MÄLARDALEN UNIVERSITY
SWEDEN
School of Education, Culture
and Communication

In Google we trust

The information-seeking behaviour of Swedish upper secondary school students

Essay in English

School of Education, Culture and Communication

Mälardalen University

Jenny Zunko

Supervisor: Thorsten Schröter

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Abstract

This study uses focus groups and a questionnaire to examine the information-seeking behaviours of Swedish upper secondary school students. Focus group interviews were conducted among students aged 17-20 at four Swedish upper secondary schools in two different cities. The interviews focused on how the informants themselves experienced their information seeking. In addition, a survey focused on the opinions of upper secondary school teachers regarding the source use of their students. The research questions considered were: What kind of information-seeking behaviour characterizes Swedish upper secondary school students? What kind of information do Swedish upper secondary school students seek when it comes to issues where corporations can be of assistance? How do Swedish upper secondary school students prefer to have information presented? The results of the study provided some valuable insights concerning these questions. The students turned out to use the Internet, and most often Google, in much of their information seeking. However, human contact in the form of face-to-face conversations or presentations was also considered highly important. Furthermore, the information-seeking skills, or information literacy, of secondary school students are not emphasized in their education. The study was performed in cooperation with AstraZeneca in the hope of the results providing the company with valuable information regarding one of their intended target groups.

Keywords: *information-seeking behaviour, information literacy, upper secondary school students, target group analysis*

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1 Introduction

Communication – most of the time we go about our lives without even a single thought as to what it actually means to us. The fact of the matter is, however, that communication is a major part of all our lives. Perhaps it ought not to be considered a coincidence that our brains have evolved language centres that help us to produce and interpret complex acts of communication. However, the technical advances of our society have placed new forms of stress upon us, and individuals scramble to keep up with the constant flow of information, both as producers and receivers. Our world is in a state of constant change. What is new today is old news tomorrow and what took days or weeks to become common knowledge is now thrown at us in seconds. Consequently, an information deficit is not our main problem anymore; rather, it is the constant bombardment of data that has become a problem, not only to the seekers of information, but to the providers of it as well.

The needs and behaviour of information seekers are important concerns for anyone who is trying to send out information. Companies of all kinds are no exception to this, and it is crucial that they know the needs and behaviours of their target groups. This has perhaps always been a fact, but in our rapidly changing information society, where needs and behaviours can change with the click of a button, knowing how to reach out has gained even more importance. What if you are trying, but the channel or perhaps even the information itself is wrong? The analysis of your target groups becomes very important in such a context.

At the pharmaceutical company AstraZeneca in Södertälje, members of a group responsible for external communication have realized the importance of knowing your target groups' behaviours and expectations. After having been forced to shut down an important channel specifically made for one of their target groups, namely upper secondary school students, they have noticed that the relationship towards this group has suffered. In order for AstraZeneca to know how best to reach this target group and to regain the connection that has been lost, a study based on focus group interviews examining this group's information-seeking behaviour was carried out. Since pilot interviews showed that the students were to some extent dependent on the decisions of their teachers, this part of the study was complemented with a questionnaire conducted amongst teachers of upper secondary school students. By understanding the information-seeking behaviour of adolescents, AstraZeneca will have a greater chance of reaching them and being of assistance to them.

2 Previous research

2.1 The information society

There is no easy way to define the society one lives in. There are simply too many different variables to take into account. This has, however, not stopped us from trying. Even though labels like *communism* or *populism* are rather blunt, they are "a means to identify and begin to understand essential elements of the world in which we live and from which we have emerged" (Webster, 2002, p. 1). So what definitions may we use in order to try and understand what our current situation is? According to Webster (2002), many speak of "'information' as a distinguishing feature of the modern world" (p. 1), a suggestion with which it is easy to agree. In his book *Theories of the information society*, Webster (2002) gives the reader an idea of what role information plays in different areas of society. In the end, however, the idea of forcing our society into the narrow frames of one definition, namely that of "information society", is, as Webster puts it, "forcefully rejected" (p. 263). As with other labels, the term is not completely misleading, but it is simply too simplified in order to work as a holistic definition. Webster cannot, however, disregard the importance of information and the role it plays in all our lives (p. 263). With this importance, comes the need for understanding. A system may be considered to be only as good as its users' abilities to use it. Is it perhaps because of this, that the idea of information literacy has gained ground?

2.2 Information literacy

In *Information seeking in the online age*, Large, Tedd & Hartley (2001) attempt to help readers navigate in the information overload that exists in the online world. They say that information seeking is "a fundamental human function" (Large et al., 2001, p. 27), something that to some extent is actually vital to our survival (Marchionini as cited in Large et al., 2001, p. 27). They thereafter continue to discuss the technological advances that have "transformed access to information" and how, unfortunately, "our ability to process retrieved information has not evolved" (p. 28) with it. They do not go so far as to give this ability a label; however, it is not difficult to see that the idea has similarities with the *information literacy* that Shenton refers to and discusses in several of his own articles (2009a, 2009b, 2009c) as well as the ones he has written in cooperation with others (Fitzgibbons & Shenton, 2009). Information literacy

is defined by Shenton (2009a) as "the body of knowledge, skills, competencies and understanding required by an individual to find information effectively and use it appropriately to meet the need that prompted its acquisition" (p. 226). Within the discipline of library and information science, *information literacy* has long since been an established expression. According to Shenton (2009a), however, the concept ought to be applied within other disciplines as well (pp. 226f). Shenton specifically mentions education as an area in which researchers have been neglecting the issue.

Similarly, this idea of information literacy being a neglected matter can be seen clearly in the work of Mctavish (2009). In her study of a young Indo-Canadian boy, she noticed that his development of information literacy displayed large differences in the home vs. the school environment. One of her conclusions was that in order to improve information literacy in the academic area, the school system needs to take advantage of the advances made in information literacy among students at home (Mctavish, 2009, p. 24). This idea is, however, not a completely new one. As early as 1999, Dresang expressed an awareness of how information-seeking behaviour was in transition. She attributed the change to the idea that "the environment for youth has changed dramatically in the digital age" (Dresang, 1999, p. 1124), and emphasized the fact that modern science had not changed with it. She, much like Mctavish after her, saw a need for a shift in research focus, from the formal academic world to the informal private one. In essence, technological changes are thought to have had a significant impact on information seeking, but have not been adequately considered by either researchers or teachers.

2.3 Information seeking in the online age

In an article written in 2000, Biocca comments on the changes and trends in media use as follows:

> It will be easy to underestimate the collective impact the sum of these changes has on how young people communicate and absorb information. Since 1990, many popular commentators have consistently underestimated the impact of the Internet. It is important to begin thinking about how these technologies will facilitate, amplify, or alter the cognitive processes and/or the social behavior of the Internet generation. (p. 28)

Biocca is, however, not the only one discussing the importance of the changes taking place during the 1990's. According to Gunter, Rowlands and Nicholas (2009), this was when the Internet became widely used among the public (p. 20). Prior to this, mass communication had been mostly a one-way street. With the Internet came opportunities for mass media consumers to get involved in entirely new ways. Everyone with access was able to participate in a number of new ways. The ideas of Biocca (2000) on how the exposure to new technologies may change what he calls "the Internet generation" (p. 28), appear also in Gunter et al. (2009). They claim that there is a certain difference when it comes to the process of adopting new technology: young people are often considered more likely to take advantage of novelties than older ones (Gunter et al., 2009, p. 11). There is even an expression designating the more Internet-savvy generation: *the Google Generation.* The label is, according to Gunter et al (2009), "applied hypothetically to people who have enthusiastically adopted the new information and communication technologies, but it is regarded as being especially relevant to those individuals who have never known a world without the Internet" (p. 6-7).

In their text, Gunter et al. discuss the preferences that other scientists believe this specific group to have. For example, the idea that the "Google Generation want a variety of learning experiences, and are used to being entertained" (Kipnis & Childs, 2005, and Hay, 2000, as cited in Gunter et al., 2009, p. 137) is questioned. They say that this might be true when informants are not asked to find any specific information (Gunter et al., p. 137). In trying to prove their point, they refer to studies that show how members of this imagined group tend to refrain from using "multimedia resources" when looking for specific information regarding, for example, school assignments (Gunter et al., p. 137). Also, another of Kipnis & Childs' ideas, namely that the "Google Generation show a preference for visual information over text" (Kipnis & Childs, 2005, as cited in Gunter et al., 2009, p. 134), is questioned. According to Gunter et al. (2009), this group may harbour positive feelings towards visual formats; however, they end by saying that "text still rules" (p. 135). Furthermore, they argue against the claim that the "Google Generation prefer quick information in the form of easily digested short chunks rather than full text" (p. 142). They say that the behaviour described is not exclusively displayed in said group of people, but rather that "[a]ll online users increasingly exhibit this characteristic" (Gunter et al., 2009, p. 143).

In the end, the discussion by Gunter et al. (2009) about the reality of a "Google Generation" does not lead to unqualified endorsement. Even though they accept some of the ideas that suggest the existence of such a group, the authors do not believe completely in such a general definition (Gunter et al., 2009, p. 145). They do, however, support the idea that the Internet and its tools "have enhanced the ways people can search for information" (p. 145). They also acknowledge that apart from "text literacy", advances within information and communication technologies in the late twentieth century also required "a further layer of competencies . . . to cope with streams of information presented simultaneously or in quick succession through varying modalities and in diverse formats" (Gunter et al., 2009, pp. 71f).

2.3 Young information seekers

2.3.1 Studies performed in English-speaking countries

Young information seekers today are placed under tremendous pressure. The importance of information-seeking skills is great, but very little is done in order to help children and adolescents acquire such skills (Shenton, 2004, p. 243). It is perhaps not strange, therefore, that some researchers question the information-seeking abilities of young people (Branch as cited in Bernier, 2007, p. xv). Furthermore, Watson (2004) maintains that young information seekers will need to learn certain skills in order to take full advantage of the system (p. 173). There have been others, however, who suggest that it may be wrong to put blame on the seekers themselves. Bernier (2007), for example, is not so quick to judge, and proposes that they ought to be viewed "as consumers requiring better design from engineers and information managers" (p. xvii).

A way to address this idea, i.e. of trying to meet young people's needs, can be seen in the virtual library of the American high school studied in Valenza's (2007) article. The author defines the term *virtual library* as "a customized, structured online learning environment/community, developed by a teacher-librarian to improve and extend the services and mission of the library program to the learning community" (Valenza, 2007, p. 210). In order to gain knowledge about how the students perceived and used the school's virtual library, Valenza performed a focus group study. Part of the title of her study, which is a quotation from one of her informants, sums up the results of the study quite well: "It'd be really dumb not to use it". The students were pleased with how the system helped them achieve what they wanted with their studies. In addition, they felt that they had an advantage

over students at other schools. They were provided with an opportunity to learn about source materials and the correct way of using them, something that they all attributed to the virtual library (Valenza, 2007, p. 238).

The students at Valenza's high school spoke at length of the advantages of using databases and virtual library resources rather than a search engine such as Google (Valenza, 2007, pp. 231ff). They "sensed that the sources found using databases would be preferred by their teachers" (p. 234) and even laughed at the idea of others using Google as an academic tool (p. 233). The students of Manchester Metropolitan University taking part in Griffiths & Brophy's (2005) studies, however, expressed a completely different point of view. In their first study, 45% named Google as their "first port of call when locating information" (Griffiths & Brophy, 2005, p. 545). Their second study also gave search engines, and Google in particular, great significance (p. 545). The authors say, however, that their "research indicates that students are confused as to the meaning of quality when it comes to assessing academic resources" (p. 551) and quote the view that "students will give the same academic weight to discussion list comments as peer-reviewed journal articles" (Cmor & Lippold as cited in Griffiths & Brophy, 2005, pp. 551f). In addition, the students were also found to "trade quality of results for effort and time spent searching" (p. 550). This statement goes well together with the idea that "it would seem that students are poor evaluators of the quality of academic online resources" (pp. 251f). If students lack an understanding of how certain sources are better than others, they will not spend extra time or effort trying to find alternate sources if one has already been located. This idea is also mentioned by Gunter et al., as they claim that "according to Levin and Arafeh (2002) most students stop searching once they reach a point that is judged to be good enough to get by rather than putting themselves out to find the very best sources for their assignments" (Gunter et al., 2009, p. 143). In Case (2007), this disposition is even given a name "the Principle of Least Effort", attributed to the philologist Zipf (p. 151).

2.3.2 Studies performed in Sweden

In her dissertation, Limberg (1998) mentions the concept of *information literacy* and points to how the importance of it has been "especially noticed by librarians and scientists connected to educational libraries" (p. 61, my translation). Her own study is primarily focused on the connection between information seeking and learning and not on information literacy in itself.

She does, however, say that these kinds of abilities were considered important in the context where her study was conducted (p. 60).

In another Swedish study, performed by Wilhelmsson in 2001, we can see yet again the recognition of information-seeking skills. The study centred on how employees within a municipality who were particularly interested in the development of IT worked with information searches by children and adolescents (p. 4). The study was performed in Borås, which had a local policy in place regarding the library and information-seeking skills of children of the ages 6-12 (p. 1). Her study consisted of interviews with a variety of people such as librarians, teachers and politicians, and its aim was to see how well the policy documents matched what was being done in practice. She found their efforts within the area to be very important, but stressed that the existing policy was not quite adequate for the situation, and that there was much room for improvement. In particular, she discovered that national documents on information-seeking skills in connection with new technology were far ahead of the local document and the practical efforts undertaken in the municipality studied (Wilhelmsson, 2001, p. 53).

A few years later, Bulic (2006) also points to inconsistencies between what is said in policy documents and what is being done in reality. In addition to having two students participate in her study, she also interviewed a teacher and a school librarian. Her final conclusion was that, even though teachers and librarians provide students with some support, it would be beneficial to all parties if closer cooperation was possible so as to match the need for information competence (Bulic, 2006, p. 47).

However, not all upper secondary school students have access to a school library. This issue lies at the core of Andersson & Persson's (2006) master thesis. These authors, too, insist on it being "important that the pupils themselves learn to critically examine information and judge whether the information is useful in their assignment" (Andersson & Persson, 2006, p. 6, my translation). The study included interviews with twelve students, focusing on their information-seeking habits and how they experienced their information searches in general. The results were to some extent surprising to the authors. Their initial idea, that the Internet would be of prime importance to the students, was found to be only partly true. The utilization of the Internet was extensive, most often through the use of Google; however, a public library was proven to be important to the students as well. Many students said they used the public

library quite a lot and did not think the Internet, on its own, provided them with sufficient information (Andersson & Persson, 2006, p. 68).

3 The needs of AstraZeneca

Astra Zeneca is one of the world's leading pharmaceutical companies, with around 61 000 employees in over 100 countries worldwide. Their headquarters is located in London, and in Sweden they currently operate at three different sites: Mölndal, Lund and Södertälje. Research is conducted at all of these sites, and in Södertälje there is also a production unit. 14.9 % of all employees of the company are currently located in Sweden. (AstraZeneca, 2011).

In 2001, a group responsible for external communication at AstraZeneca identified the need to find a way of reaching young people, especially students. The ultimate goal was to facilitate future recruitment and to meet the curiosity that existed among these young people. In essence, they wanted to both be able to share information they themselves considered important, and to avoid, or minimize the number of, questions that at that point were answered by telephone.

These needs were eventually met by the website Studentwebben.nu. The website was launched in 2002 and was specifically designed for Swedish upper secondary school students. At its peak, the website had around 12 000 visitors per month, and the people responsible for the website felt that it worked well as a link between the company and the students. It fulfilled its purpose.

About five years ago, around the years 2005-2006, a new set of global guidelines on how the company ought to present itself was initiated. According to these, the company ought to be more homogenous and present the same message worldwide. Because of this, Studentwebben.nu was closed down and anyone trying to enter it would end up at the company's Swedish homepage, astrazeneca.se. The problem is that young people are not a prioritized target group of the latter site, and the information that used to be offered to them has been neglected, taken away and more or less forgotten about. Over the following years, this unfortunately resulted in AstraZeneca losing contact with this group.

Today, AstraZeneca Sweden once again perceives a need to reach out to young people in a way similar to what Studentwebben.nu did. Several projects are under development. In

order for these efforts to be successful, those involved in the projects have realized the need for an assessment of the current situation.

4 Purpose and research questions

The study on which this essay is based was developed in association with representatives from AstraZeneca in Södertälje. In order for the company to plan their next course of action, they need more information. The aim of this study is, therefore, to provide some valuable insights in connection with the following research questions, and to provide AstraZeneca with suggestions as to where they ought to focus their resources.

1. What kind of information-seeking behaviour characterizes Swedish upper secondary school students?

2. What kind of information do Swedish upper secondary school students seek when it comes to issues where AstraZeneca can be of assistance?

3. How do Swedish upper secondary school students prefer to have information presented to them?

There have been previous studies on the information-seeking behaviour of adolescents; however, that fact does not render this study insignificant. With the study being based specifically on the needs of AstraZeneca, it will provide information that may have been overlooked in other studies.

5 Method and material

5.1 Interviews

Information-seeking behaviours are, as previously mentioned, constantly changing, as technological advances affect the way we gather and process information. Because of uncertainty concerning how young people seek information today, an approach with focus groups was chosen for this study rather than, say, one depending entirely on questionnaires. The risk with a survey largely based on predetermined answers to choose from would have been that important communication channels might have been overlooked. In the focus groups, clarifications were possible and the informants were able to contribute to a greater

degree. The questions asked were designed and used to encourage the informants to discuss among themselves. This was done in the hope of getting at information channels that were not considered during the initial construction of the questions. The qualitative approach implied by focus group interviews was chosen also in order to reach a deeper understanding of the current information needs of young people. The idea was to see, and assist the informants as they reflect upon, how they themselves regard their information-seeking behaviour.

I decided to use focus groups with 2-4 participants in each. This format was chosen in order to create a less intimidating environment for the informants and to elicit a discussion rather than a simple question-answer sequence, as would have been the case with one-on-one interviews. Around 20 upper secondary schools were contacted and in the end four agreed to participate in the interviews. One of the schools was reached via a contact from AstraZeneca, while the participation of all other schools was a result of email requests sent out by the author. In total, 31 informants in 10 groups were interviewed. The informants were between the ages of 17 and 20. They attended a variety of programs, with half of the groups attending programmes which had a vocational focus and the other half programmes which had an academic focus. See Appendix A for more specific information regarding the informants.

As can be seen from the interview guide used (see Appendix B), some of the questions focused on the informants' actions in connection with school work. Honest answers are important in any study, yet a risk with questions on study behaviour is the possible desire on the informants' part to give primarily the answers considered the "correct" ones in the eyes of their educators. However, as I had no previous connection or relationship with the participants in the study, least of all as a teacher who otherwise needs to assess their performance, I had a good chance of getting those honest answers. Besides, the participants in each group all knew each other, which meant a relatively comfortable environment for them.

All interviews were recorded and then transcribed in order to make sure that none of the information provided was missed. The interviews lasted between 15-35 minutes. The difference in time was due to the fact that informants varied in numbers and that different informants contributed to the discussions to varying degrees. The transcribed contributions were then analyzed and sorted under the same six headings as the interviews themselves were divided into. This was done in order to create a clear structure that would be helpful in presenting the results in the final report.

Prior to the actual interviews, all informants were asked to read and sign a participants' agreement. This agreement and the execution of the interviews were based on the recommendations in *Forskningsetiska principer inom humanistisk-samhällsvetenskaplig forskning* (Vetenskapsrådet, n.d.). All interviews were conducted in Swedish and the quotations presented in the subsequent sections are my own translations.

The results of these interviews cannot claim to represent the informants' actual behaviour. Since no attempt was made to follow the informants' searches for information in practice, the study can only be said to show how the informants *perceive* their reality.

5.2 Questionnaire

During a test run of the focus group interviews, the informants appeared to be dependent on their teachers for some part of their information seeking. The interviews were therefore complemented with a questionnaire on the attitudes of teachers in this respect (see Appendix C). Initially, the questionnaire was on paper and handed out to the teachers at the schools visited for the student interviews. However, this approach generated too little data and was consequently complemented with an online questionnaire. The questions in the questionnaire presented in Appendix C have been numbered afterwards, in order to simplify a presentation of the result.

Due to technical issues in the tool used for the online questionnaire (Google Documents), the electronic version looked slightly different from the paper one. The overall content and appearance of the two were, however, so similar that the respective outcomes could be combined in the presentation below.

The original plan was to send the questionnaire to all teachers, at all upper secondary schools in the areas where the interviews were conducted. However, in some cases, the questionnaire was instead sent to administrative personnel in the hope of it being forwarded. Since the informants were not asked to submit any information that could identify the school they worked at, it is difficult to know how far the questionnaire was actually spread.

The total number of participants in the paper and online questionnaire combined was 59.

6 Results and discussion

In order to avoid unnecessary repetition, the results of this study and my discussion of these will be presented together.

6.1 The interviews

The answers given by the informants in this study will be presented and analyzed below under six distinct headings. These headings represent the six themes that were used in organizing the question guide.

6.1.1 Information seeking in connection with school work

"Most often it's the Internet, that's the quickest."

On being asked where they gather information in order to complete different types of school assignments, most of the informants answered "the internet" with little hesitation. Out of all the informants, 26 used Google in their initial information seeking, two relied on the online version of *Nationalencyklopedin*, two always began by consulting teacher-supplied material, such as textbooks, while one said she always started her searches on Wikipedia.

All of the informants acknowledged to some extent that they knew of their teachers' negative attitudes toward using Wikipedia. One informant defended information originating from Wikipedia saying that even though it may prove to be faulty, it could be trusted as long as the information was confirmed by other sources.

The choice of sources for school work was by some seen as a problematic issue only as far as teachers were concerned. They used the sources the teachers preferred, not because they felt the sources were better, but simply to please their teachers. Several of the informants expressed the idea that using sources other than online ones, such as books, "looked better" in a reference list. They did not, however, express any opinion to the effect that this kind of source would actually *be* better.

Out of all the informants, 25 spoke of different ways in which their teachers placed restrictions on their use of sources. Most were often asked to use more than one source, and several mentioned that they were asked to be critical towards their sources and to motivate their choices. A number of informants also said their teachers either supplied them with sources they wanted them to use or asked them not to use certain sources, with Wikipedia being the most prominent example in this respect.

School and public libraries were discussed, but only one informant said she visited the public one when seeking information for school assignments. Only one of the schools visited had a school library, and the informants at that school did not think much of it. They relied more on the information their online searches could provide them with. The public library was mentioned as an alternative, but the informants did not see it as a valid option due to the extra time and effort it would cost them to go there.

In general, the results from this part of the interviews show that the informants place a great deal of faith in the Internet and the search engine Google. Their source awareness seems to be largely dependent on the opinions of their teachers, from whom they feel some pressure in most cases. Very few attached any importance to their own ability, or lack of it, to assess different sources; they simply tried to do what they thought their teachers wanted them to do. The informants most often did not find and assess source by themselves, but they looked rather at what it was their teachers wanted. Some reflected on the idea that Wikipedia on its own was not a very reliable source, since anybody can get access to it. However, most of them seemed to refrain from, or be wary of, using it simply because their teachers did not want them to. The way they spoke of what was required of them, however, gave me the impression that they did possess some insight into what they needed to do in order to, for example, assess or justify their choices. They did not, however, say anything suggesting that the teachers showed an interest in helping them to develop the abilities expected and to thus contribute to their general information literacy. Consequently, the importance that is given to information-seeking skills in the context of Limberg's (1998) study seems to be absent at institutions in my study. It is difficult to know, however, if this indifference is due to the lack of a good school library or perhaps an unawareness of the concept in general.

The discussions did not specifically treat the amount of time spent on the students' information seeking; however, I believe the issues discussed still provide a clue to their habits. When choosing not to visit the library, even though some expressed the opinion that it might be a good idea, they can be said to adhere to Zipf's principle of least effort (Case, 2007, p. 151). They make choices that minimize their search time yet allow them to collect an amount of information that is acceptable.

Even though the informants in this study don't seem to mind, the lack of access to a well-equipped school library might be seen as a great disadvantage, in particular if we compare the actions of my informants to those in the studies by Valenza (2007) and

Andersson & Persson (2006). It would seem that there is a great difference in source awareness, a difference that might ultimately have a negative effect on the knowledge base of the students. In addition, given recommendations from the research literature (e.g., Bulic, 2006, p. 47) that librarian/teacher interaction should be increased, it is unfortunate to acknowledge that in the case of my informants there seems to be no such interaction to begin with.

6.1.2 Information seeking in connection with career choices during the school years

"It's probably more internal recruiting and contacts."

Among the informants, 16 were enrolled in a vocational school, where some of their school hours were spent on work experience. Those who were not did, however, express their disappointment over not being given this kind of opportunity. As for information seeking connected to these issues, every informant claimed their approach was mainly in the form of trying to make personal contacts themselves. They either phoned or visited the workplace they were interested in and did not use any intermediate sources of information. Three students said that they used previously established contacts.

For the most part, the informants either had a job for the summer lined up or had applied for several positions, although there were a couple who had neither. Those who were already set for the summer had gotten their positions through contacts, and most could not remember having done any other information seeking on this matter. The website of Arbetsförmedlingen[1] had been visited by two of the informants; however, with irrelevant material and obsolete information they felt that it was of little use to them. Google was again mentioned as being the preferred search engine by two of the informants.

In addition, some students looked for job openings via the websites of specific workplaces. Many said that most of the websites from different companies had specific parts of their website directed at them as applicants, and they felt that this was an easy and practical way to go.

On the whole, informants gave the impression that they thought establishing and making use of contacts was the most promising course of action when trying to gain employment.

[1] The Swedish public employment service.

Within this area of information seeking, the use of the Internet was lost out to informants relying on personal connections. This preference seemed to originate from ideas about how the labour market worked in general. The students' disappointment regarding unhelpful websites, because of outdated material, shows how important it is for a company to keep their information up-to-date.

6.1.3 Information seeking in connection with plans for the future

"I pretty much go on how I'm able to connect with people that I talk to."

"It's a lot about what you hear from others"

A large share of the informants, 22 out of 31, said they were planning on applying for some kind of higher education after graduation. It was perhaps not surprising to see that all of the students pursuing a more academically oriented course of study, groups 2-5 and 10 (see Appendix A), were of this opinion. It was, however, interesting to see that this interest in further education was also high among the informants attending vocational schools, 7 out of 16 informants. Most of those who showed an interest, however, were planning to wait a year or two before doing so, and some of them even felt that it was too soon to start thinking of the decisions that they would have to make eventually. Those who did look for information regarding higher education used a variety of channels. It included looking through catalogues that were sent to them from different universities, visiting the websites of specific universities or other websites with general information on education such as studera.nu. The most popular ways of gathering information were, however, those that involved some kind of human contact. The opinions of friends and family had a great impact on what the informants thought of different universities. In addition, it was important to many what feeling they got when speaking to the student representatives from said universities, and they felt that it was important to get a good connection to these students when trying to reach a decision. The information they looked for was mainly connected to the organization of the program they wanted to apply for, but also to life as a student. The guidance counsellors at the informants' schools were also mentioned as being very helpful in the matter and described as a great resource by many of the informants.

When asked about whether they thought about where they might want to work in the future, fewer than half of the informants answered yes, or 12 out of 31. Most of these 12 informants expressed in different ways how a personal connection, as in connection with

choices for further education, was important to them in these issues as well. They had spoken to people, or visited workplaces, that they found particularity interesting and wished to know more about.

Not all the informants who had dreams and hopes for their future career were actively trying to realize that dream. Some had simply gotten an idea from somewhere, imagined themselves in a certain position, but had not engaged in any information seeking concerning this.

The informants who did not have any specific dreams regarding their future careers expressed different ideas that might explain this circumstance. Some said that their professional future was so far ahead that they had trouble picturing themselves doing anything else at the moment than being focused on finishing school. Some were worried about how the job market would treat them and felt that as long as they got a job, any job, they would be satisfied. During the interviews, some of the participants gave the impression of trying to limit their expectations, perhaps in order to not be disappointed in how their future would turn out.

The results concerning education and career choices are especially interesting when it comes to the number of informants who said they preferred to be informed on these issues through direct contact. They enjoyed being able to speak directly to a real person instead of reading or watching information being presented to them through the means of technology. In other words, their relaxed attitude towards using, for example, the Internet, was not particularly prominent in connection with these issues. It would seem, that the idea of a "Google Generation" wanting several different learning experiences and having a supposed need to be entertained, as described by Kipnis & Childs (2005) and Hay (2000) (as cited in Gunter et al., 2009, p. 137), are not present in these informants when trying to gain insight into these issues.

6.1.4 Various ways of presenting information

"When you're looking for something specific, written text is probably the best."

"Well, then you get to know what that person thinks."

After having reported on their different ways of collecting desired information, the informants were asked how they would prefer to have this information presented. Regarding school assignments, most informants displayed a multitude of opinions. Depending on, for example, the assignment and what mood they were in, they said they might prefer different things. The

most common opinion was, however, that the information-seeking needs in connection with school assignments were best met with written information. The ability to search within a mass of text and finding what you needed and being able to go through texts repeatedly and mark things in the process were seen as major advantages. There were, however, exceptions to this opinion. A handful of informants felt that they would rather watch a film in these situations. They felt that getting through masses of text was sometimes challenging to the point of them giving up. This preference for a visual presentation was, in a way, also represented among the informants who claimed they preferred written information. About a third of these informants expressed some form of interest in watching, for example, a documentary or short informational clip instead of having to go through large amounts of texts. They said they find it more enjoyable, though they also felt it would be more difficult to process this kind of information. Orally and visually presented information was seen as easily accessible and a great way to learn about something in general; however, they did not find this kind of channel suitable for seeking specific information that they would be expected to present in any way.

Those informants who had work experience included in their curriculum said they preferred having a personal contact when trying to find information on the issue. This opinion was also popular amongst the informants in regard to summer jobs, further education and career choices. It was expressed in different ways, but the idea of establishing some kind of human connection was once again evident. Some examples mentioned were: meeting visitors from various workplaces, attending seminars, and watching video clips describing workplaces. Visual presentations, such as video clips, were described as being inspiring and were said to be suitable for information on both educational choices and choices connected to a future career. Many did, however, express a concern that important information might be missed and suggested that a combination of text and video would probably be the best. It also seemed important to the informants that they were able to identify with the people they met. They felt this was important in order to be able to imagine themselves in the positions held by these people.

As we can see, these results goes partly against the conclusions of Gunter et al. (2009), concerning the ways in which the Google generation prefers to have information presented (p. 135). This, since there actually were some informants who said they preferred to have information presented visually, even when looking for something to use for a school

assignment. In general, however, it must be said that many of the issues Gunter et al. discuss can be seen in the opinions expressed by my informants as well. Yes, many informants did prefer visual information; however, most of them separated this preference from the information seeking they needed to perform in connection with school assignments. Due to these diverse results, it might perhaps be justified to speak of differences depending more on personality traits or individual preference, rather than the preferences of an entire generation. This fact notwithstanding, some opinions were expressed by many of the informants, and we ought to take at least these into consideration when trying to reach these adolescents.

6.1.5 Use of social media and views on online advertising

"No, I don't think so, that's more for talking with friends."

During the interviews, the informants were questioned about their experience and use of five types of social media. Most popular among the informants were *Facebook, Youtube* and *blogs* in various forms. The number of users of each medium discussed is presented in Table 1. The total number of informants was, as previously mentioned, 31.

Table 1. The informants' use of five types of social media

	Twitter	Facebook	Youtube	Blogs	Forums
No of users	3	29	30	19	3

The number of informants that said they read blogs is quite high, representing more than half of the total, and eight of these also blogged themselves. Five of the six male informants mentioned that they found reading blogs and blogging in general to be especially popular among the opposite sex. If this reflects reality, it could explain the high result as being due to the number of female informants represented in the study (25 out of 31).

The initial inquiry on social media use was followed by a question concerning the use of social media in connection with the participants' thoughts on the future. The idea was to see whether any of the informants used social media in connection with their choices concerning their future education or professional career plans. When answering this question, the informants were mostly in agreement and, in fact, very few saw social media as a channel to be used in this respect.

Out of the three informants who were active on Twitter, one used it as a political tool. He wrote tweets himself and read those of others. Out of the remaining two users, one only read the tweets of celebrities and the other one tweeted as a joke more than anything.

Most of the informants felt that Facebook, in particular, was a channel primarily used for private interaction. Several of them expressed concerns regarding the use of that arena in connection with one's professional aspirations. Two raised the issue of employees being fired after expressing negative comments about their workplace on Facebook. Around a third of the informants explicitly said that, to them, a company with a presence on Facebook would not be seen as a serious one.

In the single case where Youtube had been used in connection with a company, it was as a source of gathering product information only.

Regarding the informants' use of blogs, the connection to future career decisions was yet again slight. The one informant who used Twitter as a political tool also used his blog and others' in a similar way. One informant read a blog that was written by students at a university she wanted to attend. Another one had once followed a blog where a young man wrote about his experiences while starting and running his own company. Yet another one said she sometimes read a blog that treated issues within the professional area on which part of her current education was focused. This was not, however, in preparation for own career, since she did not plan on working within the area in the future. Apart from these, the blogs mentioned were exclusively ones oriented towards such areas as fashion, film and music.

Two informants said that they had, when they were younger, used forums that had made them choose their current education. This usage had, however, subsided and it was something that they no longer did. The forums mentioned by others were exclusively of private interest and concerned, for example, computer games and travel.

In the process of discussing these questions, many informants expressed the opinion that it was difficult for them to imagine their future workplace. It was simply too far ahead in the future for them. I suspect that this might be a possible reason why so few used social media in this respect. This kind of information need and the possible channels to satisfy it had not yet crossed their minds.

In discussions of social media, the informants were also asked what they thought of online advertising on the various websites. The answers that emerged during these discussions were unanimous: online advertising was not appreciated by any of the informants. Most

expressed an outright aversion, while some said that they simply tuned them out. A few had experience of clicking on some ads by mistake, which merely resulted in annoyance. A couple of them said they sometimes clicked on ads regarding clothes or jewellery, but felt more comfortable with, and more often used recommendations from, for example, different blogs they read. Yet again, a preference for the advice of real people rather than abstract entities was clearly noticeable.

6.1.6 Written information material from AstraZeneca

"It's better to have them in a smaller format if you're supposed to take them with you."

During the final part of the interviews, the informants were given three examples of information materials produced by AstraZeneca. The idea was to see whether the formats were appealing to the informants.

Example 1 was a stack of information sheets describing professions that are represented at AstraZeneca (see Appendix D). Included here was information on, for example, what people in these roles do at the company, what education is needed etc. This first example was appreciated by many of the informants. The information seemed relevant and well presented to them. There were, however, only a couple of them that would consider picking one of the papers up and taking it with them. The paper was experienced as too big for something to take with you. Some suggested it looked more like a poster than a take-away information sheet, and one said that if she saw it, she would rather copy the website address and get the information online later instead.

Example 2 was a small folder, consisting of 28 pages, presenting AstraZeneca as a company (see Appendix E). This was the best-liked specimen of the three discussed. The many pictures and brief information were very much appreciated. This was something they would consider picking up and putting in their pockets, simply because it was such an easy thing to do, the idea being that they would probably get an opportunity to read it at a later time.

Example 3 was a folder of a different size, consisting of 20 pages, organized in a question/answer-format, on the issue of animal testing (see Appendix F). The third example was well liked among most informants both for its size and the organization of its content. The question/answer-format seemed to be popular, but a couple of the informants expressed their concern that it might be difficult to satisfy everyone in this way, as sometimes you might not find the exact answer you were looking for.

The idea of the hypothesized Google Generation preferring shorter amounts of text and visual input (Gunter et al., 2009, p. 142) seems to be confirmed by the informants with regard to the information materials produced by AstraZeneca. Size also played a big part in whether the content would be well received or not: most informants preferred the smaller formats when asked about the chances of the material being picked up and actually read.

6.2 The questionnaire

6.2.1 The participants

As previously stated, the number of participating teachers in the questionnaire (see Appendix C) was 59 (see section 5.2). Details on their gender, age and the students that they teach can be found below in Tables 2, 3 and 4.

Table 2. Gender distribution among survey participants

Gender	Female	Male	No answer	Total
No of informants	32	21	6	59

Table 3. Age distribution among survey participants

Age	25-35	36-45	46-55	56-65	No answer	Total
No of informants	12	17	13	13	4	59

Table 4. Distribution of teachers according to classes taught

Students taught	Year 1 only	Year 2 only	Year 3 only	Years 1 and 2	Years 1 and 3	Years 2 and 3	Years 1, 2 and 3	Total
No of informants	6	1	0	1	2	6	43	59

In the results of sections 6.2.2 and 6.2.3, no noteworthy difference was to be found between the participants in regard to the distributions presented in Tables 2, 3 and 4. Where opinions differed they did so within, for example, the different age groups and not between said groups.

6.2.2 The teachers' restrictions regarding their students' information seeking

Here follows a presentation of the survey participants' opinions regarding the information seeking of their students.

As we can see in Figure 1, a large part of the informants contributing to this survey places great importance on where their students get their information. Out of the total of 59, 53 informants answered *yes* or *sometimes* to Question 1: "Do you place any restrictions on your students' information seeking in connection with a school assignment?"

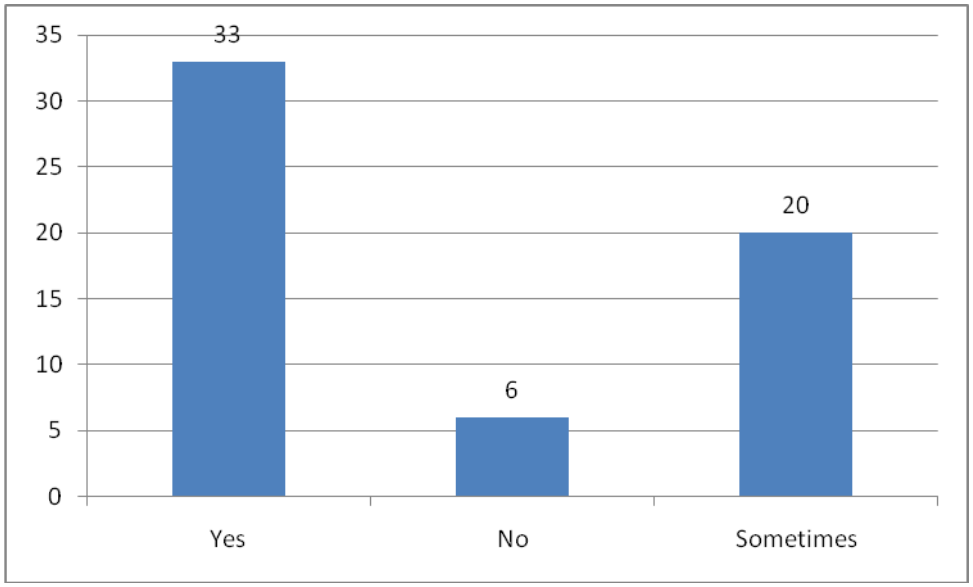

Figure 1. The extent to which teachers restrict their students' information seeking

This result fits well with issues discussed in the focus groups. Most of the students did feel some kind of pressure from their teachers when it came to choosing their sources for school assignments (see section 6.1.1).

Participants who answered *yes* or *sometimes* on Question 1 were asked to specify their restrictions and given the possibility to provide multiple answers. The results can be seen in Figure 2. One participant who answered *no* on Question 1 still wrote an answer in one of the alternatives for Question 1a; this answer was disregarded in the final results.

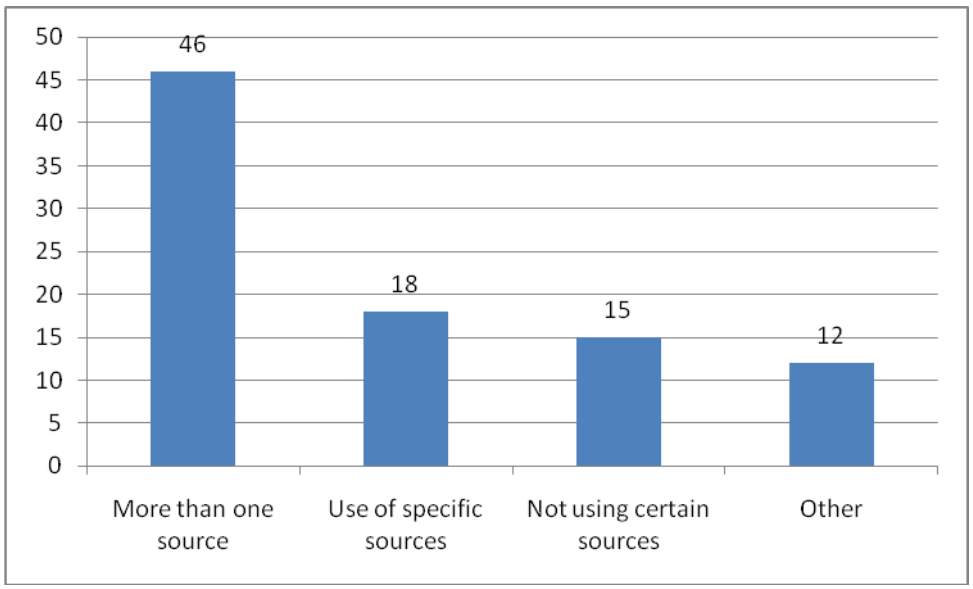

Figure 2. The kinds of restriction placed on students by their teachers

As can be seen from Figure 2, the alternative chosen most often was *More than one source*, while the other three alternatives fell well behind. Perhaps this can be interpreted as the teachers placing much of the responsibility on the students. Instead of having sources suggested or dismissed by their teachers beforehand, many students are expected to make good decisions on their own.

In connection with the last three alternatives for Question 1a, the informants were given the opportunity to explain their choice further. Here follows a summary of their answers.

When asked to exemplify sources they wanted their students to use, the result was diverse. *Nationalencyclopedin.se* was mentioned four times, while other websites such as the country database *landguiden.se* and the daily newspaper *dn.se* were only mentioned once each. Most answers were, however, not so specific. Instead, the informants wrote that the sources ought to be critically examined by the students. Only two teachers, however, said they instructed their students on how to choose among different sources.

Also when asked to state the sources they did not want their students to use, many informants chose to give variations of a rather general answer: sources that would not hold up to critical examination were not to be used. There were, however, also quite a few who named Wikipedia as an unwanted source.

In the choice of *other*, informants stressed the importance of source criticism and the need for their students to motivate their choices. A couple of the participants said here that

students were allowed to use Wikipedia in their initial searches. The website was, however, not considered to be an approved source in itself.

The fact that only two teachers said that they gave their students any assistance in identifying what sources were the best I find to be rather interesting. It would seem that information literacy is not seen as an issue prioritized among the participants, or at least not seen as something that the teachers themselves ought to be teaching their students. This attitude can be seen as mirroring the interview informants' perception of the situation and provides us with an interesting insight into teacher/student cooperation. The need for a new way of regarding information seeking, as mentioned by Mctavish (2009) and Dresang (1999), is thus unfortunately not seen here. Since the questionnaire did not include a specific question on whether or not the teachers helped their students in developing their information skills, it is, however, difficult to know whether the two teachers stressing the importance of assisting their students were truly the only ones feeling this way.

6.2.3 The teachers' opinions regarding a company as an acceptable source

Here follows a presentation and discussion of the teachers' opinions regarding companies as acceptable sources. The results pertain to the answers of questions 2 and 2a. The results are presented in Figure 3 and show that just under 45% of the informants thought company-generated information materials would be an acceptable source without exceptions. The *Answers disregarded* bar includes one informant who did not answer the question, and one informant who provided an ambiguous answer.

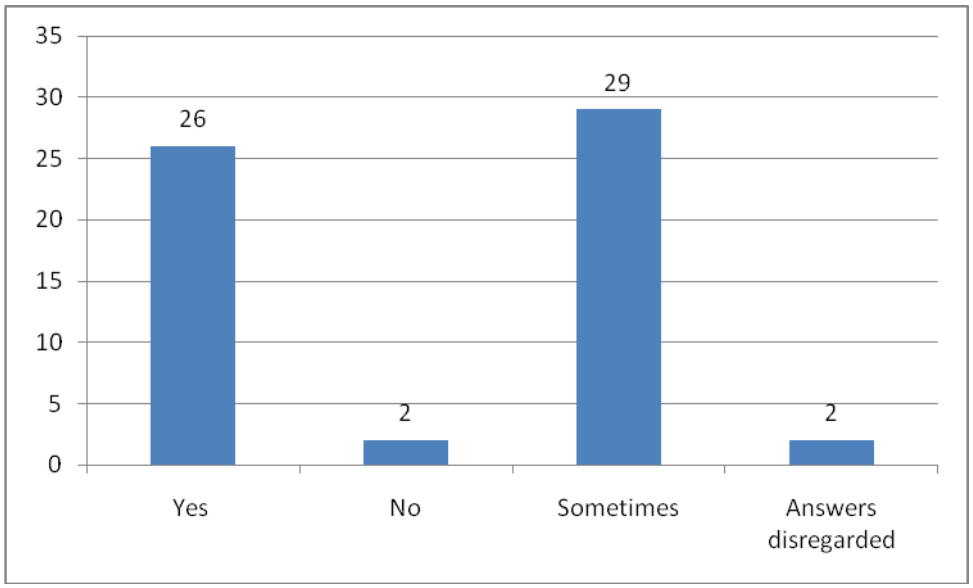

Figure 3. Teachers' acceptance of company-produced information material

The informants who answered *No* or *Sometimes* on the question were asked to suggest situations where such information would be approved. It turned out that, also when it comes to using companies as sources of information, the teachers placed much responsibility on their students. As long as they were aware of where the information came from and read it with critical eyes, everything was allowed. Some voiced the opinion that it was important to be extra critical towards this kind of information, since a company should always be seen as looking out for their own best interest. There were, however, exceptions to this general opinion. Some informants would never accept company information, while a couple regarded their own views of the company in question as a guideline. If they felt the company was a serious one, it was acceptable to use its information.

7 Conclusion

As the number of informants in the student interviews and of those who filled in the teacher questionnaire is relatively low, and since they were not entirely randomly chosen, conclusions concerning the general population are difficult to draw. This is of course a weakness of this study. I do believe, however, that the variation among the informants for the interviews can improve the credibility of the results. Even though the student came from two different cities and attended a variety of programs, their answers to a majority of the questions were the same or similar. In addition, the discussions played out in a similar way. These similarities may be seen as a reason to imagine these adolescents as having some things in common – perhaps not all the things that the description of the so-called Google Generation tends to include (Gunter et al., 2009), but at least to some extent.

In one respect, especially, I consider the interview approach to have proven a good choice. I had not considered the importance of other *people* in the students' information seeking, and in a questionnaire this aspect would have been overlooked. Since the interaction with and opinions of other people proved to be very important in many cases, this would have been unfortunate.

7.1 Answering the research questions

This study has provided some valuable insight into the information-seeking behaviour of Swedish upper secondary school students. Most prominent is the extensive use of online resources and the widespread reliance on the search engine Google. In regard to school work,

the informants very much rely on the opinions of their teachers, a fact that to some extent might explain the preference for written information in those contexts. Many would have liked to gain knowledge through visual means, but felt that this would be too complicated considering how they were expected to present the information further.

In other situations that were unrelated to school work, direct human contact was proven to be very popular. The informants appreciated conversations taking place in person and considered them an important part of their information seeking. Identification and personal connections were central to many information-seeking situations regarding, for example, their plans for the future. In addition, great importance was placed on getting the right feeling when speaking to people who might be able to assist in decision making regarding issues such as these.

As much as the informants in this study gave the impression of relying much upon their teachers, it was surprising to see how little importance was given to the idea of information literacy. Neither the interview informants nor the survey participants focused on this. Because of this rather unfortunate fact, the students may lose opportunities to develop important information-seeking skills. Since many of the issues relating to information literacy are strongly connected to librarians and research within the library sciences, the lack of a library at the schools represented in the study can be seen as a possible reason for this shortcoming. Without a school library, or quick and easy access to a public library, issues such as information literacy might be neglected when it comes to the students' information-seeking behaviours.

With regard to other information-seeking situations, it was interesting to find a lack of interest in searches concerning the students' future. Very few spent time on finding information regarding future educations or careers, many claiming that it was too far ahead to be considered at the moment. Those who did have a specific career in mind were more likely to spend time searching for information about *the way to get there*, rather than the workplace or career in itself.

7.2 Ideas with AstraZeneca in mind

It is safe to say that if one relies on the opinions of the informants in this study, social media might be a risky way for any company to go. The general feeling seems to be that there is, or should be, a clear dividing line between the private world of, for example, Facebook and the

more public world of education and work. In addition, the question of credibility is important, since companies might easily be tainted by their activities on e.g. Facebook, at least according to some of the informants. Apart from these issues, one must also consider the effects that a gamble on social media might have. Since so few of the informants considered social media as a channel worth using when contacting a company, an investment might result in nothing more than drained resources. Human interaction seems to be a more promising course of action, when it comes to reaching the target group of adolescents and young adults.

In general, it seemed that the informants preferred the smaller formats of the written information materials that AstraZeneca has produced. A possible conclusion is that information materials to hand out ought to be kept in small formats. It is no trouble for adolescents to go online, and if the initial information is kept short and sweet, it is more likely to spark an interest that will be followed through. If this is actually going to work, however, it is also very important for AstraZeneca to follow through as well. If further information is promised on their website, the site needs to be updated and relevant. If this is not the case, the small spark of interest will soon be put out by a vacuum of disappointment.

Alternatively, AstraZeneca might find value in gaining the approval of teachers and guidance counsellors. If these approve of the company, chances are that this opinion will reach the students and affect them in their choices. Another issue that might have to be considered is the feeling among many teachers that a company is only looking out for itself in every situation. I believe that a discussion and general openness from the company's side would go a long way in changing these opinions.

8 Further research

As previously mentioned (see section 4), the area of information technology is constantly changing, and the information-seeking behaviours of adolescents is changing along with it. There is always room for another study within the area in order to reach a better understanding of the issues at hand. Further studies could expand the area of investigation by interviewing more informants in the same position as the informants in this study. This could either confirm the results of this study, or show that the general picture is more complex than suggested here.

Apart from building on the present study by way of an increased number of informants, it would be interesting to further investigate the practical aspects of the issues discussed here.

The *actual* information-seeking behaviour of the informants (as compared to the reported one) could be tested through, for instance, a user study. This would perhaps give an insight into how well the informants really know their own behaviour.

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Appendix A

Presentation of interview informants

Group nr	Vocational/Academic focus	Informant nr	Male/Female	Age
1	Vocational	1	F	19
		2	F	18
		3	F	19
		4	F	19
2	Academic	1	F	18
		2	F	18
		3	F	18
3	Academic	1	F	18
		2	M	19
		3	M	19
4	Academic	1	M	17
		2	F	17
		3	F	18
		4	F	17
5	Academic	1	F	18
		2	M	18
		3	M	18
6	Vocational	1	F	19
		2	F	20
		3	F	18
7	Vocational	1	F	19
		2	F	18
		3	F	19
8	Vocational	1	F	18
		2	F	18
		3	F	18
		4	F	19
9	Vocational	1	F	20
		2	F	19
10	Academic	1	M	18
		2	F	17

Appendix B

Focus group interview guide

Grundinformation
Namn, ålder, program och årskurs

Informationssökning kopplat till skolarbeten
När ni blir tilldelade en uppgift i skolan, som kräver att ni letar upp fakta, vart vänder ni er för att hitta vad ni behöver för att slutföra den uppgiften?

Letar ni på olika platser beroende på vilken sorts uppgift det är?

Kräver era lärare något speciellt av er när det gäller var ni hittar denna information?

Informationssökning kopplat till kontakter med arbetslivet under studietiden
Har ni någon praktiktid kopplad till ert program?
Är det något ni som elever får ordna med själva eller blir ni tilldelade platser av skolan?
Hur går ni tillväga för att hitta någonstans att vara?

Har ni sökt, eller planerar ni att söka, sommarjobb? Var letar ni efter information om det?

Informationssökning kopplat till framtidsplaner
Vidare studier:
Planerar ni att studera vidare efter gymnasiet?
Var letar ni information om val av högskolestudier eller liknande?
Vad för sorts information är det ni letar efter?

Yrkesliv:
Har någon av er ett drömyrke? Har någon av er en drömarbetsplats?
Om ni söker information om det var är det ni letar? Vad är det för sorts information som intresserar er? Är informationen kopplad till hur ni ska kunna ta er till drömyrket? Är informationen kopplad till vad det innebär att utöva just det yrket? Vart skulle ni vända er för att få veta mer om det?

Informationspresentation

På vilket sätt föredrar eller skulle ni föredra att ta del av information?

Informationssökning

1. För skolarbeten
2. För praktikplatser
3. För sommarjobb
4. För högskolestudier
5. För specifika yrken/arbetsplatser

Presentationssätt

1. Skriven text
2. Videoklipp
3. Ljud (Podradio etc.)
4. Annat
5. Kombination av flera

Förhållning till sociala medier och användning av dessa i informationssökning samt attityder till annonser på nätet
Är ni aktiva i något av följande sociala medier?

- Twitter
- Youtube
- Facebook
- Internetforum
- Bloggar

Använder ni någon av dessa för informationssökning som har med era framtidsplaner att göra? Följer ni till exempel något företag, någon myndighet, en skola eller liknande som ni tycker verkar intressanta?

På många av dessa sidor förekommer det en hel del annonser av olika slag. Brukar ni intressera er för dessa? Brukar ni klicka er vidare via dem?

Använder ni musikprogrammet Spotify? Hur förhåller ni er till annonserna där?

Skrivet informationsmaterial från AstraZeneca
Jag gör mitt examensarbete i samarbete med AstraZeneca och de vill gärna veta vad ni tycker om det informationsmaterial som de har nu. Här ser ni exempel på ett antal olika format som de använder sig av.

Vad tycker ni om dem?

Appendix C

Undersökning av gymnasielärares krav på sina elevers källanvändning

Denna enkät utförs i samarbete med AstraZeneca som en del i ett examensarbete på kandidatnivå på Mälardalens Högskola. Ansvarig för studien är Jenny Zunko, jzo05002@student.mdh.se. Att delta i studien är helt frivilligt. Du kan när som helst avbryta ditt deltagande utan motivering. Alla uppgifter kommer att behandlas med diskretion och du kommer att förbli anonym vid sammanställningen och presentationen av resultatet.

Ålder_____
Jag är (ringa in ditt svar) Kvinna Man
Undervisar i årskurs (ringa in ditt svar) 1 2 3
Ämnen jag undervisar i_____

1) Ställer du krav på var dina elever söker information i anslutning till en skoluppgift? (ringa in ditt svar)
Ja Nej Ibland

1a) Om ja eller ibland, på vilket sätt? (kryssa i det/de alternativ som gäller för dig)

[ ] Jag kräver fler än en källa.

[ ] Jag kräver att de använder sig av specifika källor. Exempel på sådana källor:
_____
_____
_____

[ ] Jag kräver att de avstår från att använda vissa källor. Exempel på sådana källor:
_____
_____
_____

[ ] Annat:
_____
_____
_____

2) Tycker du att ett företag, t ex. deras webbsida eller annan utgiven information, kan vara en godtagbar källa? (ringa in ditt svar)

Ja Nej Ibland

2a) Om nej eller ibland, finns det något som skulle göra den godtagbar?

_____
_____
_____

Om du vill ta del av undersökningens resultat kan du fylla i din mailadress här:

_____

Appendix D

Information material from AstraZeneca, Example 1

The reproductions below have been reduced in size and the actual measurements for both of the pictures below are 29.5 cm x 21 cm. They have been reproduced with the permission of representatives of AstraZeneca.

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Appendix E

Information material from AstraZeneca, Example 2

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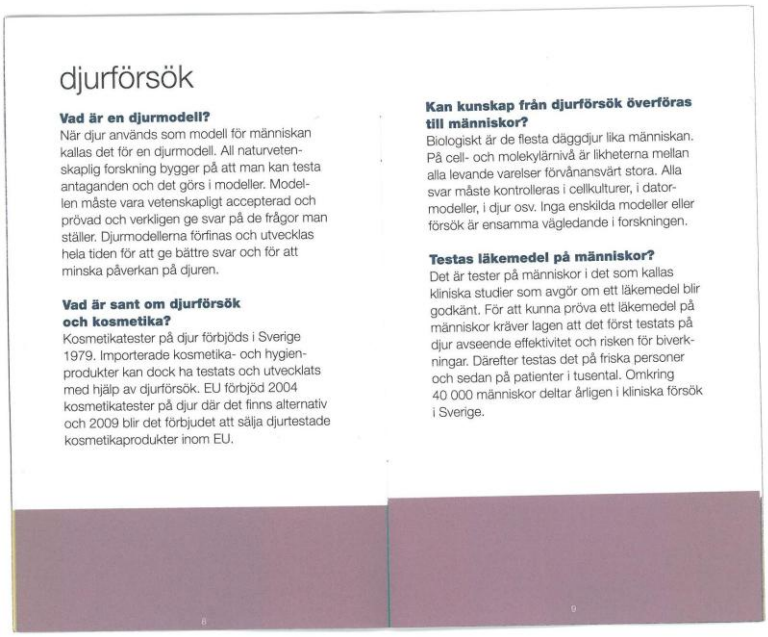
Appendix F

Information material from AstraZeneca, Example 3

The reproductions below have been reduced in size and the actual measurements for both of the pictures are 22 cm x 18 cm. They have been reproduced with the permission of representatives of AstraZeneca.



djurförsök

Vad är en djurmodell?
När djur används som modell för människan kallas det för en djurmodell. All naturvetenskaplig forskning bygger på att man kan testa antaganden och det görs i modeller. Modellen måste vara vetenskapligt accepterad och prövad och verkligen ge svar på de frågor man ställer. Djurmodellerna förfinas och utvecklas hela tiden för att ge bättre svar och för att minska påverkan på djuren.

Vad är sant om djurförsök och kosmetika?
Kosmetikatester på djur förbjöds i Sverige 1979. Importerade kosmetika- och hygienprodukter kan dock ha testats och utvecklats med hjälp av djurförsök. EU förbjöd 2004 kosmetikatester på djur där det finns alternativ och 2009 blir det förbjudet att sälja djurtestade kosmetikaprodukter inom EU.

Kan kunskap från djurförsök överföras till människor?
Biologiskt är de flesta däggdjur lika människan. På cell- och molekylärnivå är likheterna mellan alla levande varelser förvånansvärt stora. Alla svar måste kontrolleras i cellkulturer, i datormodeller, i djur osv. Inga enskilda modeller eller försök är ensamma vägledande i forskningen.

Testas läkemedel på människor?
Det är tester på människor i det som kallas kliniska studier som avgör om ett läkemedel blir godkänt. För att kunna pröva ett läkemedel på människor kräver lagen att det först testats på djur avseende effektivitet och risken för biverkningar. Därefter testas det på friska personer och sedan på patienter i tusental. Omkring 40 000 människor deltar årligen i kliniska försök i Sverige.