06, English Subject Curriculum: 2010).

in the class of field observation none of the students had *Ordnett Pluss* installed on their laptop computers, and it was not an issue either. When students asked their teacher for help, she referred them to look up in *Ordnett*, i.e. the online version. The infrastructure that should have ensured access to the offline version was non-existent, meaning that seven months into the school year there still was no monolingual dictionary available to them, and they were seven months short of practicing it.

My second objection to the content of *Ordnett* is that both *Ordnett* online and *Ordnett Pluss* only included Kunnskapsforlaget's so-called 'blue' bilingual dictionaries, in which the Norwegian-English dictionary contained 65,000 headwords and the English-Norwegian dictionary contained 88,000 headwords. For students who are going to meet the requirements of the English Subject Curriculum, where "the pupil shall be able to understand and use a wide vocabulary and an academic vocabulary related to his/her own education programme" (LK06, English Subject Curriculum: 2010), one might suspect that these bilingual dictionaries were a bit too slim, both for the English learning in the Programme for General Studies and for Vocational Studies. And this was precisely what John stated above.

In addition they would fail to meet the English teachers' needs for advanced headwords. As we have seen, Linda, one of the English teachers, preferred print monolingual dictionaries to *Ordnett* online, OALD and *Webster's Unabridged*, both very exhaustive reference aids. It could have been possible to subscribe to an extensive set of bilingual dictionaries as part of *Ordnett*, namely a Norwegian-English dictionary of 95,000 headwords and an English-Norwegian dictionary of 124,000 headwords, as well as the monolingual ODE, which contains 355,000 headwords. Why were these dictionaries not incorporated in the subscription in the first place? Unfortunately I have not got any data in my field research to elucidate this matter further, but one might ask whether the basic version provided was first of all a matter of keeping expenditure down.

According to Wertsch there is an irreducible tension between agents and the cultural tools, and indeed my findings reveal a fundamental negative connection between the users and *Ordnett*, both concerning availability and content. The supplied cultural tool was not of a quality suited to the level of the users. If the subscription arrangement with *Ordnett* had involved more comprehensive reference aids it could possibly lead the students to consult it more frequently than my data reveals. If the students had experienced the content of the tool as relevant and helpful in successfully comprehending and completing receptive and

productive assignments, they had also been encouraged to consult it more frequently. In all likelihood it would have happened. This would also most likely give more exposures to new words, as Schmitt says is prerequisite for acquiring new lexical knowledge. John who hardly used *Ordnett* did try to look up a word once during my field study, namely "inaugural", but in vain. In John's experience the supplied version of *Ordnett* at the time contained too little information and did not encourage practice. In comparison the advanced bilingual dictionaries and the monolingual dictionary referred to above all have this word as an entry, and would have given sufficient information for his immediate comprehension demand. As to John there was an absence of mastery; he did not know how to use this "mediational means with facility" (Wertsch, 1998).

In the above text I have now argued for the incompleteness of the content of *Ordnett.* This digital dictionary resource had a superior potential compared to what was supplied to the students and teachers in the county. In my opinion the regional county administration should therefore have provided for a complete digital set of dictionaries in *Ordnett* online as in *Ordnett Pluss* if it really is to replace print equivalents; first to meet the requirements of the students in line with the competence aims in the English Subject Curriculum, secondly to accommodate to the advanced needs of the English teachers, and finally to provide equal digital dictionary opportunities for everyone at school. When deciding on the basic version of Ordnett there seems to have been too little focus on the content of it. The attention was given to providing schools a digital dictionary, not providing schools an *adequate and satisfactory* digital dictionary.

7 Conclusion

This chapter will try to sum up an answer to the research question, point to some important implications, and in the end indicate future research opportunities. I have investigated young learners' attitudes to and practices of digital dictionaries. Bearing in mind that the emphasis is on the small-scale approach of four student observations and four teacher interviews, I am restricted from generalizations to the upper secondary student population as a whole. I can only point to possible tendencies. However, some of the findings from the survey are more reliable as it involved a high number of respondents. These students came from many different lower secondary schools, but were all students at the same upper secondary school. Therefore the survey gives reliability about that specific school first of all.

7.1 Attempts to answer

My research question was, "How are digital dictionaries used by young Norwegian learners of EFL?" with the subtitle, "A case study of attitudes and practices". Before I try to give a condensed answer to this question, I would like to return to the sub-questions from the introduction:

In what learning activities do students use digital dictionaries?

They primarily used digital dictionaries in writing and reading tasks, respectively 57 % and 39 %. In oral tasks they only made one search, i.e. 4 %. Out of the searches done during written assignments, about two-thirds of them were connected to the translation task.

On the whole they did not consult dictionaries often, as I have discussed above, ranging on average from once every forty minutes to once every 187 minutes.

To what degree have they received training to use digital dictionaries?

The three participants had not received any training at the upper secondary school. This is supported by the findings from the survey, where a vast majority had not received any instructions or training neither at lower secondary school (89.5 %) nor at the upper secondary school (85.2 %).

To what degree do they have a command of digital dictionaries?

There seems to be a correspondence between using the dictionary often and having a command of it. Out of the students Nick was the most frequent and confident user of his own privately installed digital dictionary, *Clue.* He could swiftly move from his task to the dictionary and back to the task again. He also discovered new features of the dictionary in his trial and error practice.

Secondly, there also seems to be a negative correspondence between the content of *Ordnett* and the practice of using it.

To what degree are students conscious of the advantages and disadvantages of digital dictionaries?

They seemed very conscious of both. The four participants gave insightful answers about their digital dictionary practice in the debriefing interviews. This is supported by the survey, where a majority of the students gave thoughtful comments on their dictionary preference. Their main reasons for preferring digital dictionaries were speed, convenience, quality, and availability.

And what are the attitudes of teachers?

The four teachers in the semi-structured interviews displayed inexperience in using digital dictionaries, but were positively tuned to them. In ICT-environments they clearly saw the advantages and could clearly give examples, such as speed, constantly updated content, easy access, instant deliveries of information, and so on. They would like to enhance their skills, and welcomed training sessions and peer discussions.

What do they do to facilitate student command of digital dictionaries?

Since they did not train their students to use a digital dictionary, they could hardly foster student command either. Three of them practiced referring to the digital dictionary when students asked about word meanings, to teach them to become independent of their teacher. However, they did not instruct them in how to generally understand meanings and forms given.

Given these facts we conclude that both student and teacher attitudes were positively tuned, but that their practices were incomplete. There is will power, but not “skill power”.

Furthermore, the classrooms were not suitable as ICT-environments, the responsibility infrastructure was confusing and the subscription arrangement of *Ordnett* provided by the county administration was incomplete.

My conclusion is therefore that the potential is better than the reality, and many improvements should be undertaken (see below for suggestions).

The answer to the research question is in sum that the young learners of EFL that I observed, with the survey as a backdrop, saw many advantages using digital dictionaries and seemed engaged by the technology, but lacked the training and practice to explore its potential, as well as being deprived of a suitable digital dictionary. Their practice consisted of trial and error.

7.2 Implications

The study conducted shows tendencies, as my findings are not completely transferable to the whole upper secondary student population as a whole. However, we find some important general implications noteworthy to highlight:

1. Students need to be instructed how to use digital dictionaries, in a ZPD environment, both what dictionaries to use, how to navigate, how to assess the different meanings and forms, and how to apply what they find. It must not be taken for granted that they already are in command.

2. Teachers need professional training. They need to explore and assess the different possibilities offered by digital dictionaries, perhaps most effectively in a peer exchange environments, or through attending courses; *and* it needs to be addressed in teacher training institutions. Only then will teachers become efficient and competent instructors and guides for their students. The teachers in my study clearly felt this training was missing.

3. Students and teachers need appropriate digital dictionary tools. One thing is the provision of a subscription arrangement of digital dictionaries; another is the *quality* of it. Both *Ordnett Pluss* and *Ifinger* could be highly suitable in upper secondary

education. Firstly due to the hybrid effect; one hit gives both bilingual and monolingual information of the headword as well as synonyms. *Clue* also has a similar effect, but it requires more clicks before disclosing what information is available.

Next, the availability of native language translation together with target language definitions and example sentences from *one* consultation is also very time-efficient. *Speed* was the prime reason for preferring digital dictionaries to print equivalents, as explained above.

Thirdly, the students say they *like* digital dictionaries. The engagement value of computer-based activities in the classroom is not to be underestimated as Doroszewska and Les (2009) point to (cf. chapter 2).

Furthermore, the availability off-line is making these dictionaries independent of the network, which some of the teachers in the respective interviews regarded as unreliable. Off-line access also enables usage on tests and exams when the Internet connection is shut down.

This list could continue, but the reasons just mentioned are perhaps the most salient ones.

4. To improve these digital dictionaries, they need to include the *sound* application. Very few students know how to read phonetic symbols merely because they have never learnt it. With today's technology including sound is not a hindrance, and I am convinced it will be an integrated feature in the future.

5. The physical conditions of classrooms as for example lay-out and size, need to be considered in relation to the number of students. Will they rather stimulate off-task diversions and lack of attention in computer-based teaching and learning processes?

6. There has to be a clear infrastructure: Who is responsible for the practical implementation of a digital dictionary subscription arrangement, ensuring that all users actually has got it installed; and who is responsible for prospective follow-up needs, especially among the teachers, to ensure that they increase their competence as to usage and teaching.

This list of implications sums up important considerations to make when it comes to integrating digital dictionaries in the classroom. My hope is that it will stimulate secondary education, as well as teacher training, to take the necessary steps in making digital dictionary tools an issue of *quality* in all matters concerned.

7.3 Future research

Due to the limitations of my study the main part of the findings are not transferrable, but can point to future research needs. I will briefly list some possibilities:

1. It would be interesting to find out more about how students are using digital dictionaries, maybe using other methods than observations. Do they find hybrid digital dictionaries more useful in contrast to ordinary digital dictionaries? What is their comprehension level of monolingual dictionaries such as ODE in for example *Ordnett*?

2. What are distraction elements in digital dictionaries? For instant in relation to the lay-out of a dictionary site? And what impact does the presence of advertisements have, as in for example in *Merriam-Webster Online*? Does it obstruct comprehension and coherence, and in that case, to what degree?

3. Teacher training is another issue worth exploring. Are coming teachers learning how to exploit the range of digital dictionaries in EFL instruction? Do they have good role models in their training? And most of all: *How* should digital dictionaries be taught?

4. Lastly, the data from the questionnaire included in this presentation could be worth investigated. There is data yet to analyze from it, and I would welcome researchers to use this material for further study.

Thus the presentation of my study has come to an end. Carrying out this research has been very stimulating and has forced me to reflect upon and improve my own teaching attitude and practice to digital dictionaries. Teachers seem to perceive that digital dictionaries might facilitate explicit learning more than print editions, but they do not to put this knowledge into pedagogical practice. Personally I think they are underestimated as tools for appropriating new linguistic knowledge.

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DIGITAL DICTIONARIES[69]

Note: All web references on this page are operative as of 13 May 2011.

Freely available online:

Cambridge Dictionaries Online: http://dictionary.cambridge.org/

Collins English Dictionary (CED): http://www.collinslanguage.com/

Dictionary.com: http://dictionary.reference.com/

Factmonster: http://www.factmonster.com/

Longman Dictionary of Contemporary English (LDOCE): http://www.ldoceonline.com/

Macmillan English Dictionary Online (MED): http://www.macmillandictionary.com/

Merriam-Webster Online: http://www.merriam-webster.com/

Merriam-Webster's Learner's Dictionary: http://www.learnersdictionary.com/

Merriam-Webster Word Central: http://www.wordcentral.com/

Oxford Advanced Learner's Dictionary Online (OALD):
http://www.oxfordadvancedlearnersdictionary.com/

Oxford Dictionaries Online (ODO): www.oxforddictionaries.com

Visual Dictionary Online: http://visual.merriam-webster.com/

Subscription arrangements online and/or off-line[70]:

Clue and *Clue Lookup*: http://www.clue-international.com/

Ifinger: http://www.ifinger.no/

Ordnett and *Ordnett Pluss*: http://www.*Ordnett*.no/ordbok.html

[69] This list is not exhaustive.
[70] These websites will give information about subscription arrangements options.

Merriam-Webster's Unabridged Dictionary: http://unabridged.merriam-webster.com/noauth/mwlogin.php?return=/?refr=U_mwol_other

Oxford English Dictionary: http://www.oed.com/

Appendices

Note: I have left out the name of the school and replaced other identifiable traces with pseudonyms both in the public version of the thesis and *in my stored documents.*

Appendix 1 Letter to the school administration

XY videregående skole
Mastergaten 10
0000 Mastersund

20. januar 2009

Forespørsel om forskningsprosjekt vedrørende bruk av digitale ordbøker

Jeg heter Aud-Mari Langegard og er student i en faglig masterspesialisering i engelsk didaktikk på Institutt for lærerutdanning og skoleutvikling ved Universitetet i Oslo.

Jeg skriver en masteroppgave om bruk av digitale ordbøker i engelskfaget på videregående skoler. Da jeg besøkte deres skole i fjor etablerte jeg kontakt med en engelsklærer (*Linda*) om å foreta observasjoner i hennes undervisning i løpet av inneværende skoleår. Jeg ønsker nå å be ledelsen ved skolen om godkjennelse av at jeg deltar i hennes undervisning og foretar slike observasjoner. Jeg håper dere kan imøtekomme min forespørsel.

Forskningsprosjektet innebærer at jeg observerer elevers bruk av digitale ordbøker i engelskundervisningen over en periode i januar og sannsynligvis ut i februar. Faglærer har forespurt tre elever til dybdeobservasjon påfulgt av korte intervjuer. De forspurte elevene har akseptert, og brev er sendt til hjemmene for å sikre opplysningsplikt og trygghet på hva som skjer. Samtykkeerklæring fra foresatte kreves ved intervjuer i et forskningsarbeid i henhold til retningslinjer for etikk i forskningsarbeid (se lenke nedenfor) for barn opp til 15 år. Elever som har fylt 15 år kan selv bestemme over sin deltakelse og underskrive på en samtykkeerklæring.

Alle opplysninger som kommer fram i dette forskningsprosjektet vil bli behandlet strengt konfidensielt og vil bare bli brukt av meg i forbindelse med masteroppgaven. Materialet mitt vil ikke inneholde personidentifiserbare opplysninger. All referanse til personer i observasjon og intervjuer i arbeidet til og med publikasjon vil altså være anonymisert.

Mine forpliktelser:

1. Å følge normale retningslinjer for etikk i forskningsarbeid. Se Den nasjonale forskningsetiske komité for samfunnsvitenskap og humaniora (revidert 2006): Forskningsetiske retningslinjer for samfunnsvitenskap, juss, humaniora og teologi. http://www.etikkom.no/retningslinjer/NESHretningslinjer/NESHretningslinjer/06 (15.januar 2009)
2. Å oppbevare notater og utskrifter fra observasjoner og intervju på en forsvarlig måte.
3. Gi involverte elever fiktive navn for å beskytte deres identitet.

Da håper jeg på velvillighet overfor min masterarbeid, og jeg ber om skriftlig samtykke (gjerne på epost). Om dere har spørsmål eller kommentarer kan jeg nås på telefon: 970 800 72, eller epost: aud.mari.langegard@gmail.com eller aud-maril@vfk.no.

Med vennlig hilsen

Aud-Mari Langegard

Masterstudent

Vedlegg: Kopi av brev til elever/foresatte

Appendix 2 Letter of introduction to the participant students and their parents/guardians

Aud-Mari Langegard
Lijordet, Kjær
3280 Tjodalyng

Telefon: 97080072
Epost: aud.mari.langegard@gmail.com

Til forskerelever og deres foresatte,

Informasjon om forskningsprosjekt om bruk av digitale ordbøker

Jeg heter Aud-Mari Langegard og er student i en faglig masterspesialisering i engelsk didaktikk på Institutt for lærerutdanning og skoleutvikling ved Universitetet i Oslo. Jeg skriver en masteroppgave om bruk av digitale ordbøker i engelskfaget på videregående skoler. I den forbindelse har faglærer i engelsk i 1STF forespurt tre elever om de vil være del av min undersøkelse. Det innebærer at jeg observerer deres bruk av digitale ordbøker i engelskundervisningen over en periode i januar og sannsynligvis ut i februar. I etterkant av observasjonene vil jeg foreta korte intervjuer av elevene. De forspurte elevene har akseptert, og dette brevet sendes derfor til hjemmene for å sikre opplysningsplikt og trygghet på hva som skjer. Samtykkeerklæring fra foresatte kreves ved intervjuer i et forskningsarbeid i henhold til retningslinjer for etikk i forskningsarbeid (se lenke nedenfor) for barn opp til 15 år. Elever som har fylt 15 år kan selv bestemme over sin deltakelse.

Alle opplysninger som kommer fram i dette forskningsprosjektet vil bli behandlet strengt konfidensielt og vil bare bli brukt av meg i forbindelse med masteroppgaven. Materialet mitt vil ikke inneholde personidentifiserbare opplysninger. All referanse til personer i observasjon og intervjuer i arbeidet til og med publikasjon vil altså være anonymisert.

Mine forpliktelser:

4. Å følge normale retningslinjer for etikk i forskningsarbeid. Se Den nasjonale forskningsetiske komité for samfunnsvitenskap og humaniora (revidert 2006):

Forskningsetiske retningslinjer for samfunnsvitenskap, juss, humaniora og teologi. http://www.etikkom.no/retningslinjer/NESHretningslinjer/NESHretningslinjer/06 (15.januar 2009)

5. Å oppbevare notater og utskrifter fra observasjoner og intervju på en forsvarlig måte.
6. Gi involverte elever fiktive navn for å beskytte deres identitet.

Jeg ser gjerne at dere kontakter meg om dere har spørsmål eller kommentarer til forskningsprosjektet mitt. Mitt telefonnummer er telefon: 970 800 72, eller epost: aud.mari.langegard@gmail.com.

Med vennlig hilsen

Aud-Mari Langegard
Masterstudent

Appendix 3 Informed consent

Samtykkeerklæring

Kopi: elev
masterstudent

1. Jeg samtykker i at jeg
…….. (fullt navn) er del av observasjon/intervjuer med Aud-Mari Langegard i forbindelse med hennes forskningsprosjekt om digitale ordbøker på skolen.

_____

Underskrift av elev/dato

2. I etterkant av observasjon og intervjuer erklærer jeg at jeg vil makulere denne samtykkeerklæringen, jeg vil følge normale retningslinjer for etikk i forskningsarbeid, oppbevare notater og utskrifter fra observasjoner og intervju på en forsvarlig måte og jeg vil gi deg fiktivt navn for å beskytte din personidentitet opplyst om i brev av 16. januar 2009.

_____

Aud-Mari Langegard/dato

Appendix 4 Observation checklist

Systematisk observasjon – sjekkliste. Dato: _____

3 elever med bærbar PC

Elev: _____ (alias)

Om konsentrasjon	
Jobber med gitt oppgave	
Er på Skype i liten (L) – middels (M) – stor (S) grad	
Er på YouTube i liten (L) – middels (M) – stor (S) grad	
Er på Facebook i liten (L) – middels (M) – stor (S) grad	
Spiller i liten (L) – middels (M) – stor (S) grad	
Gjør andre ting (skriv hvilke)	
Om bruk av digital ordbok	
Bruker digital ordbok når leser (én strek for hvert oppslag)	
Bruker digital ordbok når skriver (én strek for hvert oppslag)	
Bruker ikke digital ordbok i det hele tatt	
(Bruker ordbok i bokformat)	
Søker etter ord og finner det (én strek for hver gang)	
Søker etter ord og finner det ikke (én strek for hver gang)	
Tidsbruk på å søke, evt på digital ordbok-bruk i løpet av en økt	
Andre ting	

Andre kommentarer:

Appendix 5 Semi-structured interview guide after observation

Student version

Semistrukturert samtaleguide til observasjonsdeltakerne i etterkant av observasjonsøkt

Dato: _____

Deltaker: _____

1. Hva er dine grunner til å bruke av digitale ordbøker denne økta?
   (forstod ikke det jeg leste, måtte oversette til eng, trengte synonymer, trengte grammatisk informasjon, trengte se ordet brukt i en sammenheng, etc)
2. Hvilke digitale ordbøker?
3. Fikk du hjelpen du trengte? Beskriv nytteverdien.
4. Prøv å gjenskape en situasjon der du slo opp et ord og fikk hjelp. Hva tenkte du før du slo opp ordet og da du fant det?
5. Prøv å gjenskape en situasjon da du slo opp et ord, men uten å finne det du lette etter. Hva tenkte du mens du slo opp ordet?
6. Lærte du noe annet om ordene du slo opp? Hva da?
7. Savnet noe?
8. I hvilken grad kan du bruke ord du har slått opp ved senere anledninger?
9. Trenger hjelp til å bruke den digitale ordboka mer?
10. Andre ting?

Ved ikke bruk:

1. Grunner til ikke å bruke?
2. Hva skal til for at du skal begynne å bruke digital ordbok?
3. Brukte bokformatet i stedet? I så fall, hva er grunnen?
4. Andre ting?

Appendix 6 Semi-structured interview guide after observation

Teacher version

SPØRSMÅL TIL LÆRER I ETTERKANT AV UNDERVISNING

DATO: _____

1. Noe sted i økta hvor det ville vært naturlig for elevene å bruke ordboka?
2. Oppfordret du noen til å bruke ordbok denne økta?
3. Hvis ja, hva var grunnen?
4. Hvis nei, kunne du hatt gjort det når du tenker tilbake?
5. Ville du gjort noe annerledes denne økta med tanke på læring av nye ord? Evt bruk av ordbøker?
6. Spurte elever etter eng/eng e-ordbøker?
7. Hvis ja, hva var svaret ditt?
8. Hvis nei, hvilke digitale ordbøker ville du i så fall hatt henvist du til av eng/eng?

Appendix 7 Teacher interview guide and background information

Background:

1. School
2. Informant's background (teacher) – yrs teaching, level of education
3. Teaches what kind of English classes / groups / courses
    - Level / programme
    - age group
    - gender distribution
    - number of Ss
    - amount of teaching lessons per week

Resources available:

1. Online dictionary resources available at school? (Or on CD-ROMs)
2. To your knowledge, do Ss have the same resources available at home? (Are they made available, for instant through learning platforms or in other ways?)

Formal training

3. Where and how did you acquire your competence in teaching electronic dictionary use? (Comfort level?)
4. Adequate training? Or need more input on e-dictionary competence/teaching? How could this take place ideally speaking?

Teacher practices:

5. When do you teach electronic dictionary use? (Progression?)
6. How do you teach electronic dictionary use?
7. What is the most important for you to get across when teaching electronic dict.?
8. Why should Ss learn how to use and understand an online dictionary?
9. In what situations do Ss use an online dictionary?
10. Your own thoughts on benefits and disadvantages of online dictionary use? Compared to conventional dictionaries.
11. What do *Ss* say are benefits?
12. What do Ss say are disadvantages?
13. Anything else you would like to say?

Appendix 8 Request to conduct the questionnaire

Email correspondence

Tusen takk for velvillig innstilling. Kjempefint.

Da har jeg et spørsmål til: Kan jeg få tillatelse til å utføre en skriftlig digital spørreundersøkelse nettopp om opplæring og bruk av digitale ordbøker i engelsk til alle skolens elever som har engelsk som fag inneværende skoleår (både SF og YF elever)? Den vil ta ca 10 minutter.

Jeg ser for meg at den kan legges ut på elevenes oppslagstavle på It's Learning, enten som en undersøkelse innen It's Learning plattformen, eller med en lenke til en ekstern nettside hvor elevene kan svare elektronisk. Jeg vil gjerne foreta denne undersøkelsen før vinterferien.

Jeg ber også om tillatelse til å sende alle skolens engelsklærere (SF og YF) en forespørsel om de kan ta tid til å gjennomføre denne undersøkelsen i en engelsktime om de har mulighet for det. Siden undersøkelsen ikke tar så lang tid, ville jeg sette stor pris på skolens velvillighet til det, for svarprosenten vil da helt klart øke markant.

Hvis det er greit, tar jeg snarlig kontakt med IT-avdelingen på XX videregående skole for den praktiske gjennomføringen.

Da håper jeg på positiv respons. Vennlig hilsen fra

Aud-Mari Langegard

Hei

Jeg beklager å måtte si nei til undersøkelsen. Vi har i ledelsen vedtatt å skjerme elevene og lærerne for eksterne undersøkelser dette året fordi vi i år gjennomfører en omfattende pakke med interne elevundersøkelser som et forsøk, og fordi vi er inne i et flytteår som skaper et ekstra stort trykk med hensyn til involvering i prosesser. Vi har derfor sagt nei til en rekke tilsvarende henvendelser.

Jeg ønsker deg lykke til med forskningsarbeidet og håper du får til dette andre steder.

Med vennlig hilsen
NN
studierektor

Appendix 9 Covering Letter

The invitation to take part in the survey: Email to all students

TIL ALLE ELEVER SOM HAR ENGELSK I ÅR:

Jeg er engelsklærer på YY videregående skole og samtidig masterstudent i engelsk didaktikk. Jeg har fått tillatelse til å legge ut en undersøkelse til dere om bruk av digitale ordbøker i engelskfaget. Deltakelsen er frivillig og anonym.

Klikk pekeren nedenfor for å ta undersøkelsen.

http://www.itslearning.com/test/r.aspx?XS=zsyroseeaoor

Tvi, tvi!!

Vennlig hilsen
Aud-Mari Langegard

The covering letter:

Jeg er en engelsklærer her på SVGS og samtidig en mastergradsstudent i engelsk på Universitetet i Oslo. I masteroppgaven min ser jeg på elevers tilgang til, bruk av og holdninger til digitale (elektroniske) ordbøker fra norsk/engelsk, engelsk/norsk og engelsk/engelsk. Jeg har fått tillatelse til å gjennomføre denne undersøkelsen.

Jeg håper at mitt forskningsprosjekt kan bidra til at engelsklærere i større grad underviser om og bruker digitale ordbøker i engelsk, slik at elever får bedre utbytte av dem.

Undersøkelsen tar ca. 5-10 minutter.

Digitale ordbøker er ordbøker på *internett* eller *installerte* ordbøker på datamaskinen. Det er **IKKE** tekstbehandlingsverktøy som stavekontroll og synonymordbøker, og heller ikke oversettelsesprogram eller tilsvarende.

Deltakelsen er selvfølgelig *anonym og frivillig*. Det er viktig å lese spørsmålene nøye. Bes du om å gå videre til et spørsmål, så se nøye hvilket spørsmål du skal fortsette på. Tusen takk til dere som tar tid til å fylle ut svarene.

Har du noe du lurer på, kan du sende meg en melding på It's Learning til: audlan, eller bruk ordinær epost: aud-maril@vfk.no.

Vennlig hilsen
Aud-Mari Langegard

Appendix 10 Questionnaire – questions only

Elevundersøkelse: Digitale ordbøker i engelsk

1 Oppgi kjønn.

- Mann
- Kvinne

2 Oppgi hvilken gruppe du tilhører:

- SF vg1
- SF vg2
- SF vg3
- YF vg1
- YF vg2
- Påbygning
- SK

3 Hva var karakteren din i engelsk? Oppgi både for 10. trinn og for siste termin.

	1	2	3	4	5	6	IV	Fritatt
10. trinn muntlig								
10. trinn skriftlig								
1. termin 08/09								

4 Har du engelsk som fag i år?

- Ja
- Nei

5 OM OPPLÆRING OG BRUK AV DIGITALE ORDBØKER PÅ UNGDOMSSKOLEN
Fikk du opplæring i digitale ordbøker i engelsk på ungdomsskolen?

- Ja
- Nei. GÅ TIL SPØRSMÅL 8.

6 Hvis ja, i hvilken klasse?

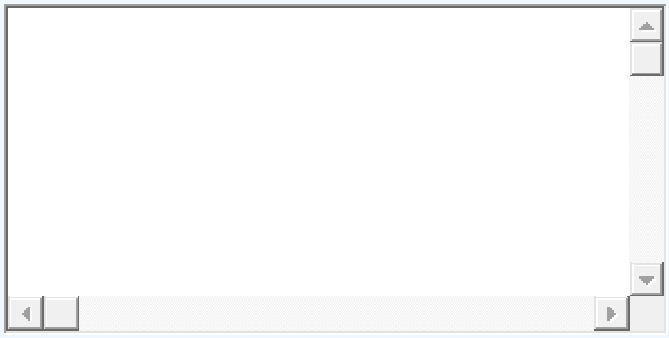
- 8.
- 9.
- 10.
- Husker ikke

7 Kryss av hvilken eller hvilke digitale ordbøker du fikk opplæring i å bruke i engelsk:

- Clue
- *Ordnett*
- TriTrans
- Lexin
- Google oversetter/ordbok
- i-finger
- Oxford Advanced Learner's Dictionary
- Webster (Merriam-Webster)
- sensAgent
- WordFinder
- Andre

8 Brukte du digitale ordbøker i engelsk på ungdomsskolen (hjemme/på skolen) uavhengig av opplæring? Du kan sette mer enn ett kryss.

	☐ NEI, jeg brukte ikke digitale ordbøker da. (Ved 'nei' må du svare på neste spørsmål også.) ☐ Ja, jeg brukte Clue. ☐ Ja, jeg brukte *Ordnett*. ☐ Ja, jeg brukte TriTrans. ☐ Ja, jeg brukte Lexin. ☐ Ja, jeg brukte Google oversetter/ordbok. ☐ Ja, jeg brukte "i-finger". ☐ Ja, jeg brukte Oxford Advanced Learner's Dictionary. ☐ Ja, jeg brukte Webster (Merriam-Webster). ☐ Ja, jeg brukte sensAgent. ☐ Ja, jeg brukte WordFinder. ☐ Andre.
9	Hvis nei i spørsmål 8: Hvorfor brukte du ikke digitale ordbøker i engelsk hjemme eller på skolen? Du kan sette flere kryss. ☐ Jeg visste ikke da at det fantes digitale ordbøker i engelsk. ☐ Jeg fikk aldri opplæring i å bruke digitale ordbøker i engelsk. ☐ Jeg visste ikke hvilken digital ordbok i engelsk jeg kunne stole på. ☐ Jeg likte ikke å avbryte det jeg holdt på med for å slå opp ord. ☐ Jeg prøvde litt, men digitale ordbøker var tungvint å bruke. ☐ Jeg hadde problemer med å forstå informasjonen jeg fikk i digitale ordbøker. ☐ Jeg foretrakk ordbøker i papirutgaver. ☐ Vi hadde ikke nok tilgang på datamaskiner på skolen. ☐ Vi hadde ikke datamaskin hjemme. ☐ Vi hadde datamaskin hjemme, men ikke internett. ☐ Jeg likte ikke å bruke datamaskiner. ☐ Husker ikke. ☐ Annet (se neste spørsmål).
10	Hvis du skrev 'annet', forklar hva her:



11 OM OPPLÆRING OG BRUK AV DIGITALE ORDBØKER PÅ VIDEREGÅENDE

Får du eller har du fått opplæring i digitale ordbøker i engelsk på videregående?

- Ja
- Nei. GÅ TIL SPØRSMÅL 14.

12 Hvis ja, når?

- Vg1
- Vg2
- Vg3
- Påbygning
- SK
- Husker ikke.

13 Kryss av for hvilken eller hvilke digitale ordbøker du får eller har fått opplæring i å bruke:

- Clue
- *Ordnett*
- TriTrans
- Lexin
- Google oversetter/ordbok
- i-finger
- Oxford Advanced Learner's Dictionary
- Webster (Merriam-Webster)
- sensAgent

WordFinder

Andre

14 Bruker du digitale ordbøker i engelsk hjemme eller på skolen uavhengig av opplæring?

Ja. GÅ TIL SPØRSMÅL 17.

Nei.

15 Ved 'nei' i forrige spørsmål: Hvorfor bruker du ikke digitale ordbøker i engelsk (hjemme/på skolen)? Du kan gjerne sette flere kryss.

MERK: GÅ NÅ TIL SPØRSMÅL 25.

Jeg visste ikke før nå at det fantes digitale ordbøker i engelsk.

Jeg har aldri fått opplæring i å bruke digitale ordbøker i engelsk.

Jeg vet ikke hvilken digital ordbok i engelsk jeg kan stole på.

Jeg liker ikke å avbryte det jeg holder på med for å slå opp ord.

Jeg har prøvd litt, men jeg opplever at digitale ordbøker er tungvinte/problematiske å bruke.

Jeg har problemer med å forstå informasjonen jeg får i digitale ordbøker.

Jeg foretrekker ordbøker i papirutgaver.

Vi har ikke nok tilgang på datamaskiner på skolen.

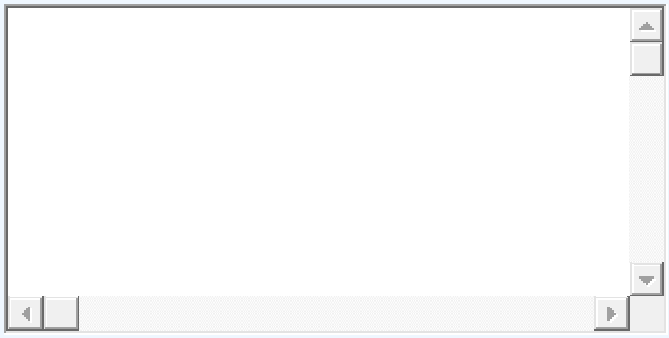
Vi har ikke datamaskin hjemme.

Vi har datamaskin hjemme, men ikke internett.

Jeg liker ikke å bruke datamaskiner.

Annet (se neste spørsmål).

16 Hvis du skrev 'annet', forklar hva her.



17 Hvis du bruker digitale ordbøker i engelsk nå for tiden, hvilke er det? Du kan sette mer enn ett kryss.

- [ ] Clue
- [ ] *Ordnett*
- [ ] TriTrans
- [ ] Lexin
- [ ] Google oversetter/ordbok
- [ ] i-finger
- [ ] Oxford Advanced Learner's Dictionary
- [ ] Webster (Merriam-Webster)
- [ ] sensAgent
- [ ] WordFinder
- [ ] Andre

18 Når bruker du digitale ordbøker i forbindelse med engelskfaget (hjemme/på skolen)? Velg ett alternativ.

- ○ Bare når jeg LESER engelske tekster
- ○ Bare når jeg SKRIVER engelske tekster
- ○ Både når jeg leser OG skriver engelske tekster

19 Forklar nærmere om bruken av digitale ordbøker i engelskfaget her. Kryss av det du mener stemmer best for deg.

	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri
Når jeg LESER engelsk og møter ord jeg IKKE har sett før, søker jeg dem opp.	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri
Når jeg LESER engelsk og møter ord jeg har sett før, men er USIKKER på hva de betyr, søker jeg dem opp.	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ordene fra NORSK til ENGELSK på ord jeg IKKE kan.	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ord jeg KAN fordi jeg er usikker på hvordan de STAVES.	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ord på engelsk fordi jeg trenger hjelp til hvordan ordene skal BRUKES i en gitt sammenheng.	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri

20 Hvilken digital ordbok foretrekker du i engelsk? Oppgi bare én.

- Clue
- *Ordnett*
- TriTrans
- Lexin
- Google oversetter/ordbok
- i-finger
- Oxford Advanced Learner's Dictionary

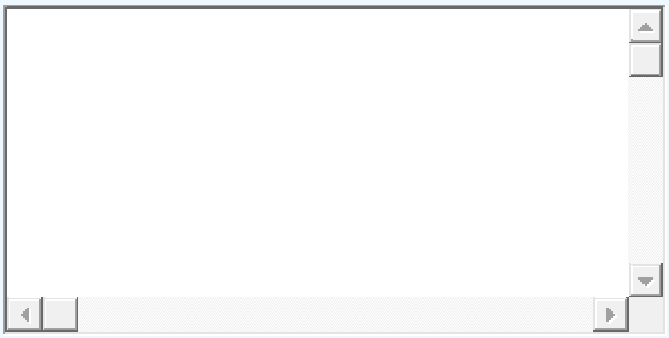
Webster (Merriam-Webster)

sensAgent

WordFinder

Annet (se neste spørsmål)

21 Svarte du 'annet', så skriv hvilken du foretrekker her:



22 Forklar hva som gjør denne digitale ordboka best i engelskfaget. Du kan sette kryss ved alle alternativ som stemmer for deg.

Den oversetter.

Den fullfører eller foreslår ord automatisk for meg (f.eks. hvis jeg skriver TRAI, vil jeg øyeblikkelig få opp alternativer som TRAIN, TRAINER, TRAINING, osv)

Den lister flere betydninger av ordet.

Den gir gode eksempelsetninger (hvordan ordet skal brukes i en setning).

Den er lett å søke i.

Den gir fyldig informasjon om oppslagsordet.

Den gir visuell informasjon (bilder, tabeller, o.l.)

Jeg får lytte til ordet.

Den gir informasjon om ordet i forhold til amerikansk og britisk engelsk.

Nettsiden er enkel å orientere seg i.

Den har alle ordene jeg søker etter.

Den er lett tilgjengelig på datamaskinen.

Jeg får oppgitt synonymer (ord som betyr det samme).

Jeg kjenner denne best, har brukt andre digitale ordbøker for lite til å vurdere om de er bedre

Annet (se neste spørsmål)

23 Hvis du skrev 'annet', forklar hva her:

24 Når du har tilgang til datamaskin: Hvor ofte bruker du digitale ordbøker i arbeid med engelsk? Sett kryss for den verdien som du mener stemmer best for deg.

	Alltid eller svært ofte når jeg lurer på noe	Meget ofte når jeg lurer på noe	Nokså ofte når jeg lurer på noe	Nokså sjeldent når jeg lurer på noe	Meget sjeldent når jeg lurer på noe	Svært sjeldent eller aldri når jeg lurer på noe
Hvor ofte bruker du digitale ordbøker i engelskfaget PÅ SKOLEN?						
Hvor ofte bruker du digitale ordbøker i engelskfaget HJEMME?						

25 Hvor ofte har du tilgang til datamaskin i engelsk på skolen?

- Hver økt
- Annenhver økt
- Sjeldnere enn annenhver økt
- Vi bruker aldri datamaskiner i engelsk

26 Bruker du datamaskin med internett tilgjengelig hjemme?

Ja

Nei

27 Kan digitale ordbøker være problematiske i engelskfaget? Du kan gjerne sette flere kryss ved grunnene som du opplever problematiske.

NEI, de er uproblematiske.

Ja, jeg finner sjeldent ordet jeg søker etter.

Ja, hjemme har jeg har ikke tilgang til de samme digitale ordbøkene som vi bruker på skolen.

Ja, den digitale ordboka gir for lite informasjon om oppslagsordet.

Ja, informasjonen jeg får, er ikke relevant.

Ja, den digitale ordboka gir for få eksempelsetninger (hvordan oppslagsordet er brukt i en setning).

Ja, den digitale ordboka gir for få/ingen synonymer (ord som betyr det samme).

Ja, jeg får ikke informasjon om hvordan ordet skal uttales (lyd/lydskrift mangler)

Ja, den digitale ordboka er vanskelig tilgjengelig på datamaskinen.

Ja, det tar for lang tid å slå opp.

Ja, de skaper for store avbrudd i det jeg holder på med.

Ja, den digitale ordboka gir ikke nok visuell informasjon (bilder, tabeller, o.l.)

Ja, jeg har sjelden tilgang til datamaskin i engelskundervisningen.

Ja, jeg har datamaskin hjemme, men ikke internett.

Ja, jeg opplever at internett er for ustabilt på skolen.

Ja, jeg er usikker på hvilke alternativ jeg kan bruke fra informasjonen om oppslagsordet.

Ja, jeg har problemer med å forstå informasjonen som gis om oppslagsordet.

Ja, nettsiden til den digitale ordboka er vanskelig å orientere seg i.

Ja, jeg vet ikke om jeg kan stole på informasjonen jeg får opp

Ja, jeg synes det er for mye reklame som forstyrrer

Annet (se neste spørsmål).

28 Hvis du skrev 'annet', forklar hva her:

29 Hva foretrekker du å bruke i engelskfaget?

- Ordbøker i papirutgaver
- Digitale ordbøker
- Bruker ikke ordbøker

30 Det er fint om du kan kort begrunne det forrige svaret ditt her

31 I hvilken grad hjelper ordbøker generelt deg med å lære ord og uttrykk bedre? Kryss av for den verdien som stemmer for deg.

	Helt enig	Delvis enig	Delvis uenig	Helt uenig
1. Jeg husker ord lettere når jeg har slått dem opp.				
2. Det er lettere å lære nye ord fra en digital ordbok enn fra en ordbok i papirutgave.				
3. Jeg forstår det meste av informasjonen i ordbøker.				

	4. Jeg bruker nesten alltid ordbøker når jeg lurer på noe.	○	○	○	○
	5. Jeg forstår nok, så jeg trenger ikke ordbøker.	○	○	○	○
	6. Jeg forstår ikke nok, men jeg slår heller ikke opp når jeg lurer på noe.	○	○	○	○

32 Har du kommentarer til denne undersøkelsen? (Er det noen spørsmål som f.eks. var uklare, vanskelig å velge alternativ eller hadde for få alternativ? Noe som ikke var relevant?)

Har du andre ting du vil si om digitale ordbøker i engelsk?

Fullfør

Appendix 11 Questionnaire: Results

Digitale ordbøker i engelskfaget

Antall svarpersoner: 162

1. Flervalgsspørsmål	Prosentsats
Oppgi kjønn.	
Mann	40,1%
Kvinne	59,9%

2. Flervalgsspørsmål	Prosentsats
Oppgi hvilken gruppe du tilhører:	
SF vg1	36,4%
SF vg2	29%
SF vg3	17,3%
YF vg1	4,9%
YF vg2	8%
Påbygning	3,7%
SK	0%
Ikke besvart	0,6%

3. Matrisespørsmål

Hva var karakteren din i engelsk? Oppgi både for 10. trinn og for siste termin.

	1	2	3	4	5	6	IV (ikke vurdert)	Fritatt	**Ikke besvart**
10. trinn muntlig	1,1%	2,7%	10,3%	23,3%	43,9%	16,8%	0,4%	0,4%	1,1%
10. trinn skriftlig	0,4%	3,1%	11,8%	27,1%	40,1%	14,1%	0,4%	0,4%	2,7%
1. termin 08/09	1,1%	4,6%	11,5%	32,8%	31,3%	11,8%	1,1%	3,1%	2,7%

4. Ja/nei-spørsmål	Prosentsats
Har du engelsk som fag i år?	
Ja	88,9%
Nei	11,1%

5. Flervalgsspørsmål	Prosentsats
OM OPPLÆRING OG BRUK AV DIGITALE ORDBØKER PÅ UNGDOMSSKOLEN	
Fikk du *opplæring* i digitale ordbøker i *engelsk* på ungdomsskolen?	
Ja	10,5%
Nei. GÅ TIL SPØRSMÅL 8.	89,5%

6. Flervalgsspørsmål	Prosentsats
Hvis ja, i hvilken klasse?	
8.	4,3%
9.	4,3%
10.	4,9%
Husker ikke	6,8%
Ikke besvart	85,2%

7. Flervalgsspørsmål	Prosentsats
Kryss av hvilken eller hvilke digitale ordbøker du fikk *opplæring* i å bruke i engelsk:	
Clue	4,9%
Ordnett	1,9%
TriTrans	6,2%
Lexin	0,6%
Google oversetter/ordbok	4,3%
i-finger	0%

Oxford Advanced Learner's Dictionary	1,2%
Webster (Merriam-Webster)	0%
sensAgent	0%
WordFinder	0,6%
Andre	3,1%
Ikke besvart	86,4%

8. Flervalgsspørsmål	**Prosentsats**
Brukte du digitale ordbøker i engelsk på ungdomsskolen (hjemme/på skolen) uavhengig av opplæring? Du kan sette mer enn ett kryss.	
NEI, jeg brukte ikke digitale ordbøker da. (Ved 'nei' må du svare på neste spørsmål også.)	32,7%
Ja, jeg brukte Clue.	21,6%
Ja, jeg brukte *Ordnett*.	7,4%
Ja, jeg brukte TriTrans.	50,6%
Ja, jeg brukte Lexin.	4,9%
Ja, jeg brukte Google oversetter/ordbok.	19,8%
Ja, jeg brukte "i-finger".	2,5%
Ja, jeg brukte Oxford Advanced Learner's Dictionary.	5,6%
Ja, jeg brukte Webster (Merriam-Webster).	1,2%
Ja, jeg brukte sensAgent.	0%
Ja, jeg brukte WordFinder.	2,5%
Andre.	11,1%
Ikke besvart	0,6%

9. Flervalgsspørsmål	**Prosentsats**
Hvis nei i spørsmål 8: Hvorfor brukte du ikke digitale ordbøker i engelsk hjemme eller på skolen? Du kan sette flere kryss.	

Jeg visste ikke da at det fantes digitale ordbøker i engelsk.	19,1%
Jeg fikk aldri opplæring i å bruke digitale ordbøker i engelsk.	23,5%
Jeg visste ikke hvilken digital ordbok i engelsk jeg kunne stole på.	9,3%
Jeg likte ikke å avbryte det jeg holdt på med for å slå opp ord.	5,6%
Jeg prøvde litt, men digitale ordbøker var tungvint å bruke.	1,2%
Jeg hadde problemer med å forstå informasjonen jeg fikk i digitale ordbøker.	1,9%
Jeg foretrakk ordbøker i papirutgaver.	5,6%
Vi hadde ikke nok tilgang på datamaskiner på skolen.	9,3%
Vi hadde ikke datamaskin hjemme.	1,2%
Vi hadde datamaskin hjemme, men ikke internett.	0,6%
Jeg likte ikke å bruke datamaskiner.	1,2%
Husker ikke.	4,9%
Annet (se neste spørsmål).	1,9%
Ikke besvart	61,1%

10. Åpent spørsmål

Hvis du skrev 'annet', forklar hva her:

- dictionary.com
- http://olga.hials.no/glossary/

  http://ordbok.no/

  disse har ikke vært så veldig bra/til hjelp da!
- ordbok inkludert i word.
- Tenkte aldri over at man kunne bruke det, og ikke var vi veldig innformert om det. De sa aldri vi kunne bruke det og tenkte ikke over at det fantes. Men av og til ble det brukt
- hei
- hvis vi skulle bruke data for å komme inn på internett, måtte vi gå til et datarom, og det likte ikke læreren. Så derfor gikk det mest ut på ordbøker i papir etc.
- visste ikke at det er noe som heter "digital ordbok".
- Jeg bruker den digitale ordboken Engelsk fra Wega som kommer sammen med en vanlig bok og en cd som må instaleres for å kunne brukes. Man får da to versjoner slik at man kan gå fra norsk til engelsk og fra engelsk til norsk.

11. Flervalgsspørsmål	Prosentsats
OM OPPLÆRING OG BRUK AV DIGITALE ORDBØKER PÅ VIDEREGÅENDE	
Får du eller har du fått *opplæring* i digitale ordbøker i *engelsk* på videregående?	
Ja	14,8%
Nei. GÅ TIL SPØRSMÅL 14.	85,2%

12. Flervalgsspørsmål	Prosentsats
Hvis ja, når?	
Vg1	8%
Vg2	5,6%
Vg3	1,2%
Påbygning	0,6%
SK	0%
Husker ikke.	2,5%
Ikke besvart	82,1%

13. Flervalgsspørsmål	Prosentsats
Kryss av for hvilken eller hvilke digitale ordbøker du får eller har fått *opplæring* i å bruke:	
Clue	8,6%
Ordnett	6,2%
TriTrans	4,3%
Lexin	0%
Google oversetter/ordbok	3,7%
i-finger	1,2%
Oxford Advanced Learner's Dictionary	2,5%
Webster (Merriam-Webster)	1,2%

sensAgent	0%
WordFinder	0%
Andre	1,9%
Ikke besvart	82,1%

14. Flervalgsspørsmål	**Prosentsats**
Bruker du digitale ordbøker i engelsk hjemme eller på skolen uavhengig av opplæring?	
Ja. GÅ TIL SPØRSMÅL 17.	81,5%
Nei.	18,5%

15. Flervalgsspørsmål	**Prosentsats**
Ved 'nei' i forrige spørsmål: Hvorfor bruker du ikke *digitale* ordbøker i engelsk (hjemme/på skolen)? Du kan gjerne sette flere kryss. **MERK:** GÅ NÅ TIL SPØRSMÅL 25.	
Jeg visste ikke før nå at det fantes digitale ordbøker i engelsk.	8,6%
Jeg har aldri fått opplæring i å bruke digitale ordbøker i engelsk.	8,6%
Jeg vet ikke hvilken digital ordbok i engelsk jeg kan stole på.	2,5%
Jeg liker ikke å avbryte det jeg holder på med for å slå opp ord.	0,6%
Jeg har prøvd litt, men jeg opplever at digitale ordbøker er tungvinte/problematiske å bruke.	1,2%
Jeg har problemer med å forstå informasjonen jeg får i digitale ordbøker.	1,9%
Jeg foretrekker ordbøker i papirutgaver.	2,5%
Vi har ikke nok tilgang på datamaskiner på skolen.	0,6%
Vi har ikke datamaskin hjemme.	0%
Vi har datamaskin hjemme, men ikke internett.	0%
Jeg liker ikke å bruke datamaskiner.	1,2%
Annet (se neste spørsmål).	1,9%
Ikke besvart	82,1%

16. Åpent spørsmål

Hvis du skrev 'annet', forklar hva her.

- Jeg aner ikke hvordan det virker, og vet ikke om noen enda. Har brukt en i tysk, men har ikke funnet noen gode engelske.
- jeg bruker det noen ganger, men bare hvis jeg ikke orker å slå opp i papirutgaven. Men de jeg bruker er desverre ikke så veldig gode, og de andre jeg har lett etter har bare vært uforståelige.
- hei
- visste ikke at det er noe som heter digital ordbok.

17. Flervalgsspørsmål	**Prosentsats**
Hvis du bruker digitale ordbøker i engelsk nå for tiden, hvilke er det? Du kan sette mer enn ett kryss.	
Clue	29,6%
Ordnett	12,3%
TriTrans	58,6%
Lexin	6,2%
Google oversetter/ordbok	38,3%
i-finger	1,9%
Oxford Advanced Learner's Dictionary	11,1%
Webster (Merriam-Webster)	3,1%
sensAgent	0,6%
WordFinder	1,9%
Andre	11,7%
Ikke besvart	14,2%

18. Flervalgsspørsmål	**Prosentsats**
Når bruker du *digitale* ordbøker i forbindelse med engelskfaget (hjemme/på skolen)? Velg ett alternativ.	
Bare når jeg LESER engelske tekster	0,6%
Bare når jeg SKRIVER engelske tekster	32,7%
Både når jeg leser OG skriver engelske tekster	51,9%
Ikke besvart	14,8%

19. Matrisespørsmål

Forklar nærmere om bruken av digitale ordbøker i engelskfaget her. Kryss av det du mener stemmer best for deg.

	Hver gang	Meget ofte	Nokså ofte	Nokså sjeldent	Sjeldent	Aldri	Ikke besvart
Når jeg LESER engelsk og møter ord jeg IKKE har sett før, søker jeg dem opp.	9,4%	22,2%	25%	17,2%	7,2%	3,9%	15%
Når jeg LESER engelsk og møter ord jeg har sett før, men er USIKKER på hva de betyr, søker jeg dem opp.	6,1%	14,4%	23,3%	17,2%	15%	8,3%	15,6%
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ordene fra NORSK til ENGELSK på ord jeg IKKE kan.	20%	25%	22,8%	7,2%	3,3%	6,1%	15,6%
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ord jeg KAN fordi jeg er usikker på hvordan de STAVES.	5%	17,8%	21,1%	18,9%	12,8%	9,4%	15%
Når jeg SKRIVER engelsk, bruker jeg digital ordbok og søker opp ord på engelsk fordi jeg trenger hjelp til hvordan ordene skal BRUKES i en gitt sammenheng.	4,4%	8,3%	11,7%	16,7%	19,4%	22,2%	17,2%

20. Flervalgsspørsmål **Prosentsats**

Hvilken digital ordbok *foretrekker* du i engelsk? Oppgi bare én.

Clue	23,5%
Ordnett	5,6%
TriTrans	25,9%

Lexin	1,2%
Google oversetter/ordbok	16%
i-finger	1,2%
Oxford Advanced Learner's Dictionary	4,3%
Webster (Merriam-Webster)	1,9%
sensAgent	0%
WordFinder	0,6%
Annet (se neste spørsmål)	8,6%
Ikke besvart	11,1%

21. Åpent spørsmål

Svarte du 'annet', så skriv hvilken du foretrekker her:

- dictonary.com tror det er sånn det skrives .
- dictionary.com
- cambridge
- Gyldendal
- vet bare hvordan tritrans og google oversetter fungerer
- Jeg bruker Vega Forlag som digital ordbok når jeg er hjemme.
- freetranslation.com
- Innebygd Dictionary i mac-software
- tritans er den eneste jeg egentlig har prøvd
- Bob
- hei
- www.freetranslation.com
- jeg foretrekekr 2.. det er DE BESTE JEG HAR BRUKT!!!
  1. er en jeg fant på google.com
  2. er en app på iphone
- Jeg visste bare om Tritrans og jeg synes ikke den er spesielt bra.
- Jeg vet ikke om noen spesielle så jeg bruker ingen.
- Google translate
- trenger ingen ordbok, jeg er irsk og kan skrive og snakke engelsk flytende
- Den digitale ordboken som jeg bruker heter Engelsk og er fra Vega forlag. Denne ordboken må instaleres får man kan bruke den siden den kommer i både vanlig bokform og cd.

22. Flervalgsspørsmål

	Prosentsats
Forklar hva som gjør denne digitale ordboka best i engelskfaget. Du kan sette kryss ved alle alternativ som stemmer for deg.	
Den oversetter.	59,9%
Den fullfører eller foreslår ord automatisk for meg (f.eks. hvis jeg skriver TRAI, vil jeg øyeblikkelig få opp alternativer som TRAIN, TRAINER, TRAINING, osv)	29,6%

Den lister flere betydninger av ordet.	44,4%
Den gir gode eksempelsetninger (hvordan ordet skal brukes i en setning).	19,8%
Den er lett å søke i.	58%
Den gir fyldig informasjon om oppslagsordet.	19,8%
Den gir visuell informasjon (bilder, tabeller, o.l.)	3,7%
Jeg får lytte til ordet.	4,3%
Den gir informasjon om ordet i forhold til amerikansk og britisk engelsk.	14,8%
Nettsiden er enkel å orientere seg i.	33,3%
Den har alle ordene jeg søker etter.	21%
Den er lett tilgjengelig på datamaskinen.	43,2%
Jeg får oppgitt synonymer (ord som betyr det samme).	20,4%
Jeg kjenner denne best, har brukt andre digitale ordbøker for lite til å vurdere om de er bedre	29,6%
Annet (se neste spørsmål)	5,6%
Ikke besvart	12,3%

23. Åpent spørsmål

Hvis du skrev 'annet', forklar hva her:

- Google Translate oversetter hele setninger enkelt, og fatter sammenhenger uansett setning. Blir ikke direkte oversatt heller, men til den måten det er best å framstille ord/setningen på engelsk.
- Det er forsåvidt den eneste jeg har prøvd/benyttet meg av.
- rask
- Bobby
- Vet ikke om noen andre, denne er ikke spesielt god. Mangler ord, og sammenhenger blir helt feil
- Begge kommer med mange andre ting.. Jeg aner ikke hva det heter.. men det har vært VELDIG nyttig!!!!!!!!
- Bruker ikke digital ordbok.
- i am irish, i don't need a dictionary

24. Matrisespørsmål

Når du har tilgang til datamaskin: Hvor ofte bruker du digitale ordbøker i arbeid med engelsk? Sett kryss for den verdien som du mener stemmer best for deg.

	Alltid eller svært ofte når jeg lurer på noe	Meget ofte når jeg lurer på noe	Nokså ofte når jeg lurer på noe	Nokså sjeldent når jeg lurer på noe	Meget sjeldent når jeg lurer på noe	Svært sjeldent eller aldri når jeg lurer på noe	**Ikke besvart**
Hvor ofte bruker du digitale ordbøker i engelskfaget PÅ SKOLEN?	7,2%	15,6%	21%	12%	13,2%	19,8%	11,4%
Hvor ofte bruker du digitale ordbøker i engelskfaget HJEMME?	19,2%	24,6%	21%	12,6%	2,4%	9%	11,4%

25. Flervalgsspørsmål **Prosentsats**

Hvor ofte har du tilgang til datamaskin i engelsk på skolen?

Hver økt	16,7%
Annenhver økt	16%
Sjeldnere enn annenhver økt	42,6%
Vi bruker aldri datamaskiner i engelsk	22,8%
Ikke besvart	1,9%

26. Ja/nei-spørsmål **Prosentsats**

Bruker du datamaskin med internett tilgjengelig hjemme?

Ja	98,1%
Nei	0,6%
Ikke besvart	1,2%

27. Flervalgsspørsmål	Prosentsats
Kan digitale ordbøker være problematiske i engelskfaget? Du kan gjerne sette flere kryss ved grunnene som du opplever problematiske.	
NEI, de er uproblematiske.	45,7%
Ja, jeg finner sjeldent ordet jeg søker etter.	5,6%
Ja, hjemme har jeg har ikke tilgang til de samme digitale ordbøkene som vi bruker på skolen.	10,5%
Ja, den digitale ordboka gir for lite informasjon om oppslagsordet.	15,4%
Ja, informasjonen jeg får, er ikke relevant.	4,9%
Ja, den digitale ordboka gir for få eksempelsetninger (hvordan oppslagsordet er brukt i en setning).	14,8%
Ja, den digitale ordboka gir for få/ingen synonymer (ord som betyr det samme).	16,7%
Ja, jeg får ikke informasjon om hvordan ordet skal uttales (lyd/lydskrift mangler)	16%
Ja, den digitale ordboka er vanskelig tilgjengelig på datamaskinen.	1,9%
Ja, det tar for lang tid å slå opp.	6,8%
Ja, de skaper for store avbrudd i det jeg holder på med.	6,8%
Ja, den digitale ordboka gir ikke nok visuell informasjon (bilder, tabeller, o.l.)	4,3%
Ja, jeg har sjelden tilgang til datamaskin i engelskundervisningen.	12,3%
Ja, jeg har datamaskin hjemme, men ikke internett.	1,9%
Ja, jeg opplever at internett er for ustabilt på skolen.	6,8%
Ja, jeg er usikker på hvilke alternativ jeg kan bruke fra informasjonen om oppslagsordet.	9,3%
Ja, jeg har problemer med å forstå informasjonen som gis om oppslagsordet.	3,7%
Ja, nettsiden til den digitale ordboka er vanskelig å orientere seg i.	4,3%
Ja, jeg vet ikke om jeg kan stole på informasjonen jeg får opp	14,2%
Ja, jeg synes det er for mye reklame som forstyrrer	6,8%
Annet (se neste spørsmål).	6,2%
Ikke besvart	5,6%

28. Åpent spørsmål

Hvis du skrev 'annet', forklar hva her:

- ikke alltid like lett å få opp synonymene man leter etter.
- litt spesiell formulering på spørsmålet. Men på skolen i år bruker vi aldri data i engelsk timen, men forrige året hadde vi data-rom nesten hver time. Bruker som oftest vanlig ordbok men noen ganger bruker jeg digitale ordbøker og da bruker jeg tritrans. Det er fordi den er kjapp og enkel, men ikke like fullkommen som en ordbok. Mangler ofte ord osv.
  Sikkert andre digitale orbøker med bedre kvalitet men de koster penger og da er det like greit å bruke en vanlig ordbok.
- Det hender at ordet jeg trenger ikke er i ordboka.
- Det spørs på hvilken ordbok du har, og om du har den installert på dataen din. Clue er jeg veldig fornøyd med, kan stole på den!
- Det tar altfor lang tid, og er altfor vanskelig å finne ordbøker som forklarer og oversetter ordene jeg søker etter.
- Boobeline
- hj
- Ordboka gir kun ett ord som oversettelse, selv når jeg VET at ordet betyr flere ting, og det er ofte ikke ordet jeg leter etter som gis.
- Jeg kunne egentlig ha krysset av alle. for de vi har brukt i timen på skolen er en dårlig en (mener jeg)
- Bruker ikke digital ordbok.
- de kan gjøre en uoppmerksom, om det er vanlig time. men under en tentamen eller lignende vil det være til stor hjelp

29. Flervalgsspørsmål	**Prosentsats**
Hva foretrekker du å bruke i engelskfaget?	
Ordbøker i papirutgaver	24,1%
Digitale ordbøker	68,5%
Bruker ikke ordbøker	6,8%
Ikke besvart	0,6%

30. Åpent spørsmål

Det er fint om du kan *kort* begrunne det forrige svaret ditt her.

- Papir har alltid vært rett ved siden av meg, papir ordbøker har gitt meg stor uttelling både på vanlige prøver , og stiler.
- Får bedre eksempler av ordenes betydning.
- Fordi det er den beste og enkleste måten for meg. Dessuten finner jeg flere ord jeg lurer på der enn hva jeg pleier å finne på nettet.
- Det gir mer relevante og konkrete svar, og er mer pålitelig. Selv om å søke etter ord som oftest er raskere, stoler jeg mer på papirordboka som gir mer presise svar.
- Det er mer praktisk med digitale ordbøker da man slipper å slå opp. Ulempen er allikevel at man ikke får opp endinger og bøyeformer på samme måte som i bokform, hvor det ofte står både kjønn og bøyingsmåte.
- papirutgaven er konkret. Man slår opp alfabetisk og finner svaret med engang.
  samtidig er noen ordbøker på nett fine, pga av at synonymene dukker opp,men de digitale synonym ordbøkene er ofte veldig komplisert.
- Lettere å finne fram (slipper å slå opp manuelt)
- Jeg liker best å bruke digital ordbok, fordi det er mye mer informasjon om ordet, opphavelse o.l. Som gjør at jeg forstår det bedre, og kan utvikle språket mitt mer. (Med tanke på at språk

overlapper hverandre)

- Under prøver har vi en tidsfrist og vi har ofte dårlig tid. Om vi lurer på et ord tar det ofte for lang tid å slå opp i ordbøker. I tilegg har flere av ordbøkene ikke et tilstrekkelig vokabular. Digitale ordbøker er raske og slå opp i (som regel). Du får rask informasjon og som oftest flere alternativer du kan bruke/synonymer.
- Digitale ordbøker er lettere å bruke
- Fordi det er mye lettere å bruke
- Bruker lite ordbøker fordi jeg føler meg ganske så sikker på det engelske språket og bruker da ikke ordbok med mindre jeg står helt fast.
- Fordi det er enklere.
- tar kortere tid å slå opp i, og ofte fler forklaringer
- Det går raskest og gir stort sett et like godt svar.
- Jeg stoler mer på papirutgaven. Den har omtrent alle ord jeg søker etter, og gir eksempler og synonymer.
- ISteden for å bla opp i en klassisk ordbok, så kan man heller skrive inn ordet og få det rett opp på skjermen. Sparer masse tid, samtidig som det er mye enklere. Rett og slett Genialt
- fordi det er lettere å skrive inn ett ord på pc, enn å lete i en ordbok. Det er fordi vi nesten alltid skriver på pc.
- For da vet jeg at ordet er oversatt i riktig betydning, og stavet riktig.
- Det er mye enklere å finne ordene vi leter etter i en digital ordbok, på grunn av at d er man bare noen trykk unna svaret. Mens når man slår opp i en ordbok med sider, må mn bla og bla til man finner ordene.
- raskere
- Det meste er mye enklerer og mer behagelig å gjøre på pc. Jeg er glad i og skrive på pc og foretrekker derfor digitale ordbøker, men det er alt for lite bruk av pc på vanlig allmen linje!
- Fordi det er enklere å skrive inn et ord, enn å måtte se gjennom hele boka før man finner svaret
- Raske resultater. Uproblematisk å taste inn ordet.
- Der kan man søke opp ordene, man slipper å bla opp. Dessuten er ordbøkene så tunge at det blir så mye ekstra vekt i tillegg til dataen.
- Fordi det gir lettere svar på ting og går fortere.
- Grunnen til at jeg liker ordbøker i papirutgave er fordi man kan slå opp ordet på norsk for å så finne det på engelsk, når man bruker en digital ordbok kan det bli vanselig viss man ikke klarer å stave det norkse ordet riktig.
- Det går så mye fortere å finne ut hvilken ord man skal ta i bruk, eneste ulempen er at f.eks den blå ordboka i papirutgave viser mye mer informasjon.
- Det går fortere å slå opp ordet, den gir fyldig informasjon om oppslagsordet og i tilegg gode eksempelsetninger.
- Det er bedre kvalitet og man har ikke alltid tilgang til data.
- Jeg synes det er lettere å slå opp i ordbok på data enn i papirformat av den enkle grunn at det går fortere å finne ordet man er interessert i.
- Fordi det er mest praktisk. Man slipper å slå opp i ordboken hele tiden, da man bare kan skrive inn ordet man vil oversette i digitale ordbøker.
- Fordi det sparer meg masse tid ved å bruke digitalt enn papir utgave, samt er det lettere å tyde ordene, enn hva som er i papirutgave. skriftet er så liten at du sløser unødvendig tid. Unødvendig ved også å finne fram først forbokstaven også lette etter ordet.
- Jeg foretrekker digitale ordbøker fordi det er mye lettere å slå opp på ord, man trenger ikke å bruke så lang tid på det.
- enkle og greie, ikke noe fiksfaks.
- Fordi jeg ikke vet hvordan de digitale ordbøkene virker.
- Praktisk
- det tar kortere tid
- der vet jeg at alle ordene står. og det er i papirutgavene vi har lært oss å fortså bøyingene osv. men liker også digitale ordbøker, mest fordi det er mindre slitsomt å slå opp i.
- Kan jeg ikke, bruker egentlig begge deler like mye.
- raskt, enkelt, viser uttale
- Det tar kortere tid å slå opp ord
- det er lettere å skrive ordet i en innternettordbok enn å bruke lang tid på å bla igjennom en ordbok.

- Fordi jeg bruker myye mindre tid på å slå opp ord. samtidlig får jeg flere betydninger av det og en bedre oversikt
- Man slipper å være avhengig av en datamaskin. også er det en gammel vane.
- Får informasjonen jeg trenger.Gir eksempler til hvordan ordet kan brukes, bøyning, lydskrift osv. Det er ikke alle de digitale ordbøkene som gir denne informasjonen. Får bare bruke dette på skolen. I Tritrans tar det så lang tid å søke på et nytt ord etter å allerede ha søkt på et, at det går fortere å slå opp. Viste ikke om andre enn tritrans og iFinger, og iFinger har jeg ikke på maskinen lenger. Synd det må lastes ned. Da har jeg ikke tilgang på det overalt.
- Det går fortere
- Det er mye enklere og raskere å finne frem ord. Det kan stå mer om hvert ord i digitale nettbøker. Det er flere språk i samme ordbok.
- Det går fortere å finne ordet du leter etter.
- Jeg synes digitalt er best siden da må ikke jeg lete
- går fort å finne ord man lurer på. hvis man ikke kan det riktige ordet kommer det alternativer man kan velge mellom.
- går fortere å skrive det på dataen enn slå det opp når jeg sitter å skriver på pc fra før av
- trenger ikke ordbøker.
- det er lettere å slå opp, er ikke av de digitale ordbøkene, må ikke traske rundt med pcen
- Det går fortere å slå opp ordene jeg luer på.
- Det er enklere å finne ordet, det går fortere, og datan støver mindre enn en haug med bøker.
- Vi har fått opplæring i hvordan vi skal bruke ordbøker.
- Det er enklere å finne frem i
- Jeg liker å bruke digitale ordbøker, fordi det tar kun noen få sekunder å slå opp ordene jeg lurer på / trenger, i forhold til papirutgaven, som kan ta opptil flere minutter på samme ordet. Jeg bruker i tillegg laptop i nesten hver engelskøkt, så da har jeg ordboka lett tilgjengelig.
- Jeg liker papirutgaven best fordi den gir gode eksempler, er enklere å bruke, tar kortere tid å bruke og i det hele tatt er mye mer praktisk.
- Digitale ordbøker er mye lettere. Du får svar fort og behøver ikke å lete så lenge i boka.
- Det er bedre å slå opp i en ordbok av den grunn at man ikke lar seg distrahere av andre ting på Internett. Dessuten har vi ikke mulighet til å bruke digital ordbok på eksamen, og det er da fint å vite hvordan man bruker en ordbok i papirutgave.
- Fordi jeg oftere finner et bedere svar her enn det jeg får på den elektroniske ordboka.
- Hvis jeg har tilgang på digitale ordbøker, er de mye lettere å orientere seg i, og raskere å slå opp i. Jeg får i tillegg opp synomymer, og i noen tilfeller, hvis jeg har stavet ordet feil, foreslår den alternativer. Mye lettere enn å bla i en bok.
- Papirutgaven er bedre, og gir et mer klart svar, men hvis digitalutgaven kunne blitt litt bedre så vil den definitivt blitt den jeg foretrukket mest. Men jeg foretrekker fortsatt den digitale, for den er enklest.
- Fordi det går både fortere og er enklere. Eneste med digitale ordbøker er at de sjeldent gir informasjon om hvordan ord bøyes.
- Lettere og kjappere.. tar lang tid å bla i vanlige.
- Effektiviteten samt mulighetene for synonym forslag, gir en bedre læringseffekt og mulighet til å utvikle ordforrådet.
- Lettere å slå opp mange ord
- Raskere og mer effektivt
- Sparer tid.
- Fordi de er enkle og raske
- Det er raskere å slå opp i digitale ordbøker, samtidig som det ofte gir mer informasjon om ordet enn ved ordbok i papirutgave :)
- Hvis du har en digital ordbok som du kan "se" gjennom på dataen, er den bedre enn en vanlig bokform ordbok. Hvis det er en ordbok hvor man må søke på et ord, og deretter bare får et ord, ville jeg brukt bokformen, fordi i det engelske språket spørs det veldig på hvordan setningen er bygd opp til at du kan kun putte inn enkeltord hentet fra internettet.
- Selvfølgelig den raskeste måten å få slått opp et ord!
- Er sjelden ved en datamaskin når jeg leser, så foretrekker bokformat. (Selvfølgelig foretrekker jeg digitalt hvis jeg leser en tekst på PC)
- Det tar mye kortere tid å bare skrive nøyaktig det ordet du vil finne betydningen av/oversette enn å sitte og bla side opp og side ned i en bok. Kort sagt tidsbesparende. Dette er spesiellt relevant på prøver, ettersom de som oftest er tidsbegrenset.

- Fordi det er kjappere og slå opp når man skriver i stedet for å sitte å leite etter et ord man ikke helt husker hvordan skrives, kanskje man ikke finner det. Digatale det kanskje litt lettere å skrive, samtidig som når man skriver på pc er det også litt rettskriving inni der og da er det lett og finne et ord du ca leiter etter for å få riktig betydning av ordet: JA TIL DIGITAL ORDBOK
- Det er lettere og raskere å slå opp.
- Jeg synes det virker enklere og mer effektivt. Jeg har sett andre har brukt det, men har aldri fått sjansen til opplæring/bruken av det selv.
- jeg sparer tid, og som oftes finner jeg ordet jeg trenger...
- Enklere, slipper å bla gjennom mye papir og søket i digital ordbok tar heller 1 sekund, enn 20.
- for det er lett og skjønne det
- Digitale ordbøker er lette å slå opp i, og veldig tilgjengelige.
- Det går mye fortere å slå opp ordet jeg leter etter
- Derfor :D
- den kan alltid brukes
- Det går fortere å slå opp ordet. Da slipper man å bla i en evighet.
- Jeg synes det er best i papirutgaven fordi i den er det mer informasjon om hvordan ordene bøyes og fordi det virker som det er mer sansynlig å finne den riktige oversettelsen i boka enn på nettet.
- jk
- Det går mye fortere enn å slå opp for hånd (i papirutgaver av ordbøker)
- De er raskere å søke i en papir-utgaven.
- Det er veldig mye enklere å benytte en digital ordbok. Ordbøker i papirutgave er for tidkrevende.
- Fordi det er de som er lettest å få tilgang til, i og med vi ikke brukte mye pc i engelskundervisningen.
- Det er mange nok av disse på biblioteket til at det er uproblematisk å låne, i motsetning til antall dataer (og man har dem som oftest hjemme og kan ta med til skolen om nødvendig). Det er lettere å finne det man leter etter i dem enordbøker på nettet.
  Det er mindre jobb å slå opp i papirutgaver av ordbøker.
- Fordi det er enklere å slå opp i digitale ordbøker i stedenfor å drive å bla i masse papir som tar dobbelt så lang tid.
- Enklest
- For jeg syns det er enklere, og jeg vet jeg kan stole på den.
- Jeg bruker nesten aldri ordbøker (hverken på skoen eller hjemme), men vis jeg skulle trenge noe liker jeg mye bedre en annen som e rpå nettet. Det er mye lettere og finne ting på netteet PÅ sider man kan stole på. og Internett ordbøkene oppdaterer seg hele tiden (gramatikk og ord og alt det der endrer seg jo hele tiden,) og det kommer da ikke i skriftlige bøker.
- Har nok kompetanse i engelskfaget, slik at ordbok ikke blir relevant.
- Det er enklere å slå opp.
- Det er lettere å finne fram
- Det er oversiktlig og lett å finne fram, pluss at du finner akkurat ordet du leter etter, og kan være sikker på at du formulerer deg riktig. Digitale ordbøker oversetter veldig ofte feil, eller krydrer teksten med feil ord/blander to språk.
- fordi det går raskere.
- liker det best, tar kortere tid
- Digitale, siden det går mye fortere enn vanlige. Ikke det at det er noe problem å slå opp i ordbøker heller.
- jeg har ikke ordbok og ordbøker på internett suger
- Det er enkelt og raskt å slå opp i de digitale ordbøkene. Man kan få flere ord som betyr det samme/synonymer, til søkeordet ditt. Raskere enn en papirutgave. Trenger ikke avbryte skrivingen med å bla opp i en ordbok i papirutgave dersom jeg skriver på datamaskin.
- Jeg finner som regel hva jeg trenger i papirutgavene. Ellers så kan jeg ordet fra før. Så vet jeg ikke hvordan man bruker de digitale ordbøkene.
- digitale ordbøker eller ordbøker generelt bruker jeg kun når jeg er usikker på hvordan et ord staves, og da er det lettere å slå det ordet opp med en digital ordbok enn det er å bla seg igjennom en papirutgave
- Fordi man kan stole på at ordet er stavet riktig, og man får den riktige oversettelen av ordet.
- trenger det svært sjelden
- Fordi jeg syns de er lettest.

- Digitale ordbøker sparer tid!
- Lettere å slå opp, og har som oftest ordene jeg leter etter
- Det går mye fortere.
- Det går mye fortere å skrive inn ordet og få det opp, enn å "lese" seg frem til det i en tradisjonell ordbok.
- Fordi jeg har aldri prøvd eller lært digital ordbok, så jeg vet derfor ikke hva det er.
- det går mye kjappere å bvare skrive inn i en digital ordbok og få ord med engang
- jeg bruker egentlig sjelden ordbok, bruker det kanskje på 1 av 10 prøver, men når jeg bruker det, er det greiest å slå opp for hånd. vet ikek hva en digital ordbok er egentlig, er det en ordbok som snakker, eller en ordbok der du skriver inn ordet du lurer på, og den svarer ?
- Fordi ordbøker i papirutgave for det meste er mer utfyllende med lyfskrift eksempelsetninger og flere alternativer etc.
- går MYE fortere og inneholder like mye. du får opgitt setninger med ordet, også ordtak kan være lagt inn på noen optateringer.
- Sparer mye tid.
- Rett og slett fordi det er mye raskere å søke. Og når jeg går på IB trenger man å slå opp vanskelige ord som ikke alltid står i papir ordbøker, men i clue står det.
- Visste ikke at det fantes digitale ordbøker. Alltid søkt på ordet i google ved å skrive det så likt som mulig, hvis jeg har hatt tilgang til pc. Derfor foretrekker jeg ordbøker i papirformat, og ville blitt mer forstyrret om jeg hadde mulighet til å surfe på nettet.
- Fordi det er letere og kortet og slå opp digitalt.
- har ikke tilgang til digital ordbok, og det er et ork å bla opp i ordboka. så bruker heller ingenting.
- Det er lett å orientere seg til digitalt verktøy, det tar mye lengre tid å slå opp i ordbok som papirutgave.
- som sagt er jeg irsk, jeg kan engelsk flytende
- de er enklere og finne svar og løsninger i
- Jeg liker best digitale ordbøker fordi jeg er sterkt svaksynt og derfor klarer jeg ikke å bruke ordbøker som er i papirform.

31. Matrisespørsmål

I hvilken grad hjelper **ordbøker generelt** deg med å lære ord og uttrykk bedre? Kryss av for den verdien som stemmer for deg.

	Helt enig	Delvis enig	Delvis uenig	Helt uenig	**Ikke besvart**
1. Jeg husker ord lettere når jeg har slått dem opp.	31,7%	56,1%	6,1%	3%	3%
2. Det er lettere å lære nye ord fra en digital ordbok enn fra en ordbok i papirutgave.	20,1%	36%	25%	14,6%	4,3%
3. Jeg forstår det meste av informasjonen i ordbøker.	46,3%	38,4%	10,4%	1,8%	3%
4. Jeg bruker nesten alltid ordbøker når jeg lurer på noe.	16,5%	47%	26,2%	4,3%	6,1%
5. Jeg forstår nok, så jeg trenger ikke ordbøker.	10,4%	22%	34,1%	29,9%	3,7%
6. Jeg forstår ikke nok, men jeg slår	3,7%	7,9%	26,2%	57,3%	4,9%

heller ikke opp når jeg lurer på noe.

32. Åpent spørsmål

Har du kommentarer til denne undersøkelsen? (*Er det noen spørsmål som f.eks. var uklare, vanskelig å velge alternativ eller hadde for få alternativ? Noe som ikke var relevant?*)

Har du andre ting du vil si om digitale ordbøker i engelsk?

- undersøkelsen hadde konkrete spørsmål og svar.
- Jeg syns at digitale ordbøker er et godt hjelpemiddel. For opplæringen sin skyld, syns jeg at det er bedre med engelsk ordbok, så man kan forstå ordet lettere, slik at det ikke blir satt i feil sammenheng.
- Jeg mener man burde få tilbud om gratis digitale ordbøker på skolen. Om man ha pc hjemme som man bruker til lekser skader det aldri å ha en digital ordbok på pcen.
  Jeg synes denne undersøkelsen hadde litt for lange spørsmål og noen av svar alternativene var litt invikklede. "delevis enig, men bare om jeg lurer på noe" osv. menmen, det er bare min mening.
- Kan vi få opplæring i det på skolen? Vi får lite hjelp i faget og til å oversette
- Lykke til med mastern
- Jeg syntes dette er helt relevant i det engelske fag.
- greit nok, men litt rare formuleringer. kanskje litt få alternativer på noen spørsmål
- Vi MÅ få bruke digitale ordbøker!
- Nei, grei undersøkelse.
- Jeg synes det er bra med en slik undersøkelse;)
  Tror mange kan få god bruk av digitale ordbøker om de bare vet mer om det!
  mindre bøker, mindre forurensning:) hehe
- Litt for mange alternativer noen steder
- Det er noe man skulle hat som et alternativ, eks mini pc
- Tilgang til digitale ordbøker er ikke alltid lett fordi de fleste og beste versjonene koster penger!
- Digitale ordbøker gjør det lettere å finne svaret.
- De burde være mer nøye! Den burde vise flere betydninger av det ordet jeg slår opp...
- Lærere i engelskfaget burde sette av nok tid og innhente nok kunnskap til å lære oss elever nok om ordbøkene vi har tilgang til.
- Undersøkelsen var lang.....
- Hva er grunnen til denne undersøkelsen? Vil det i framtiden bli tilatt å benytte seg av digitale ordbøker på prøver o.l.?
- jeg syntes at mange av spørsmålene, kom i retur, fikk følelsen av å svare på samme spørsmål flere ganger.
- Jeg syntes at det burde være flere alternativer i krysse av spørsmålene.
  Jeg mislikte, og syntes det var distraherende at noen av svarene slike som "nei/no" og "ja/yes", var i forskjellige språk.
- Digitale ordbøker er pro, men du må vite hvordan du bruker de! :D
- Alle burde ha tilgang til digitale ordbøker både på skolen og hjemme. Dette gjør at arbeidet går fortere, ihvertfall for min del.
- uj
- Jeg synes digitale ordbøker i engelsk er veldig praktiske og lettvindte å bruke.
- Vil fortsette å bruke Clue :) :)
- De fleste ordbøker på internett må betales for. Jeg har opplevd at de har blitt betalt for på skolen, men man har sjeldent fått muligheten til å jobbe med tekster på dataen på skolen pga manglende datakapasitet.
- ja for digitale ordbøker!
- good job, guys!
- Lærere burde få opplæring og/ eller tips om nettsteder til BRUKBARE ordbøker på nett, og dermed vise elevene hvor det finnes ordbøker de kan ta nytte av på nett. Slik kan man fort eliminere digitale ordbøker som inneholder feilskrevne ord eller ord som ikke har noe med

søke ordet å gjøre.

- Det virka som jeg fikk samme spørsmål flere ganger. Men ellers var undersøkelsen helt grei.
- vet fortsatt ikke hva en digital ordbok er
- Synes det var en bra undersøkelse og den var relevant. Vil si at alle i min IB klasse bruker clue. Og jeg håper at det er mulig å innføre digitale ordbøker så alle kan bruke dem, siden det hjelper deg mye. Og ikke bare i engelsk men i fransk eller tysk også.
  Takk for muligheten til å delta.
- Man burte fått bedere opplæring i dette på skolen.
- synes det burde bli brukt mer, tror det vil hjelpe mange.
- kunne spurt om man brukte ordbøker litt tidligere i undersøkelsen

Appendix 12 Categorization of data from question 30 (open-ended) in the questionnaire

Question 30: "Could you please give reasons for your answer above?"

I have sorted the respondents' answers into categories given below.

A) Total number of students adding a preference comment:

Students preferring digital dictionaries:	114	=	79 %
Students preferring print dictionaries:	30	=	21 %
In total	**144**	**=**	**100 %**

B)) Students who commented positively about *digital* dictionaries gave these reasons:

Reasons	**Number of answers**	**Percentage of preference**	**Percentage of total nb (144)**
1. Speed: Quicker to use (lessons, tests)	53	46 %	37 %
2. Convenience: Simpler to use	43	38 %	30 %
3. Quality: Sufficient or better, more synonyms	15	13 %	10 %
4. Availability: More accessible everywhere	2	2 %	1.4 %
5. Not interrupting the work	1	1 %	0.6 %
In total	**114**	**100 %**	**79 %** (continues in table below)

C) Students who commented positively about *print* dictionaries gave these reasons:

Reasons	**Number of answers**	**Percentage of preference**	**Percentage of total nb (144)**
1. Reliability: More reliable and better quality	13	43 %	9 %
2. Availability: More accessible/computers are too heavy	8	27 %	6 %
3. Convenience: Simpler to use/easier to get an overview	6	20 %	4 %
4. Not distracting (computers stop you from concentrating/easier to start surfing)	2	7 %	1.4 %
5. Speed: Quicker to use	1	3 %	0.6 %
In total	**30**	**100 %**	**100 % (21 %)** **Cf. table above.**