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Language Choice in Internet-based Project Work

Val av språk vid Internetstött projektarbete

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Sammanfattning Summary

This study aims to highlight the language choices pupils make in Internet-based project work during an English as a foreign language (EFL) class. Task-based projects on the Internet are becoming more common in contemporary schools and in the subject of EFL. However, not much research has been carried out which focuses on what language choices pupils make when doing Internet-based project work during EFL classes. Neither has there been much research done on the effects the language of instructions have on the amount of exposure to the second language (L2) pupils experience when searching and gathering information on the Internet.

This study has tracked four groups’ trajectories when searching and gathering information on the Internet. This study aims to find answers to two questions: (1) What are the patterns that emerge from the search and gathering trajectories? (2) What are the pedagogical consequences of these patterns?

This study is based partly on Conversation Analysis (CA), sociocultural theory and affordance theory. It examines pupils language choices and their exposure to English that arise from the translation and search term affordances found on Google’s search page.

The data consists of video recordings of four pairs of ninth graders when they search and gather information about Jack the Ripper on the Internet. From this data, trajectory charts have been created in order to track the amount of Swedish and English the pupils come in contact with. Certain patterns emerged from the trajectories and detailed transcriptions, using the conventions of CA, have been produced in order to empirically support the existence of these patterns.

The patterns that emerged showed that some pupils used more of the translation and search term affordances supplied by Google compared to others and that the groups used different methods of working. The pedagogical consequence of this meant decreased or increased exposure to English, and that the language used in the instruction sheet affected the amount of English the pupils were exposed to and used when searching and gathering information on the Internet.

Nyckelord Keywords:

Language choice, internet-based project work, translation affordance, search term affordance, instructions
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1. Introduction

In Swedish schools it is quite common that computers are used as a resource for pupils to gather information on different subjects. The Internet has become an easily accessed artefact and is regularly used in several school subjects. Task-based projects on the Internet are becoming more common in contemporary schools and in the subject of English as a foreign language (EFL). However, not much research has been carried out which focuses on what language choices pupils make when doing Internet-based project work during EFL classes. Neither has there been much research done on the effects instructions have on the amount of second language (L2) exposure pupils experience when searching and gathering information on the Internet.

In the learning of EFL the aim is that pupils should be exposed to and use as much of the new language as possible during class (Skolverket, 2011: 30). Pupils should also learn “different ways of searching for, selecting and evaluating texts and spoken language in English from the Internet and other media” (Skolverket, 2011: 33, my translation). This selecting and evaluation of texts relates to different linguistic, reading and writing competences which ought to be taught during EFL class. In the current study, groups of pupils studying English at a Swedish secondary school were given a project work to complete which comprised of gathering information about Jack the Ripper, from the Internet. I became interested in finding out what the pupils’ approaches were when they came in contact with English websites when doing Internet-based project work. It became apparent from the data that most groups used different approaches and certain patterns emerged when I tracked each group’s trajectory when searching and gathering information on the Internet. I also became interested in mapping their contact with written Swedish and English in order to see clearly the amount of Swedish and English that they made contact with during their search on the Internet and what language choices they made as well as what methods of working they used when saving information from the Internet. It became apparent that some pupils used more of the translation affordances supplied by Google compared to others, which meant decreasing their exposure to English, and that the language used in the instruction sheet affected the amount of English the pupils used.

This study aims to highlight the language choices pupils make in Internet-based project work during an EFL class and what methods of working the pupils use when collecting information from the Internet. This essay is based partly on Conversation Analysis (CA). This inductive
method allowed me to collect data without a specific aim in mind. However, by watching my collected data thoroughly, certain interesting features arose from this material. It was during this process that my research questions materialised about the pupils’ language choices. The research questions are:

- What are the patterns that emerge from the search and gathering trajectories?
- What are the pedagogical consequences of these patterns?

These questions became relevant since it was clear from the trajectories that not all groups shared the same system of working or how they approached the two languages at hand, i.e., English and Swedish. As a teacher in training in the subject of English as a foreign language, I felt intrigued by what the pupil’s language choices were when using the Internet. With this in mind I became interested in finding out what the pedagogical consequences of the pupils’ patterns might be and if these correlated with the aim for the subject of EFL as stated in the curriculum.
2. Theoretical Background

This study is based on Conversation Analysis (CA), which focuses on “the study of talk” (Hutchby & Wooffitt, 2008: 11). In CA the term ‘talk-in-interaction’ is used since the focus is on naturally occurring talk between two or more speakers. The central idea within CA is that naturally occurring “talk is a highly organized, socially ordered phenomenon” (Hutchby & Wooffitt, 2008: 11) and CA is a method used in several different research fields to analyse social interaction by looking at speech (Heritage, 2008: 300). CA has moved on from only concerning itself with speech to multimodal analysis of phenomena that include gestures of hand, body and face as well as gaze when analysing talk-in-interaction. It is not only talk that is action but many other aspects of interaction are relevant (Streeck, Goodwin, LeBar, 2011: 3). Harvey Sacks, a sociologist and founder of CA, developed CA as a way of analysing social life (Heritage, 2008: 300; Hutchby & Wooffitt, 2008: 2). In cooperation with his collaborators Emanuel Schegloff and Gail Jefferson, Harvey Sacks developed CA. However, the roots of CA originate partly from ethnomethodology, developed by Harold Garfinkel and Erving Goffman’s interaction order (Heritage 2008: 302).

CA has a rather different approach to data and theory in comparison with many other disciplines. Most research is based on data that has been collected with a specific theory in mind. Sacks, however, claimed that “when we start out with a piece of data, the question of what we are going to end up with, what kind of findings it will give, should not be a consideration. We sit down with a piece of data, make a bunch of observations, and see where they will go” (Sacks, 1984: 27). Sacks thought that a researcher should start her/his process by ‘unmotivated looking’ instead of looking for data that would support the researcher’s theory (Sacks, 1984: 21-27). The researcher should therefore start by recording naturally occurring talk-in-interaction and then after viewing the data several times an interesting phenomenon would emerge from that data. This phenomenon would then be transcribed in very close detail, in order to demonstrate that “this stretch of talk is an orderly, methodic accomplishment” (Hutchby & Wooffitt, 2008: 133) which demonstrates a social action. Sack’s intention with CA was to make sociology a science of social life (Sacks, 1963: 2) and in order to do this in an objective way, Sacks claimed that this could only be done if data precedes theory. This correlates quite clearly with the ethnomethodology of Garfinkel’s research. CA has sometimes been described as atheoretical because of this attitude towards
theory. However, since CA is based on two sociological theories, CA is in itself “a contribution to a theory of self-other relations” (Heritage, 2008: 301).

CA is based on the notion that participants in talk-in-interaction are always aiming at finding intersubjectivity, that is, mutual understanding of what is going on (Hutchby & Wooffitt, 2008: 4). Numa Markee and Gabriele Kasper (2004) point this out and highlight the fact that CA is not concerned with language itself but with the organization of talk and how this organization of talk helps mediate sociality:

Thus, participant orientations, relevancies and intersubjectivity are not treated as states of mind that somehow lurk behind the interaction, but as local and sequential accomplishments that must be grounded in empirically observable conversational conduct. [...] CA has no special interest in language outside of its deployment in interaction, nor specifying what it might be. Rather, it is specifically interested in demonstrating how conversation functions as the “primordial site of sociality” (495).

This is done through studying the organization of turn-taking in talk-in-interaction, that is, the ‘sequential order of talk’. Sacks has stated that there are three basic rules in conversation, which are: (1) participants take turns when talking, (2) only one speaker talks at a time, and (3) participants try to talk without there being pauses or much overlapping talk in between their turns (Sacks, 1974: 700). With these rules in mind and the notion that speakers are always trying to find intersubjectivity, the analyst is able to see how the participants make sense of what is uttered by viewing what happens in the sequential ‘next’ turn. This is called the ‘next turn proof procedure’ (Hutchby & Wooffitt, 2008: 13). So it is in a next turn of someone’s speech that it becomes clear how the participant has understood or not understood the ‘prior’ turn by a speaker. This means that an analyst can prove how participants of talk-in-interaction have understood or not understood each other from what they actually say, and therefore the analysis drawn from the transcript of talk-in-interaction does not constitute interpretations made by the researcher but interpretations and/or corrections made by the participants themselves (Hutchby & Wooffitt, 2008: 5-8). In CA the term used for these ‘corrections’ is ‘repair’ (Schegloff, Jefferson & Sacks, 1977: 361). It is in a ‘repair’ that a ‘trouble source’ is highlighted by the speaker her/himself or by the other, that is, the listener. A ‘trouble source’ may be what is commonly known as a ‘slip of the tongue’ or a factual mistake or error in the ongoing talk-in-interaction (Schegloff, Jefferson & Sacks, 1977: 363) and these sometimes need to be repaired in order for participants to achieve mutual understanding.

Within the sequential order of talk there is a “powerful normative framework” (Hutchby & Wooffitt, 2008: 46) where speakers perform different actions. An example of this normative
framework is that of adjacency pairs. Many utterances in speech come in pairs, “which are ordered, that is, there is a recognizable difference between first parts and second parts of the pair; and in which given first pair parts require particular second parts” (Hutchby & Wooffitt, 2008: 42). Some examples of adjacency pairs are “questions and answers; greetings and return-greetings; or invitations and acceptance/declinations” (Hutchby & Wooffitt, 2008: 42). In order to demonstrate that there is a normative framework to these adjacency pairs, we as speakers hold each other responsible if the second part of an adjacency pair is not given. This is called a ‘noticeable absence’. For example if an answer to a question is not given, the speaker might either repeat the question or think that the person not giving an answer is performing another form of social action, that is, being rude (Hutchby & Wooffitt, 2008:45-46). So as speakers we are continually performing actions through our ordinary everyday talk-in-interaction.

Another interesting phenomenon in the organization of talk is that of ‘acknowledgement tokens’. The notion that talk-in-interaction is orderly at all levels of speech is visible in the research made by Gail Jefferson (1985) on ‘acknowledgement tokens’. She found that in overlapping talk, even small sounds such as ‘yeah’ and ‘mm hm’ are used by speakers to perform different actions in talk-in-interaction. Jefferson found that the use of ‘yeah’ “can exhibit a preparedness to shift from recipiency to speakership” (Jefferson, 1984: 4), that is, when a recipient-so-far wants to move into speakership this person says ‘yeah’ and directly takes over speakership or does so in the ‘next’ turn. However, if the recipient of talk-in-interaction uses ‘mm hm’ in overlapping talk, the listener is indicating to the speaker to continue speaking. This means the listener is “proposing that the coparticipant is the current speaker and shall go on talking” (Jefferson, 1985: 10). Jefferson’s research clearly supports Sacks’s claim that ordinary speech is organized and structured at all levels of talk-in-interaction.

One of the key features of CA is the notion that participants of talk-in-interaction pay great attention to the context in which their interaction takes place. This means that:

Rather than seeing contexts as abstract social forces which impose themselves on participants, conversation analysts argue that we need to begin from the other direction, and see participants as knowledgeable social agents who actively display for one another (and hence, also, for observers and analysts) their orientation to the relevance of context. (Hutchby & Wooffitt, 2008:139).

This ‘relevance of context’ can be seen in what CA calls ‘institutional talk’ where there is a different sequential orderliness, for example, turn-taking, than in naturally occurring talk (Hutchby & Wooffitt, 2008: 140). Institutional talk takes place, for example, in settings such
as a court of law, interviews, on ceremonial occasions and in traditional teaching. It is therefore important to keep in mind that conversation in institutional settings is coloured by the context in which the talk-in-interaction takes place, according to CA. One of these institutional contexts is classroom talk (Markee & Kasper, 2004: 492). Since this essay takes place in the institutional context of a second language classroom it feels essential to explain how CA is different from conventional second language acquisition (SLA) research where it has been traditionally common to use cognitive theories when studying how a second language is learnt. In traditional SLA research not much attention is paid to the context and social interactional relevance of talk-in-interaction when learning a second language (Musk, 2011: 182). A combination of CA and SLA has been put into practice by some (Markee, 2008; Markee & Kasper, 2004, Markee & Mori, 2009). This combination has been named CA-for-SLA, and in compliance with CA, the basic notion is that data must precede theory. This is not typical of mainstream SLA research where theory precedes data. Conversation Analysts also pay attention to the socially situated aspect of talk-in-interaction and language learning. Markee (2008: 409) points out that language learning might then be tracked in the participants’ naturally occurring talk-in-interaction when studying a second language, in the classroom. In order to track language learning the researcher must concentrate on an object, for example a specific word, “because the participants themselves choose to focus on this word in their definition talk” (Markee, 2008: 406) and not because the researcher has set out to look for this specific word from the beginning.

Conversation Analysis together with sociocultural theory are two frameworks which have a “strong socio-interactionist perspective” according to Mondada and Pekarek Doehler (2004: 501). Sociocultural theory was developed by Lev Vygotskij and concerns aspects of learning. Vygotskij claimed that social interaction is fundamental in order for cognitive development to take place; we learn through social interaction with others first, before we are able to internalise this knowledge and make it our own (Vygotskij, 1978: 88). Both of these frameworks, CA and sociocultural theory, are built on the basic principle that social interaction, context, and practices are not mere backgrounds but play a fundamental role in human action and therefore constitute a strong socio-interactionist approach. In the view of these two frameworks Mondada and Pekarek Doehler (2004) state:

If everyday interaction is a fundamental locus of socialization and cognitive and linguistic development, then learning processes need to be observed within ordinary contexts of routine activities. This position motivates a focus in studying learning within empirical settings, concentrating on the organizational details of naturally occurring actions and interactions, rather than on investigating data that are elicited by researchers (503).
The combination of these two frameworks is one way of approaching, understanding and empirically documenting learning. Sociocultural theory is used in order to “understand cognition more explicitly” and cognition is “understood to be situated in social interaction” (Mondada & Pekarek Doehler, 2004: 504).

There has not been much research combining CA with work on computers. However, the few studies that exist illustrate the applicability of employing CA in this context. One such study being Nigel Musk’s (2011) where second language learning is tracked using CA in an Internet supported quiz and Asta Cekaite’s (2009) who uses CA’s approach to social interaction combined with sociocultural theory to study learning when studying spelling corrections on the computer. However, there has been more research combining sociocultural theory and work on computers. Some of this research has focused on Computer Assisted Language Learning (CALL) (Gánem-Gutiérrez, 2003; 2009). Sociocultural theory recognises artefacts as being tools, which we use in our everyday life and interact with physically as well as mentally in order to develop ideas and advance our intellect (Säljö, 2000: 29). So these tools are used to mediate human mental functioning. Objects and symbolic tools such as language are examples of these mediating artefacts (Mondada & Pekarek Doehler, 2004: 504). One of these artefacts that humans interact with daily is the computer. Researchers have therefore used sociocultural theory in order to view how interaction between students and the computer may appear in CALL. Gabriela Gánem-Gutiérrez (2009), for example, has studied how the use of repetition, the first language and reading aloud were frequent meditational mechanisms students used when working on the computer as well as when working in general.

Another perspective on computers in connection to the possibilities this artefact may entail is that of affordance theory. Affordance theory was developed by James J Gibson (1977) who stated that we perceive the world not only as comprising of the actions that we make, but also its affordances, that is, the possibilities of actions. This notion has been developed further by Donald Norman (1993: 106) who states:

Affordance also applies to technologies. Different technologies afford different operations. That is, they make some things easy to do, others difficult or impossible. It should come as no surprise that those things that the affordance make easy are apt to get done, those things that the affordance make difficult are not apt to get done.

A computer therefore presents different affordances, i.e. different possible actions, suggestions and invitations to the participant in front of a computer, especially when using the Internet. A relatively recent report by Rowlands, Nicholas, Williams, Huntington, Fieldhouse,
Gunter, Withey, Jamali, Tom, and Tenopir (2008) has shown that “although young people demonstrate an apparent ease and familiarity with computers, they rely heavily on search engines, view rather than read and do not possess the critical and analytical skills to assess the information that they find on the web” (290). One might wonder what affordances these search engines contain and how pupils react to those affordances. Do the search engines help pupils get things done because the affordances make it easier or do they make it more difficult? When putting this in the light of sociocultural theory, where computers are seen as a mediating tool which is used in learning situations, it becomes interesting to investigate whether what is intended by the teacher is helped or obstructed by the affordance of that technology.

One might wonder if the pupils, when using the Internet, practice the linguistic competences they are expected to learn when studying EFL. Different linguistic competences and other reading and writing skills should be continuously practiced when learning a second language (Hedge, 2000: 47). A way of learning these skills is by working with writing and reading processes in class. When writing texts in English the pupils practice a number of different activities such as “setting goals, generating ideas, organizing information, selecting appropriate language, [...] reading and reviewing [...] revising and editing” which are useful writing processes that should be taught in EFL class (Hedge, 2000: 302). When reading authentic English texts the pupils get to practice linguistic competences such as “spelling, pronunciation, vocabulary, word formation, grammatical structure, sentence structure and linguistic semantics” (Hedge, 2000: 47). Pupils should therefore practice these skills and activities in class in order to develop their comprehension of English. Tricia Hedge (2000:11) claims that it is essential that pupils be exposed to language that “is slightly above their competence” and exposed to meaningful materials that are “realistic in terms of simulating the authentic texts and speaking situations learners may eventually handle”. Hedge therefore suggests that whatever resources may be available which provide such materials should be used. The Internet is certainly one such resource. It is important to be exposed to as much of the L2 as possible and practice several linguistic skills and activities in EFL classes (Skolverket, 2011: 30). Is this the case when pupils are doing Internet-based project work?
3. Methodology and Data

I will now explain firstly how the data has been collected, secondly the ethical principles taken into account when collecting and presenting my data and thirdly present the methodology used when processing the data.

3.1 Collecting Data

The collected data consists of video recordings collected by a fellow university student and myself. The video recordings are of four pairs of ninth graders as they search and gather information on the Internet. The pairs consisted of three groups of girls and one group of boys. Three of the pairs belonged to the same class. The pairs were filmed during two different occasions, two pairs on each occasion. The task these pairs were set to complete was to search and gather information about Jack the Ripper from the Internet. The task had been designed by their teacher, as a part of a larger project on crime stories which the whole class was working with as part of their regular classroom activity. The class were given different crime stories to research and the four pairs that were recorded for this study were all focusing on Jack the Ripper. The whole class had, in a previous lesson, listened to an audio recording about Jack the Ripper in English. The teacher had given the class a few verbal instructions which informed the pupils that they were to present the collected information on a later occasion to the rest of their class, in English. These verbal instructions were not very clear since the pupils were not given a specific timeframe for when this presentation would take place. However, they were informed that they would get to work with their collected information in class in preparation for the upcoming presentation. How many lessons they would work with this preparation was unclear. The written instruction sheet the first two pairs were given was in Swedish and was constructed by their teacher (see figure I).

Fakta om Jack the Ripper - Jack Uppskäraren
- en seriemördares som skakade England i slutet av 1880-talet

Sök fakta om:
• Morden
• Polisförhören
• Tidningsartiklar
• Teorier om vem han var
• Något som ni själva finner intressant
There were no clear verbal or written instructions from the teacher concerning which webpages to visit or which language they should use when searching and gathering information from the Internet. However, all the verbal and written instructions the class received were in Swedish even though it was an EFL class. My fellow university student and I gave no instructions of our own to the pupils other than those concerning the recording process: where the cameras were so not to block them and ethical principles relating to this study.

After viewing the data of the first two pairs we, my fellow student and I, decided it would be interesting to see what would happen if the students were given instructions in English. We therefore returned and recorded two more pairs as they searched and gathered information using an instruction sheet in English, which had been translated by my fellow university student and myself from the original instruction sheet composed by their teacher (see figure II). During both occasions each group received one instruction sheet, which they had to share.

Figure II. Instruction sheet in English.

<table>
<thead>
<tr>
<th>Facts about Jack the Ripper</th>
</tr>
</thead>
<tbody>
<tr>
<td>-a serial killer who shook England at the end of the 1880's</td>
</tr>
</tbody>
</table>

Search facts about:
- The murders
- Police reports
- News articles
- Theories about who he was
- Something else you find interesting

All four pairs were recorded in a separate room and not in the school computer laboratory, since the laboratory's computers were out of order. This meant that the pupils were unable to immediately print out information they found and were therefore asked to save the gathered information in a Word document. The pupils shared one laptop during their work on the computer. Two cameras were used when recording the pupils. One camera was directed at the computer screen, placed behind the pupils. The other camera was placed to the left-hand side of the pair, filming the pupils, the keyboard and their interaction with each other and the instruction sheet. Our presence seemed to affect the pupils in some way, mostly in the beginning phase of each recording, when they sat down and initiated their search. However, once the pupils got on with the task at hand they seemed to forget that my fellow student and I were present. Nonetheless, the pupils were affected by our presence. For example, one pair whispered to each other, and one pupil interrupted their search and gathering of information.
in order to use us as a resource to find out which language should be used, English or Swedish. The interpretation of the answer he was given affected the rest of their search. One group was also interrupted by us and asked to finish their work since they had not finished, although their search had gone on for twice as long as the other groups.

3.2 Ethical principles

Ethical principals, established by the Swedish Research Council, have been followed during this study (Vetenskapsrådet, 2002). All pupils were given a letter of consent (view appendix I) to sign before initiating this study. The letter contained information concerning the purpose of this study and that participation was based on full anonymity and that research ethics would be strictly adhered to. The letter also informed them that the video and audiotapes would be archived securely, and only we ourselves and other researchers would view the recordings. Furthermore, the collected data would only be used for research purposes, such as scientific reports, conferences and presentations. No real names, the name of the school, or other revealing details would be used in presentations or publications of any research findings. The letter also specified that if the pupil agreed to take part in this study, they could still withdraw from the study at any time.

3.3 Methodology

This study uses Conversation analysis (CA) and the collected data has been transcribed and analysed in accordance with its conventions (Hutchby & Wooffitt, 2008). I started by viewing the data several times, simultaneously making a rough transcription of each group’s collected recording. Thereafter I made flowcharts tracking each group’s trajectory when searching and gathering information on the Internet. My research questions arose as I was making my flowcharts. I colour coded this chart in order to show clearly when English and Swedish were being used. The use of flowcharts does not belong to the methodology of CA, but I decided to make flowcharts in order to demonstrate a broader view of what happened during the whole search and gathering sequence of each group and not only in short detailed excerpts. I wanted to look at the whole picture first in order to single out important patterns in each group's trajectory. Next I closely studied the flowcharts and the trajectories in order to describe and analyse what happened during each group's search and gathering of information, finding significant features for each group. It then became clear to me that all groups had a specific method of working, a pattern, which affected how they worked and approached these two languages, Swedish and English. I then zoomed in on these significant features by using
transcription in accordance with Conversation Analysis. These features have therefore been examined in close detail, proving their existence. Since CA traditionally concerns talk and not interaction with the computer and instruction sheets, new symbols have been added to the excerpts in addition to the symbols used in conventional CA. In order to demonstrate clearly when the pupils use talk, this symbol is used ♦, when they interact with the computer, this symbol is used □ and this symbol ◊ is used to demonstrate when the pupils interact with the instruction sheet (cf. Musk, 2011).
4. Results

In order to present the collected data, I will firstly display the search and information-gathering trajectory charts which I have created for each of the four groups. Secondly, I will highlight one emerging pattern from each group's search and information-gathering trajectory by zooming in on particular events from the data. This will be done through transcriptions made in accordance with Conversation Analysis, together with subsequent descriptions and analysis.

4.1 Trajectory Charts

I have created charts in order to map the individual groups’ search and information-gathering trajectories along with their contact with written Swedish and English. I started by making seven columns, which represent seven categories of events that take place during these four groups’ searches. These categories of events are presented in figure 3.

Figure III. Categories of Events in the Search and Information-Gathering Trajectories.

<table>
<thead>
<tr>
<th>Google - Type in Search Word in English</th>
<th>Google - Type in Search Word in Swedish</th>
<th>Google’s Suggestion</th>
<th>English Website</th>
<th>Swedish Website</th>
<th>Translated Website Into Swedish</th>
<th>Save Word Document</th>
</tr>
</thead>
</table>

Under category (1) Google - Type in Search Word in English, one can read the English search word(s) the individual groups have typed in and used in Google’s search field. Under category (2) Google - Type in Search Word in Swedish, one can read the Swedish search word(s) the individual groups have typed in and used in Google’s search field during their search on the Internet. Category (3) Google’s Suggestion shows the suggestions Google makes on its own. These suggestions appear on the screen automatically. However, this category presents only those Google’s suggestions that the individual groups use and/or seem to consider interesting and not all of Google’s suggestions. Category (4) English Website and category (5) Swedish Website present the names of the websites the individual groups enter. Category (6) shows that an English website has been translated into Swedish and names that website. The last category (7) Save Word Document presents the name of the website used to save information, the headings used (if headings are made), and/or if the Word document is viewed during the search. The trajectory is read from top left to bottom right, as a normal text or table would be read. The information in the trajectory chart is also chronologically ordered.
In order to distinguish clearly between Swedish and English I decided to colour the entry boxes with information in Swedish black and the entry boxes with English white. There is also a use of grey boxes, which signify that both written Swedish and English are being viewed. When putting these four groups’ trajectory charts next to each other it is very easy to see how much Swedish or English they have gotten in contact with or used during their search on the Internet in relation to each other.

I will now present each group’s trajectory chart followed by a short explanation of what took place during their search on the Internet.

4.1.1 Maria & Johanna

Maria and Johanna received an instruction sheet in Swedish and their search on the Internet lasted for 16 minutes 10 seconds.

Table I. Maria & Johanna’s search and information-gathering trajectory chart.
What is interesting and significant for this group’s search is their little use of English. Their first encounter with an English website results in them translating it into Swedish using Google translate and once they have started using Google’s suggestions they decide to continue doing so, which is evident from the trajectory. They only enter a search word once more on their own, after using Google’s suggestion the first time, and this search word, Jack the Ripper Tidningsartiklar, is in Swedish. This group is therefore not exposed to much English at all during their search. Their method of working is also significant. Maria and Johanna search the Internet for information for 16"10’, which is not a very long time. The information that this group decides to save is all in Swedish and they save large amounts of text, which they have not read through thoroughly before saving. They seem to quickly glance or scroll through the text before deciding to save it. They add no headings on their own in their Word document; they only use the headings that were already on the website when they save it in Word.

4.1.2 Nadia & Ronja

Nadia and Ronja received an instruction sheet in Swedish and their search on the Internet lasted for 18 minutes 10 seconds.

Table II. Nadia & Ronja’s search and information-gathering trajectory chart.
Nadia and Ronja use a translating device immediately when they come in contact with written English. In this case they use Word’s translating device to begin with. However, once they figure out that it is possible to translate the whole webpage into Swedish using Google’s translating device they use it and continue doing so throughout their search. They even erase their previously translated text using Word’s translating device after they have collected the same information using Google’s translating device instead, which they then save in their Word document. This shows that they have a preference for Google’s translating device. The result of all of this is that Nadia and Ronja hardly come in contact with any English at all during their search, which is evident from the flowchart. They only enter one search word in English, *Jack the Ripper*, during their whole search but they do this twice. This group uses a method of gathering information that involves saving large amounts of text, all of it in Swedish, without reading it through thoroughly before they save it, and they add no headings of their own. Their Internet search lasts for 18”10’, which indicates that they collect their information rather quickly.

4.1.3 Elin & Deborah

Elin & Deborah received an instruction sheet in English and their search on the Internet lasted for 39 minutes.

**Table III. Elin & Deborah’s search and information-gathering trajectory chart (1).**
This group’s significant features are, for one, their apparent lack of preferred language when reading and gathering information on the Internet. By viewing the trajectory charts it becomes clear that there is an almost equal amount of written Swedish and English used during their search. Elin and Deborah type both English and Swedish search words in Google’s search field but they only use Google’s suggestion once and the websites they enter directly afterwards are not used for saving any information. However, they do copy a difficult word from Aftonbladet’s webpage and paste this into Google’s search field in order to start a new search using English search words. This group seem to have a different method of gathering information since they spend much more time reading the information they come in contact with. Elin and Deborah search the Internet for 39 minutes. They are very selective when it comes to saving information and only select certain sentences and passages that they believe to be relevant from different webpages before saving the chosen text in their Word document. This group save information in both Swedish and English, in accordance with the method mentioned above, and they make several new headings of their own when saving their information in a Word document.
4.1.4 Charlie & Max

Charlie and Max received an instruction sheet in English and their search on the Internet lasted for 18 minutes 45 seconds.

Table IV. Charlie & Max's search and information-gathering trajectory chart (1).
**Table IV. Charlie & Max’s search and information-gathering trajectory chart (2).**

Something very interesting happens when Charlie and Max search and gather information on the Internet. Charlie and Max save their first information in Swedish, in a Word document, they then continue by entering *Jack the Ripper Police Reports* into Google’s search field.

Max then stops and turns back to their Word document, views this, returns to the search page and then turns around to me, the researcher, and asks me if it should be in English or not. I try to answer as vaguely as I can, but Max interprets my answer as a confirmation that English should be used and apart from one more entry in Swedish, they continue to use only English search words in Google’s search field. However, the entry of the Swedish search word: *Jack the Ripper Nyhetsartiklar*, is used in order to retrieve the same article from *Aftonbladet* that they have entered earlier. This is evident from my rough transcription of their trajectory. Once this article has been found, it is disregarded because Max decides that this article is too recent. He is looking for articles from the era when Jack the Ripper was active. This is evident both from the trajectory chart where the next information that is saved is an article printed on 10th August 1888 and from their talk that is represented in the rough transcription where Max says 'but that is like from now'. Charlie and Max’s preference for English, once the question
concerning what language to use is asked to the researcher, is also evident in a later sequence. In this sequence, Charlie and Max decide to delete a previous passage in their Word document that they had saved in Swedish, once they find a similar passage in English on the Metropolitan Police Service’s webpage. No new information in Swedish is saved after Max has asked me if English should be used. Charlie and Max’s search lasts for 18’45’, which is not a very long time if one considers the amount of webpages they enter. They gather and save information in both Swedish and English but they enter no headings of their own apart for one, Jack the Ripper, followed by their names at the top of their document. Charlie and Max only use one of Google’s suggestions. This suggestion is used at the very beginning of their search and in all probability this is because the previous group, Elin and Deborah, had this as their last search entry and they had not logged out of the computer before Charlie and Max began their search. Most, but not all, of the information they save is saved without it being read through thoroughly first. For the most part, large amounts of text are chosen but on a few occasions this group chooses shorter passages to save in their Word document.

4.2 Transcriptions

I will now demonstrate how certain patterns have emerged from each group's search and information-gathering trajectory. I will do this by zooming in on an important transition point or event from each group, thereby showing the pattern's existence and significance. In some cases these patterns constitute important transitions that affect the rest of the individual group’s search and information gathering.

4.2.1 Maria & Johanna // Nadia & Ronja

Since Maria and Johanna together with Nadia and Ronja share so many similarities and therefore demonstrate the same pattern of using Google’s translating device, one excerpt from Maria and Johanna’s trajectory is used to demonstrate the pattern that both groups share.

Excerpt 1
Maria and Johanna
Synchronized 1 Maria & Johanna 03:53 - 04:32

This excerpt is of Maria and Johanna’s first encounter with an English webpage during their search and gathering trajectory.

1. Maria: (looks at the instructions)
2. Maria: mnja (.6) de ha vi lit- (.4) så här polisförhör (.4) typ mm(.6) we’ve got that (.4) like police interrogation (.4)sort of
3. Pause: (2.0)
4. Maria: inte wikipedia $hh$
   not wikipedia $hh$
5. (a Wikipedia link is listed at the top of the Google result page)
6. Pause: (1.5)
7. Maria + Johanna: (both look at the computer, J puts the cursor on Metropolitan Police Service – History – Jack the Ripper))
8. Maria: $dår$ there
9. Johanna: $dår$ kanske
   there maybe
10. Maria: $mnja$ mm
11. Pause: (2.3)
   (looks at the web page)
12. Maria: kan vi inte ta typ google “translate”
   can’t we use like google “translate”
13. Johanna: (scrolls up and down on the page, quickly))
14. Johanna: ö finns de här
   uh is that here
15. Johanna: (xxx)
16. Maria: $du$ kan gå tillb$aka$ d$å$ brukar alltid stå typ
   you can go back it usually always says like
   (1.4)
17. Pause: (looks at the previous page, Google results))
18. Maria: (points to the screen))
19. Maria: typ där översätt
   like there translate
20. Johanna: (puts the cursor on [översätt den här sidan] and clicks))
21. Johanna: (enters Metropolitan Police Service – History – Jack the Ripper now translated into Swedish))
22. Pause: (18.8)
23. Maria + Johanna: (Look at the screen for 16.3))
24. Maria: fast d$å$ hår känns ganska bra
   well this looks kind of good

Description of transcription

At the beginning of this sequence Maria and Johanna are searching for information concerning police interrogations. They both discover a page called “Metropolitan Police Service – History – Jack the Ripper” (line 7). They enter this page and after looking at it for only 1.7 seconds (line 12), Maria suggests that they use Google Translate (line 13), a translating device supplied by Google, to translate the entire webpage into Swedish. Johanna asks Maria if the button is located on the webpage they are at (line 15). Maria instructs Johanna to navigate to the previous webpage (line 17) in order to find the translating button. Once there, Maria points to the screen where she wants Johanna to click (line 20). Johanna does this and they re-enter the webpage (line 23), which has now been translated into
Swedish. They look at the webpage for 16.3 seconds this time (line 25) and then Maria states that she thinks this is a good webpage to use (line 26).

Analysis

From this excerpt it is clear that Maria has used Google Translate before. She is the one who brings up the idea of using Google Translate (line 13) and she instructs Johanna how to navigate (line 17) on the computer in order to find Google Translate on the previous webpage. It is also clear from this excerpt that Johanna has never used Google Translate before; Johanna scrolls up and down the webpage quickly (line 14), as if she is looking for something. Directly after, Johanna asks Maria (line 15) if the translation button is somewhere on the webpage where they are. She is obviously unaware of the fact that she has to return to the previous webpage in order to translate the text into Swedish.

It is interesting that Maria suggests using Google Translate after looking at the webpage for only 1.7 seconds (line 12). Once the webpage has been translated, Maria and Johanna read the page for 16.3 seconds (line 25) before Maria makes the comment that this page looks good (line 26). One might question whether Maria even had time to read much of the text in English before she suggested that they should translate the text into Swedish. It seems as if Maria based her decision to translate, only on the fact that the text was in English.

Using Google Translate, which develops into an instructional sequence, is suggested by Maria. Throughout the continuing search for information on the web, Maria and Johanna never once enter a webpage in English again. However they decide to use Google’s translating device three more times during this recording of just over 16 minutes (Table I). All the information that this couple save in a Word document is in Swedish (Table I) even though this search is done during an English class and the pupils have been told to present this information in English later on in the term.

4.2.2 Elin & Deborah

This group’s significant pattern, in comparison to that of the other groups, is their attention to what portions of text to save and their adding new headings of their own. In order to demonstrate this, I will zoom in on a sequence from Elin and Deborah's search and information-gathering trajectory and then compare this with a sequence from Maria and Johanna's trajectory. This will help emphasise how different Elin and Deborah's method of
working is in comparison to that of the other groups, especially Maria and Johanna's and Nadia and Ronja's.

**Excerpt 2**
Elin and Deborah
Synchronized 3 05:34 - 06:10

Elin and Deborah have just started a new search sequence. They are searching for information that they themselves find interesting, in accordance with their instruction sheet in English. They have decided to go back to Wikipedia's webpage, which they have visited before. When this sequence starts they are on Wikipedia’s webpage searching for information to save in their Word document.

1. Deborah: 
2. Deborah: men de va ju men dä ä ju typ eh:: dom misstänkta
3. Pause: but it was but it’s like eh:: the suspects
4. Elin: ah men dä står ju inte att vi ska:: ta dä men de kan väl va
5. Pause: interesting to know
6. Deborah: mmmm
7. Elin: but it doesn't say that we should take that but I suppose it could be
8. Pause: (2.1)
9. Elin: but it doesn't say that we should take that but I suppose it could be
10. Pause: (.5)
11. Deborah: mmmm
12. Elin: interesting to know
13. Deborah: mmmm
14. Elin: (points to the screen while she continues speaking))
15. Elin: (points to the screen while she continues speaking))
16. Deborah: mmmm
17. Elin: (points to the screen while she continues speaking))
18. Deborah: mmmm
19. Deborah: (points to the screen while she continues speaking))
In this excerpt one can observe that Elin and Deborah are very particular about what parts of the text to choose. At the beginning of this sequence Elin and Deborah are discussing what information to save, what contents (lines 1-5). Once they have decided on this, Elin comments that there is a lot of text on this subject (line 7). Elin starts to point at the screen (line 10) and describes to Deborah which small portion of the text they should choose (lines 12-13). Elin even clearly points out that they don’t need to copy all of the text (line 17). Deborah is making sounds that may be interpreted as agreeing to Elin's opinion that there is a lot of text represented on the webpage and to Elin's suggestion of what portion of the text to use since
she performs the acknowledgement token ‘mm’ (line 9,15). Deborah then starts selecting the parts, which Elin has instructed her to choose, as Elin continues to point at the screen (line 18). In order to make sure she has chosen the right amount of text, Deborah asks Elin (line 21) 'like that or' and Elin answers in agreement to this (line 23). Elin continues by clarifying that Deborah should continue in the same manner with the other portions of the text (line 25). Deborah then starts to copy (line 27) the portion of text they have decided on. Once Deborah has moved to their Word document Elin interrupts her by saying that she has 'to like write too' (line 31) meaning that Deborah has to enter a new heading before she pastes what they have copied. Deborah makes a commentary on what she is going to write, in response to Elin's request of adding a heading, by saying 'write like suspects sort of' (line 33) as she enters the heading Misstänkta i.e. Suspects. Elin performs the acknowledgement token ‘mm’ (line 36) indicating that she wants Deborah to continue. Elin and Deborah then continue this method of working, choosing small specific parts of the text, until they have saved and added four sections of text on the subject of proposed perpetrators (line 37).

**Excerpt 3**
Maria and Johanna  
Synchronized Maria & Johanna 1 04:48 - 05:42

Maria and Johanna have, in the previous sequence, entered an English webpage called Metropolitan Police Service. They have translated the whole webpage into Swedish using Google’s translating device. In this sequence they are about to save this information in their Word document.

1. Maria + Johanna
   
   ((views Metropolitan Police Service webpage))

2. Johanna:
   
   ahp ska vi ta hela de här då
   ahp should we take all this then

3. Johanna:
   
   ((starts selecting the text in order to copy it))

4. Pause: (7.0)

5. Maria:
   
   värst va långt de va
gosh it’s long

6. Pause: (1.6)

7. Johanna:
   
   (is still selecting text)
In this excerpt, one can observe that Maria and Johanna are not very exclusive about what parts of the text they choose to save. Early in the excerpt (line 2), Johanna asks if they should choose all of the information from the webpage. She doesn't wait for a confirmation from Maria; instead she starts selecting all of the text in order to copy it (line 3). This takes a little while (line 4) and Maria says 'gosh it's long' (line 5), perhaps indicating that maybe they shouldn't save that much. Johanna, however, continues selecting (line 7) but has soon after reached the end of the webpage and seems unsure as to how much of the text she should save.
include. She asks Maria what the text at the bottom of the webpage is (line 8) and Maria tells her that they should leave out the list of references (line 12) at the end. Johanna confirms this by saying 'to there maybe it's' (line 15) and stops selecting text where Maria has indicated. Johanna moves over to their Word document and starts the pasting process (line 25). This takes a little while (line 25-27). Maria’s first comment, once the copied text has appeared on the screen is 'oh' (line 29) which indicates that Maria is surprised at the amount of information they have copied. This is confirmed by using next turn proof procedure in her next statement where she says 'almost five' (line 31) laughing while she says it. It is evident that Maria has not been aware of the large amount of information they have copied. Johanna then says 'okey' (line 33) which Maria follows up, after a short pause (line 34), by saying 'yeah but this’ll be really good' (line 35). They do not decide to edit the information they have saved in their Word document but instead move on to next instruction on their instruction sheet. They add no headings of their own in their Word document.

**Analysis**

From these two excerpts (Excerpt 2-3) it is clear that these groups use different methods of working in comparison with each other. Elin and Deborah's method of working, that is, making headings of their own and choosing small specific portions of information, is how this pair continually work when searching and gathering information from the Internet, regardless of whether the information is in Swedish or English (Excerpt 2). Maria and Johanna's method of working is by saving large amounts of text, which they have not read through in detail when the information is in English, before they copy and save it in their Word document (Excerpt 3). When the information is translated into Swedish, Maria and Johanna, read the information more thoroughly but they select longer amounts of text than Elin and Deborah. Maria and Johanna do not enter any new heading of their own in their Word document and neither does Nadia and Ronja or Charlie and Max (Tables I, II & IV).

**4.2.3 Charlie & Max**

Charlie and Max’s most significant feature is that Max asks the researcher what language he should save the gathered information in. In order to try and understand why he asks this and whether it affects the rest of Charlie and Max’s search and information-gathering trajectory I will now zoom in on this sequence.

*Excerpt 4*

Charlie and Max
Charlie and Max have just finished a previous sequence, which involved them saving information in Swedish from a website called *Skolarbete.nu* in their Word document. This information is the first item saved during their search and information-gathering trajectory.

1. Pause: (24.2)
   1a. Max: (leaves their Word document where they have been saving information and returns to the webpage *Skolarbete.nu* where they were saving information from)
   1b. Max: ((returns to Google))
   1c. Max: ((looks at the instructions for 1.7))
   1d. Max: *(Jack the Ripper Morden)* (looks at the search page an erases murders from Google’s search field) *Police Reports* ((enters Police Reports in Google’s search field and presses enter))
   1e. Max: (leaves the search page and opens the Word document they have open in another tab, views the word document for 3.4; all of the saved information is in Swedish)
   1f. Max: (returns to the search page which is displaying the search results, all of them in English, and views it for 1.1))
2. Max: ska rå va på engelska should it be in English
3. Pause: (1.9) (Max turns his head towards the researcher)
4. Max: hallå excuse me
5. Pause: (1.9) (Max turns around completely towards the researcher and looks directly at her)
6. Max: du miss
7. Pause: (1.0)
8. Charlie: $hhhhh$
9. Pause: (1.6)
10. Researcher: de få du- de få ni bestämma själv ni ska ju presentera de that is your- that is your own decision you’re going to present this $\text{Lhsh}\$
11. Charlie: $\text{Lhsh}\$
12. Researcher: sen på engelska så ni får bestämma själv later in English so you can decide on your own
13. Researcher: hur ni- hur ni lång- du- ni hur ni brukar göra how you how long- you- you how you usually do it
14. Max: L aha men då j aha well then
15. Pause: (.8)
16. Max: a men då är rå lugnt yeah well then it’s alright
17. Max: (puts the curser on About.com The Case of Jack the Ripper and enters this webpage) (5.3)
At the beginning of this sequence Max returns to Google’s search page and then views the instruction sheet placed beside him (line1b-c.). The instructions sheet that this group use, is in English. Max then erases one of the search words which he has entered in Swedish, *Morden*, in the search field and enters a new one, *Police Reports*, in English instead (line 1d.). The consequence of this is that all the results shown on Google's search page are from English websites. Once the results are shown on the screen Max views these, then moves back to their Word document (line 1e.), and views this before returning to the webpage and viewing it again (line 1f.). He thereafter asks the researcher a question ‘should it be in English’ (line 2). There is no response (line 3); Max therefore tries to get the researcher’s attention by saying ‘excuse me’ (line 4) and ‘miss’ (line 6) and he even turns around completely towards the researcher and looks directly at her (line 5) since there is a noticeable absence of the second part of an adjacency pair. The researcher then responds (line 10) saying that they should decide that on their own but that they are going to present [the information] in English later, but the decision is up to them (lines 10, 12). She tries to encourage them to work the same way as they usually work (line 13). Max seems content with this answer and says ‘yeah well then it’s alright’ (line 16). He now turns back around to the computer and enters one of the English websites (line 17) that is shown among the results from their previously entered search word on Google’s search page. The sequence ends with Charlie and Max viewing this webpage.

**Analysis**

After this sequence, no more information in Swedish is saved by this group (Table. IV, V). Previously saved information in Swedish is even deleted and replaced with similar information in English (Table. IV, V). This seems to be as a result of Max asking the researcher ‘should it be in English’ (line 2); ‘it’ is referring to the information they are saving. From this excerpt it seems that the juxtaposition between all Swedish text (line 1e) and all English text (line 1f) is a potentially noticeable phenomenon which could explain why Max asks the researcher if the information they save should be in English. This visible contrast between the two languages, which appear in a sequence directly after one another, could explain why this question arises. Max is also persistent in his quest to find an answer to this question, since he does not drop the question and move on to another task, which is common when there is a noticeable absence of the second part of an adjacency pair. Instead, he addresses the researcher three times (lines 2, 4, 6) even though the researcher stays silent (line
3, 5, 7, 9) for a total time of 6.4 seconds. Not even the long silence prevents Max from demanding an answer. Max even enforces his question by turning around completely and looking directly at the researcher. The researcher therefore answers. The researcher answers by saying it’s ‘your own decision’ (line 10) and work as ‘you usually do’ (line 13). However, she also points out that they are supposed to present the collected information in English later (line 12). Max seems to interpret all that is said as a confirmation that English should be used and responds by saying ‘ yeah well then it’s alright’ (line 16) and immediately afterwards he enters an English website (line 17). They continue their search by entering only English search words in Google's search field apart from once, which I have explained the reasoning behind on page 22. Only information in English is saved after this sequence has taken place. It is therefore safe to say that this sequence of action affects the rest of Charlie and Max’s search and information-gathering trajectory.
5. Discussion and Conclusion

In order to review the emerging patterns that each group has shown through their search and information-gathering trajectories together with the transcriptions, I will now compare and contrast each of the group's patterns with each other. This will help demonstrate each group's patterns more clearly. I will then discuss what consequences these patterns have from a pedagogical point of view by focusing on three different aspects relating to language exposure, structure of the written text and language of the written instruction. Each aspect will be clearly explained and the pedagogical consequences of these patterns for both pupil and teacher will then be explicated.

5.1 Contrast and Comparison

5.1.1 Maria & Johanna and Nadia & Ronja

Maria and Johanna along with Nadia and Ronja have rather similar trajectory patterns. Both of these groups are frequent users of Google’s translating device during their search (Table I, II)(Excerpt 1). Both groups’ very first encounter with written English, results in them both using some sort of translating device. This is Maria and Johanna’s along with Nadia and Ronja’s most important transition, which affects the rest of their search and gathering of information on the Internet since they barely come in contact with any written English after these transitions have taken place. Neither of these two groups are exposed to much English at all during their information-gathering on the Internet and all of the information they save is in Swedish (Table I, II). They also share their method of working and saving material, which is to save large amounts of text in Swedish. One gets the impression that both these groups will have to re-read and re-work the material they have collected, in their Word documents, before moving forward.

5.1.2 Elin & Deborah

Maria and Johanna, Nadia and Ronja and Charlie and Max all spend a similar amount of time on their search, around 16-19 minutes. Elin and Deborah, however, search the Internet for 39 minutes, which is twice as long as the other pairs. They seem to have no language preference and they never once use any kind of translating device. Their method of searching and gathering information is also different compared to the others (Table III)(Excerpt 2.3). They read the written text very thoroughly before deciding what and how much they should save in
their Word document. Elin and Deborah also structure their document differently by entering several new headings of their own. One gets the impression that this group may proceed with their work without the need to re-work and restructure their document as much as the other groups before they can continue working with the information they have collected from the Internet. The other groups collect much information without reading it through thoroughly so that a similar working method seems unlikely for them. This group’s significant pattern in comparison to the other groups is their attention to what portions of text to save, their adding new headings of their own and their lack of a preferred language. They are exposed to English throughout their search and gathering of information on the Internet (Table III) and they use a method of working which seems to continue to expose them to English when working further with their collected material from the Internet.

5.1.3 Charlie & Max

Charlie and Max share some similarities with Maria and Johanna and Nadia and Ronja, especially their time spent searching and gathering information and part of their method of saving information. They copy large amounts of written text without reading it before saving it in their Word document. However, they also read and save particular passages as well, which is more similar to Elin and Deborah’s method of working. Nonetheless, the most significant pattern for this group is the fact that Max decides to ask the researcher what language he should use. It seems from the trajectory chart with its subsequent description and the transcription (Table IV, Excerpt 4) that this question has an influence on the rest of their search and what language they decide to save the rest of their gathered information in. After this sequence, all information saved is in English and before this sequence all information was saved in Swedish. Previously saved text in Swedish is even deleted in preference for English information concerning the same subject matter (Table IV). This group also continue to be exposed to English when working further with their material collected from the Internet.

5.2 Pedagogical consequences

These groups display different patterns in their trajectory charts. In order to demonstrate what the pedagogical consequences of these patterns are I will discuss the patterns of each group in relation to three different aspects. The first aspect concerns language exposure, the second relates to the structure of their written text, that is, their Word document, and the third concerns the written instructions given to each group.
5.2.1 Exposure to written English

The affordances supplied by Google are many. There is an endless number of possible actions. Google suggests or invites the participants to use their translating device or to choose their search word suggestions. As seen in the trajectory charts (Table I-IV) Google makes several search term suggestions, which are easy for the participant to use. What this means for the pupils is that they are more or less exposed to written English depending on what language affordances presented by Google they decide to use. In EFL the intention is that pupils should be exposed to as much of the L2 as possible (Skolverket, 2011: 30). When pupils are exposed to written English they are given the opportunity to view spelling, vocabulary, word formation, grammatical structures and the sentence structure of English (Hedge, 2000: 47); they are given linguistic tools, which will help them improve their language skills. The pupils in this study are therefore exposed to a different amount of English depending on which and how many linguistic affordances they decide to use on Google’s webpage.

The exposure to written English can be seen as a continuum, which ranges from a frequent use of Google’s translation and search term affordances, which results in them not being exposed to much written English, to the other end of the spectrum where there is no use of the translation and search term affordances provided by Google, which means that from the pupils’ point of view there seems to be no language preference between Swedish and English. Maria and Johanna together with Nadia and Ronja use a lot of the translation and search term affordances suggested by Google (Table I-II). Charlie and Max use only one of Google’s affordances once: the search term affordance and as explained earlier on page 22 this was in all probability because the previous group had not logged out of the computer before Charlie and Max began their search (Table IV). Elin & Deborah do not use any translation or search term affordances during their entire search and information-gathering on the Internet. (Table III). This continuum also correlates with the different amount of English these groups are exposed to. Maria and Johanna together with Nadia and Ronja are exposed to the least amount of written English and Elin and Deborah to the most written English. One also needs to take into account the time these groups spend searching on the Internet where Elin and Deborah spend twice the time compared to the other groups.

When pupils use the translation and search term affordances provided by Google they are taken away from the intention with learning English as a second language as stated in the
curriculum, which is to be exposed to English and improve their linguistic skills in English. One way for the teacher to approach this problem would be to use Google.com’s webpage and not the Swedish Google webpage. This facility is also provided by Google and with one quick click on a button, all of the translation affordances, which decrease the exposure to English, are gone. Now all search results are from websites in English and no translation affordances are directly offered for the website of their choice.

5.2.2 Structure of the written text (Word document)

There are certain writing skills the pupils get to practice when saving the gathered information in their Word document. They practice organising information, selecting and assessing information which relates the relevance of their chosen text with the questions they are supposed to find answers to. They also practice using appropriate language and vocabulary (Hedge, 2000: 303). When the pupils save information in Swedish they lose out on certain helpful elements that they could have found in an authentic English text. They may not know what vocabulary to use, for example, when they have no information in English.

This can also be seen as a continuum which ranges from no structure when selecting and sorting the information they have gathered on the Internet to being very structured, that is, selecting only certain paragraphs of information they have come into contact with, adding new headings and structuring the text in relevance to the questions on their instruction sheet. Maria and Johanna together with Nadia and Ronja are rather unstructured. They select large amounts of text, all in Swedish without reading it through thoroughly before choosing the text and they add no new headings of their own (Table I-II)(Excerpt 3). Elin & Deborah are the group that is most structured; they are selective, assess their chosen text, organise the text in relation to their instructions and add new headings of their own (Table III)(Excerpt 2). Charlie and Max are placed in the middle of this continuum since they display that they are sometimes selective about what parts of information to choose and at other time they save large amounts of text which they have not read through before selecting. However, they add no new headings of their own (Table IV).

The consequences of this are that all of the groups will have to reread and rework their Word document before continuing working with the gathered information. They will have to reread and reorganize their text in order to find information which correlates with the information they were set out to find. However Elin and Deborah have structured their text in a way that
allows them to continue working with the information they have found without doing as much reorganizing as the other groups. For the teacher it is very important that the pupils are aware of what is asked of them and what the purpose of the task is. If these pupils had been given clearer instructions concerning their language choice then maybe they would have understood that using more English during the search and information-gathering part of the task would have been helpful. When preparing for the next stage, which was to present the information to the rest of their class in English, they would then already have appropriate language and vocabulary in English in their Word document, ready to use. One might wonder how some of these pupils would have continued to work with their gathered information. Would, for example, Maria, Johanna, Nadia and Ronja have composed a new Word document reorganized and restructured but still all in Swedish, which was then translated by Google translate into English? One might question how much of the L2 they practice and are exposed to during this task. However, maybe this way of working, by saving everything in Swedish, was a method the pupils used in order to make sure that the text they later produced in English was reformulated by themselves; if they translated it themselves, that is, and did not use any of the translation affordances supplied by the computer. Nonetheless, the goal, as stated in the curriculum, with learning English as a foreign language was not met for some of these pupils, either from a reading or a writing point of view.

5.2.3 Written instructions

My data clearly demonstrate that the choice of language used in the instruction sheet is of great importance. The data also show that greater clarity from the teacher concerning language choice affects the amount of the L2 the pupils are exposed to. An instruction sheet in English supplies the students with linguistic affordances which help favour English; the sheet may be used as a tool when choosing search words and help clarify what is expected of the pupils.

The pedagogical consequences of this cannot be demonstrated as a continuum but more as belonging to opposite poles. When the pupils used a Swedish instruction sheet (Figure I), as with Maria, Johanna, Nadia and Ronja, they ended up using hardly any English at all (Table I-II). They were not helped by the instruction sheet when choosing search words; rather they were obstructed. It wasn’t even clear from the instructions which language the teacher wanted them to use. When the instructions were in English (Figure II), as with Elin, Deborah, Charlie and Max, the use of English increased (Table III-IV). One important linguistic affordance of
the instruction sheet being in English was that it supplied both of these pairs with possible search terms in English (Table III-IV). Charlie and Max’s pattern highlights the importance of clear instructions from the teacher concerning language, and, as demonstrated in my data, Max’s question had an impact on the amount of L2 they were then exposed to. I believe it was positive that Charlie and Max asked what language they should use since this resulted in them using more English (Table IV), which I believe is the whole point of EFL classes; to expose the pupils to as much of the L2 as possible. One might wonder why none of the other groups asked the same question.

As a teacher it is therefore essential to pay great attention into the construction of instructions. If a teacher wants to expose pupils to as much English as possible then the instructions need to be in English, as my data demonstrates. The instructions also need to state clearly what language the teacher want the pupils to use. This is not a very difficult or time-consuming task to ask of a teacher when one considers how much the instructions affect the amount of L2 these pupils are exposed to. I believe that more research should be done on the consequences instructions have on language choice in the school subject of English as a foreign language.

5.3 Conclusion

In the Swedish curriculum for the compulsory school, the preschool class and the after-school centre (Skolverket, 2011) it says that pupils should learn “different ways of searching for, selecting and evaluating texts and spoken language in English from the Internet and other media” (33). However small scale this qualitative study is, it does indicate that the goal to expose the pupils to as much English as possible during EFL class as stated in the curriculum (Skolverket, 2011: 30) is not always met when the pupils are asked to search and gather information from the Internet. My data has demonstrated that some pupils are hardly exposed to any English at all during this task. The curriculum also states that in order to receive a C in English after finishing year nine “The pupil can select texts and spoken language from different media as well as use the selected material in a relevant and efficient way in his/her own production and interaction” (37). My data questions whether this criterion is met when three of the four groups have such an unstructured material full of irrelevant text after gathering their information, which seems rather inefficient. The fact that the Internet provides the pupils with a number of linguistic affordances, such as translation and search term affordances, which may result in a decreased exposure to English, does not seem to have been
given much consideration by the teacher. The pedagogical implication of this is rather dire. When one views this from a sociocultural perspective where the computer is seen as a more knowledgeable other (MKO) that helps mediate new knowledge (Dysthe & Igland, 2003: 81), one might wonder whether that new knowledge correlates with the aims of learning English as a second language as stated in the curriculum. Do the pupils learn more English or do they learn how to avoid using English? As stated earlier, a recent report (Rowlands et. al, 2008) showed that “although young people demonstrate an apparent ease and familiarity with computers, they rely heavily on search engines, view rather than read and do not possess the critical and analytical skills to assess the information that they find on the web” (290). My data supports this claim and since the pupils rely so much on search engines, teachers should be much more aware of the affordances these search engines provide pupils with and how easily the results provided by my data can be prevented and reversed. By providing the pupils with clear instructions concerning methods of working and language choice, and by providing written instructions in English, pupils can receive linguistic help when searching and gathering information on the Internet. Thorough instructions can also encourage pupils so they practice reading and writing skills in a fruitful manner, which is an essential part of learning a language. If the teacher also makes sure the pupils use the Google.com’s webpage, many, if not all, of the linguistic affordances associated with translating text into Swedish disappear as well as Google’s suggestions of Swedish search terms. An active and foreseeing teacher can therefore dramatically influence the language choice made by pupils in Internet-based project work.
List of References


Rowlands, Ian; Nicholas, David; Williams, Peter; Huntington, Paul; Fieldhouse, Maggie; Gunter, Barrie; Withey, Richard; Jamali, Hamid R; Dobrowolski, Tom & Tenopir,


Letter of information and consent: Permission request regarding participation in the study

Dear student,

We are two teacher students, Linn Olsen and Sara Göthman, at Linköping University who are doing a research study for our final thesis paper. We are also doing this study together with researchers in the Department of Culture and Communication (IKK), at Linköping University. Our area of research is learning languages with the help of computers.

We are writing to you, because we are interested in doing a study of how computers and the Internet can be used as a teaching resource in the subject English. The study involves following your English classes for one or more lesson this term. The classes will be recorded (on video and audio tape) to make the analysis easier.

Participation is based on full anonymity and research ethics will be strictly adhered to. The video and audio tapes will be archived securely, and only we ourselves and other researchers will view the recordings. The data will only be used for research purposes, such as scientific reports, conferences and presentations. No real names, the name of the school, or other revealing details will be used in presentations or publications of any research findings.

If you agree to take part in this study, you may still withdraw from the study at any time.

Dr. Nigel Musk (Department of Culture and Communication), Linköping University, is supervising this research project.

We would be very grateful if you could take part in this study, and we look forward to working with you!

Sincerely
/Sara Göthman and Linn Olsen
Appendix 2

Transcription conventions

( . )
Pauses in speech of tenths of a second

( . )
Pause in speech of less than 0.2 seconds

[ yeah
mm ]
Opening square brackets between adjacent lines: overlapping talk or other activity (between different participants)

yeah mm ]
Closing square brackets between adjacent lines: closure of overlapping talk or other activity

lis- Dash: cut-off word

sh:::
Colon: prolonged previous sound

(swap)
Words in single brackets: uncertain words

(xx)
Crosses in single brackets: unclear fragment; each cross corresponds to one syllable

dâ ju så
that’s how
it is
Words in grey bold: translation of line above

((slaps desk))
Double brackets: comments on contextual or other features, e.g. non-verbal activities

AND
Capitals: noticeably louder than surrounding speech

really
Underlining: speaker emphasis

°crap°
Encompassing degree signs: noticeably quieter than surrounding speech

$hi$
Encompassing dollar signs: smiley or chuckling voice

Talking head: speech

Computer icon: involving the computer screen

Paper icon: involving the question & answer sheet