Master's Thesis

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[*citation needed*]

- the perceived credibility of Wikipedia among high education students

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Abstract

This thesis is called "Citation needed – the perceived credibility of Wikipedia among high education students". The purpose of this thesis is to discover the opinions about the credibility of Wikipedia among high education students. The assumption is that students are aware of being source criticizing and do not directly cite Wikipedia in academic works.

The main research question is: what are the views of the perceived credibility of the information on Wikipedia among high education students?

The theoretical framework is made out of previous research specific related to Wikipedia but also theories around memory creation, assessment of sources and credibility.

The method used is qualitative, with semi-structured interviews. The material consists of interviews with nine participants. Their answers are transcribed and presented in themes and then analyzed.

The main results are that the perceived credibility of the information on Wikipedia among the students is that it is fairly credible and their views of the encyclopedia are that it is fast updated and neutral. They also believe that Wikipedia isn't for academic usage so in all aspects the students do not make a thoroughly assessment of the encyclopedia's credibility.

Further implications are that Wikipedia would be ruined if anyone tried to make it academic. Wikipedia fulfills an educational tool for the public even though it is not always correct. It is important to be reminded that Wikipedia contains errors but no other source is completely flawless either. In that sense it would be smarter to start a new encyclopedia, if there is such a need, perhaps open for professors only and would in the end only contain vetted information, however mostly/only in academic fields.

The length of the thesis is 56 pages in total and approximately 21 000 words.

Keywords: Wikipedia, encyclopedias, source criticism, credibility, Nationalencyclopedin, students, in-depth interviews.

LIST OF CONTENT

1. INTRODUCTION

Have you ever heard someone say "I read on Wikipedia that…"? If not, you might have used information from the website yourself in a conversation or in a discussion. Maybe you have just used the site occasionally. In fact: it is very likely that you have. Wikipedia.org is the world's sixth most visited website (Alexa, 2013). It is only beaten by websites like google.com, facebook.com and youtube.com. Studies six years ago showed that 36 % of online American adults consult Wikipedia (Rainie and Tancer, 2007). Surely much can happen in six years and it is not certain that an American study can be applicable to a global scale. The main point is that Wikipedia is commonly used and even consulted, whether it is mentioned as the source or not. Debates have raged over its credibility – different opinions have been lifted. Studies have been conducted about Wikipedia's credibility – giving different results and interpretations. One problem with the whole discourse is that Wikipedia is seen as a monolithic source of information. Either it is credible or not.

Let us say, for the sake of argument, that you have heard someone quote or use information taken from Wikipedia. How does that affect your view of the information that you are given? Are you skeptical since you are not sure of the sources behind the information on Wikipedia? Do you see it as valid information? Does it matter what the information is about? These are questions I asked myself and came up with an answer: I simply do not know how people react to Wikipedia information. That is what I want to find out, and that is the aim of this thesis. As a university student I ask myself what the opinions are among fellow university students. I can assume that the result won't be ground breaking. But there are also aspects where I simply do not know what the answers will be in the end.

1.1 BACKGROUND

In these days source criticism is an important feature taught in schools, if not everywhere it surely should be. Rewinding time a couple of hundreds of years, this was clearly not the case. Johannes Gutenberg developed the printing press in Europe in the 15th century (China printings as early as the third century). Gutenberg grew up in a time when the demands for knowledge were rapidly growing (Rees, 2006). The demand for books was increasing. More and more scribes were hired to copy books, which were worth a fortune at that time. The writings were sometimes hard to read and scribes that were in a hurry made mistakes.

Understandably, source criticism at the time, was not the highest priority; the copying of books was. Gutenberg's printing press came in time to change all of this. Today we might instead see a demand for free, easy accessed online, fully covering and holding credible information. Wikipedia has been the most successful answer this far. As we simply need to click the mouse button and type with our keyboards to add information, instead of writing for hand or using Gutenberg's early and limited printing machine, our focus can lie on the information credibility. But are we really source critic enough or just spoon-fed with doubtful information?

What is Wikipedia?

Wikipedia is a free online encyclopedia that was founded in 2001. It is largely open for editing for all readers without any need of registration or approval (Wikipedia, 2013). The exceptions are some protected pages due to sensitive and/or vandalism-prone subjects. Wikipedia is available in 285 languages, but the amount of information varies from language to language. There are also different policies. For instance you need to be a registered user to create a new article in English and new user's edits to certain controversial or vandalism-prone articles are pending and only accepted after review from an established Wikipedia editor. German Wikipedia maintains stable versions of some articles that have passed certain reviews. All the changes can be seen under a tab called "View history". Under the tab "Talk" there is a discussion part about edits. The information can be cited, and the sources will end up in the bottom of the page. Sometimes there is no citation for a piece of information and an editor thinks that there should be. Then the editor can add a "[*citation needed*]".

There has been vandalism on Wikipedia, as they (Wikipedia) describe it. It is everything from insertion of obscenities, crude humor, advertising language, spam and removing information or entire pages. On rarely occasions there has been deliberate addition of plausible but false information (Wikipedia, 2013). Wikipedia try not to hide that vandalism has happened. They write openly about it on their own Wikipedia page. So in some sense, a reader cannot now that what they are currently reading is correct. But the median time to detect and fix vandalism is just a few minutes.

Studies show that although the recognition of Wikipedia is nearly universal not all know what it is and how it operates. 9 % of children and 19 % of adults recognized Wikipedia but didn't

know what it was according to a study. Furthermore only 78 % of the children and 68 % of the adults were able to correctly identify Wikipedia as an online encyclopedia that is relying on anonymous users to generate its information (Flanagin and Metzger, 2011). If this is applicable to the whole globe it is really problematic. If one out of three adults does not know that Wikipedia content is user-generated, source-criticism is being overlooked.

Cases of misuse and vandalism

Wikipedia does not try to hide that there has been and still is vandalism on their site. On their own non-editable Wikipedia site, about themselves, they have a section about vandalism that occurs on their site, linking to an article about Wikipedia vandalism. They describe vandalism as following:

> On Wikipedia, **vandalism** is the act of editing the project in a malicious manner that is intentionally disruptive. Vandalism includes the addition, removal, or other modification of the text or other material that is either humorous, nonsensical, a hoax, or that is of an offensive, humiliating, or otherwise degrading nature.

There have been some notable acts of vandalism. For instance the comedian Stephen Colbert suggested on his TV show that his viewers should change selected pages. On one occasion he changed one page during his show. This lead to that he was blocked from editing.

Wikipedia has ways to protect itself from misuse. Sometimes vandalism can be repelled immediately: sometimes it can take months before it is discovered. Wikipedia claim that the majority of the vandalism is reverted quickly. Since they retain all prior versions of the articles it is very easy to swap back to an older version if obvious vandalism has occurred. There are other ways of that vandalism is being stopped. On a special page all the recent changes are being listed. Some editors monitor these changes. Also anyone that has edited or created a page can monitor changes on it. There is also usage of bots that automatically detect vandalism and stops it in its cradle.

Articles can have three different kinds of locks. Semi-protected articles can only be edited by those with an account that is considered to be auto-confirmed (four days active and ten edits). Fully protected articles can only be edited by administers. If someone is vandalizing, Wikipedia has a four-step process with warnings. First, the user gets a warning with a relaxed approach. If that doesn't help the second warning is a real warning. The third warning is

saying that further vandalism will result in a block. The fourth warning is saying that any more vandalism will result in a block. The fifth step is the actual block.

One step taken to minimize vandalism is that you must have a registered account to create new articles. Wikipedia also has experimented with delaying edits to pages that have information about living persons. In that way they cannot be harmed before the edits are reviewed.

Vandalism is important to present and discuss because it does not only damage the quality of the information on Wikipedia – it also damages the reputation and therefore the assessment of Wikipedia's credibility.

The strengths and weaknesses of Wikipedia

Wikipedia is being criticized on several points. The main focus is about the contributors and the sources. Since no one knows who has written what there are no guarantees that the information is valid. Even though there are sources that back up the information, you do not know if it is truly interpreted or if it is the only thing said in the area. When other encyclopedias gain their information they pay professionals for their knowledge. These have insight in the area they are experts in. Left with no names to stand for the text on Wikipedia, and in some cases written by multiple people, it is hard to validate the accurateness.

What is good with Wikipedia? Why is it so popular? First of all, Wikipedia is easy to navigate and comes high up in the results of search engines. Whether that is strength or a bad struck can of course be debated. Wikipedia is free, where other encyclopedias information was paid for from the beginning are not.

Research show that Wikipedia compared to British encyclopedia Britannica may not be that far behind in accurateness (Nature, 2005). In this particular study, which was heavily countered by Britannica themselves, they only compared scientifically articles. I will discuss why this matter at all under the chapter "Problem discussions" – the monolithic view of Wikipedia". Since there are only a limited number of persons having knowledge in these fields, it is not surprisingly that Wikipedia is nearly as accurate as Britannica. Wikipedia has strength in the fact that it covers more different subjects than other encyclopedias. They can

easily have contributors writing about their own small field of interest without there being any issue about it. However the information can be questionable. Although research show that the older the events in the articles the fewer and less covering the Wikipedia's pages get. This is not the case in other encyclopedias. Wikipedia has also been saluted for its speed in updating recent events. Printed encyclopedias and even paid for encyclopedias online have no chance in being as fast as Wikipedia is in updating occur events and news.

What is Nationalencyclopedin?

The Swedish major encyclopedia is called Nationalencyclopedin (NE). NE is generally known among the Swedish population. NE's last printed edition came out 1996 and they moved onto the web in 2000. Their goal is to spread relevant, objective and fact reviewed knowledge. In their articles they do not list their sources, but sometimes further readings. You can see who has written the article. NE has a page that is about source criticism and they explain that they work with leading experts in the knowledge areas.

It is interesting to find that NE has a section in their source criticism article with a comparison between NE and Wikipedia. They are answering questions about what the difference is between the two encyclopedias. NE says that both of the sites are digital encyclopedias with the goal to spread information. The biggest difference is the mode of operation to generate that knowledge. On NE it is their editorial staff that picks which experts that should write the articles on encyclopedia, review and process the texts. Wikipedia on the other hand is open for anyone to write or change what someone else has written. NE takes pride in that they are objective and are coherent. They see to that there is equal amount of information of all countries and for instance the Swedish counties. They admit that it might mean that one Swedish county may have a more covering text on Wikipedia, though other counties may have very little information.

On Wikipedia you can follow the process of the article being written and discuss its content. NE does let you send e-mails to them about the content but it is only the editorial staff that is able to follow the process. Access to NE demands subscription, while Wikipedia is free for all. NE writes that the costs of the subscriptions are for covering payment for the scribes, the photographers and the salary of the editorial staff.

1.2 PURPOSE OF THE THESIS

The purpose of this thesis is to discover the opinions about the credibility of Wikipedia among high education students. The assumption is that students are aware of being source criticizing and do not directly cite Wikipedia in academic works.

Research question

The main research question is: what are the views of the perceived credibility of the information on Wikipedia among high education students?

I will use some sub research questions to help me answer the main question:
*How do students describe Wikipedia's features and their usage of the encyclopedia?
*How do students asses Wikipedia's credibility and usefulness in academic usage?
*Do students think that the views in the academic sphere that Wikipedia not being credible is exaggerated?

The importance of my study

The theme of this thesis originated out of personal interest. Source criticism is an important question for me. However when I began study the topic closer I discovered that it is important to study the ways people perceive their accessed information and their view on both the way they gain it but also use it. What people know and how they access their knowledge alters the way they think. If Wikipedia was not accurate but people saw it as an equal source to other sources, false information might be spread rapidly. This is already the case on the internet – many myths and much misinformation are being spread.

1.3 DISCUSSION OF PROBLEMATIZATIONS

Using the term 'credibility'

In this study I have used the word credibility as the main term for describing to what extent the students believe the information on Wikipedia to be correct. One of the reasons why I have chosen the term is because it is commonly used in the theories I have presented in this thesis. They discuss and elaborate about credibility, even in the context of online encyclopedias. But in several cases the authors of the theories do not even write about why they have chosen to use the specific credibility over terms like reliability, trustworthiness or

believability. To cover what these specific terms mean and how they differ in between would not only be hard and bothersome but also move out of the thesis' focus. The easy way to define credibility is to look in a dictionary. Credibility: "The fact that someone can be believed or trusted" (Cambridge, 2013). My interviews were made in Swedish and my participants used a variety of words to explain their credibility. I tried my best to stick to the same Swedish word. In the same way that I don't know the exact definitions of the different synonyms I believe that the participants also do not know them. In the end, in the context of my interviews I am confident that I fully understood my participants and they understood me, no matter if a synonym with a theoretically slightly different meaning was used.

The monolithic view of Wikipedia

When news articles write about studies of Wikipedia they try to keep it simple. You can for instance read that Wikipedia and Britannica are nearly equally accurate. Stating this leads to a series of problems. The views of Wikipedia becomes that its content is somehow monolithic. Either Wikipedia is credible or it is not. There is no gray zone, there is no room to speculate about that the subject affect the credibility of the information. The studies that have been made of the accuracy have been between scientifically topics. Of course there are only a number of people that actually can contribute to such an area on Wikipedia. If someone with little or no knowledge would try to add something it would be discovered immediately among the experts in the area. Further it is possible to assume that people that are experts in an area are very keen to keep it updated, protected and well spread, on for instance Wikipedia. If someone were to spread false information about the subject there is a chance that experts in the area will rise up to defend it. Therefore it is very problematic to compare a few scientific topics between Wikipedia and any other source and make a generalizing statement about the difference in credibility.

1.4 DISPOSITION

After this introductional chapter follows a chapter where I write about previous research and in-depth theories related to the area. These two parts are somewhat hard to separate due to that there isn't so much theory in the field that is directly connected to Wikipedia. Some of the theories I use are based on previous research on Wikipedia, but the biggest part is about research in fields relevant for this thesis. After the theory comes a method section where I present what kind of method I use for the gathering of data and analyzing it.

The result chapter is divided into themes that emerged in the analysis. This is the core of the analysis that comes in the following chapter where the material is analyzed in the light of the theories. Finally the study is summarized in the ending chapter called conclusion and where I open up for future research.

2. PREVIOUS RESEARCH AND THEORY

2.1 PREVIOUS RESEARCH

There have been some studies conducted on Wikipedia, but they are not numerous. Here follows some of those that I have found and that are relevant for my study. This part goes briefly through some studies and gives a concise presentation of the results.

As mentioned earlier – a study made in America indicates that many people truly do not comprehend how Wikipedia works. Therefore in a study it is important to verify whether they understand it or not rather than just assume they do (Flanagin and Metzger, 2011). The study also suggests that people find Wikipedia fairly credible. Indications are that children are slightly more skeptical of Wikipedia information than adults are. Both children and adults think that others should believe in the information from Wikipedia less than they currently do. This is indicating a form of the "optimistic bias" effect, where people show the tendency to see themselves as less probable than others to experience negative life events (Flanagin and Metzger, 2011). The study also suggests that many believe that they are able to navigate the potential limitation better than others.

Encyclopedia Britannica was perceived as providing information that is significantly more credible than either Citizendium or Wikipedia. Though it is not clear whether the difference is due to the information content as in the characteristics of the encyclopedia entry, or the information content as in the reputation of the encyclopedia entry provider, or both. Flanagin and Metzger write that future research should go in-depth and study the specific differences more fully, to see what features are important to adults. It was important for both children and adults where the information was shown, not what the information was. It was perceived much more credible on Britannica than on Wikipedia. Adult's perceptions of credibility are strongly anchored in the idea of expert-generated or vetted content.

Another research showed that among college students' use of Wikipedia is calculative and rational, it is based upon their judgments of the advantage the tool provides (Chung, 2012). The research did not find a perceived ease of use of Wikipedia – as other studies have shown that online sources do to users. This is probably because students have more specific goals and expectations about outcomes than ordinary people who search for information, writes

Chung. Students are aware that their choice of sources will affect the quality of the work. In the context of learning students choose sources for the utility it provides, not the ease of use. The study found also that peer influence affect the Wikipedia use:

> In sum, the findings from the test of the first theoretical model suggest that Wikipedia use among college students is shaped by a cognitive process (perceived usefulness) and reinforced by a normative process (peer influence). The benefits users perceive in Wikipedia are the strongest determinant in their decision to use Wikipedia. The next strongest determinant is peer influence, reinforces use (Chung, 2012).

In studies made by Brown, both thousands of Wikipedia articles concerning candidates, elections and officeholders compared to other articles that included some basics about politicians held what you would expect to find - for instance information about elections and what office it is in question and candidates and vote shares (Brown 2011). It seems that Wikipedia suffers less from inaccuracies in the area than from omissions. Scholars in other fields have come to the same conclusion. Pharmacologists state that no factual errors were found in Wikipedia, but errors of omission were frequent. Also computer scientists report that omission rather than inaccuracy is Wikipedia's greater flaw. This reflects the limited expertise and interest of contributors. More recent political topics have covering articles while older topics are more likely to be less covering or not-existing at all (Brown 2011).

The study suggest that Wikipedia, but as with any encyclopedia, the usefulness lies in the user's ability to access a quick overlook for a subject. Serious research should always be based on reliable primary or secondary sources. Wikipedia is a tertiary, at best, source. The author writes that Wikipedia has a surprising accuracy that may allow it to be useful for researchers with limited resources. For instance, for some quick preliminary analysis of a hypothesis that a certain variable influence election results Wikipedia can be used. When moving on to pursue that project more reliable data would be needed. But Wikipedia's role as a preliminary source can work (Brown 2011).

2.2 THEORY

This theory part goes deeper into the knowledge about credibility, assessment of credibility and assessment of sources. It is vital for an understanding of individual's dealings with sources and credibility to understand and have a ground for the upcoming result of the interviews and the analysis. There are of course other fields and theories that could have been

useful in this thesis. As in any study one must use a narrow focus or the study becomes too wide. A selection is therefore needed. I chose to restrict this thesis to the following theories that concentrate on credibility and assessment of sources.

Credibility

The assessments of the credibility of messages and sources are primarily intertwined and influenced by one another. "Credible sources are seen able to create credible messages and the credible messages are seen as probable to have originated from credible sources." (Fragale and Heath 2004). It can be said to be self-evident that a message from an expert and objective person should influence the audience's beliefs rather than an inexpert and biased person, even though the message is the same (Slater & Rouner 1996). There are three sources of data that are concerning the source's credibility. First is the person's knowledge and impressions beforehand regarding the source. The source is likely to have power in shaping the message's impact. A statement like "Service to the people is more valuable than life itself" might be approached very differently if attributed to Barrack Obama[1] or Saddam Hussein. Secondly, the case is often that audience members have a very small prior knowledge with a source, or even none at all. I.e. news stories the audience members must assess the spokesman's credibility from the source's credentials. Thirdly, the audience members must make inferences through the quality of the message to determine the source's credibility. The message could perhaps have more impact on assessments of credibility if it is well presented, plausible, providing convincing specifics, examples or data (Slater & Rouner 1996).

There are frequently attached objects of assessment to credibility, as source credibility, media credibility and message credibility. It is reflecting the fact that assessments of the objects vary (Kiousis, 2001). Fogg suggests that there are four types of credibility assessing information systems: presumed, reputed, surface and experienced. Presumed credibility is to what extent the individual believe something/someone because of general assumptions in the person's mind. For instance individuals have easier to assume that their friends tell the truth than a salesperson, who is seen with lack of credibility. Reputed credibility is to what extent the individual believes something/someone because of what a third party has stated. For instance individuals tend to rely on recommendations from friends or assessments made by consumer

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[1] Slater's and Rouner's original example – Mother Teresa – was modified by the author of this paper due to own judgment.

reports as unbiased views. Surface credibility is when an individual bases its believability on simple inspection. It can for instance be to look at the cover of a book or use the type of language people are talking as a type of indicator for credibility. Experienced credibility is when an individual is basing first-hand experience as believability. When people interact with each other over a long time, their expertise and trustworthiness can be assessed (Fogg 2003).

Four conceptual models – quality, authority, trust and persuasion

Danielson writes about credibility and four conceptual models – quality, authority, trust and persuasion (Danielson 2007). Taylor proposes that individuals make judgments in selecting specific information objects by assigning value to some but not others. There are question that are asked when making choices about information: Is the information free of error? Is the information covering a particular discipline or subject? Is the information recent? Is the information showing consistency of quality performance over time? Is it possible to judge this information as sound? (Taylor 1986; Danielson 2007). There is a critical question to be asked among these other questions: "Can I trust this information?"/"Can I take this information seriously?" (Wilson 1983; Danielson 2007). "The evaluation of these questions often forces an information seeker to step back and evaluate who or what is perceived to be responsible for the information. That is precisely the question of credibility, one of the chief aspects of **quality**" (Danielson 2007). Taylor goes on and identifies six categories of user criteria for making choices: ease of use, noise reduction, quality, adaptability, time saving and cost saving. He also identifies five values that are part of quality: accuracy, comprehensiveness, currency, reliability and validity (Taylor 1986; Danielson 2007). Danielson argues that even though Taylor did not straight out use the term credibility the concept it is still embedded his derivation of quality from reliability and validity. Although it is possible to use these aspects of information quality when individuals make choices about information – it is still hard to make those decisions since a text can vary in quality in many different ways. A text can be comprehensive but at the same time inaccurate. It can also have validity but not be up-to-date (Danielson 2007). Information seekers must therefore sometimes make their choices based on what values that matter mostly to them. Credibility plays a major role here. Individuals tend to choose the objects that appear most credible to them out of a set of various information values. "That is, credibility provides one more layer of information evaluation to select items from a pool of documents that are initially judged as being of high quality" (Danielson 2007).

Cognitive authority is closely related to concept of credibility (Wilson 1983: Danielson 2007). As key tools it features trustworthiness and competence. Wilson writes that all that individuals know of the world, beyond the range of themselves, is merely what others have told them. There is a selection however. Individuals do not recognize all hearsay as equally reliable. It is only those who are seen as knowing what they are talking about that are estimated to be cognitive authorities. Not only are individuals attributed as cognitive authorities but also books, instruments, organizations and institutions (Wilson 1983: Danielson 2007). Wilson points out that there is a difference between the average individual's competence and an expert's competence. Individuals do often assume that their friends, neighbors and colleagues are overall trustworthy and have ordinary competence; therefore they consider them as credible sources. There are of course exceptions when an individual's fails to influence another because they are perceived as lacking the expertise in a particular domain (Wilson 1983: Danielson 2007). "However, people also recognize that some sources have more than ordinary competence in particular spheres; these become the cognitive authorities within those spheres" (Danielson 2007). There is a pool of cognitive authorities where individuals can make a choice. In the pool are the people believed to be credible. Those in the pool are not just valued for their amount of knowledge but also for their opinions and their advising on the proper attitude or stance on questions. "Our cognitive authorities are clearly among those we think credible sources, but we might recognize someone as credible in an area even though he did not in fact have any influence on our thoughts" (Wilson 1983).

Trust is the third conceptual model of credibility. It is hard to discuss credibility without referring to trust/trusting behaviors (Danielson 2007). Mars and Dibben give a solid overview of the theoretical meaning of trust. The authors argue that trustworthy interfaces are leading to that users want to interact with them and are becoming enabling technologies. For e-commerce research this view of trust has become important. Trust affects online behavior. It is also critical with the notion of trust in information itself, when considering content, source, intent and meaning (Mars and Dibben 2003; Danielson 2007.) "In essence, then, whatever is done with respect to trust in information systems is an advance, regardless of whether this research concerns the interface or the information itself" (Mars and Dibben 2003). Tseng and Fogg suggest that credibility and trust should not be considered synonymous even though they have sometimes been used interchangeably. There is a difference: "trust indicates a positive belief about the perceived reliability of, dependability of, and confidence in a person,

object, or process" (Tseng and Fogg 1999). Trust is more about dependability and credibility goes more into believability. Where credibility is more about trusting information, trust is more about relying on a computer system where information is given. "Trust indicates a positive belief about the perceived reliability of, dependability of, and confidence in a person, object, or process" (Tseng and Fogg 1999). Credibility on the other hand is the perceived quality of a source, which might or might not result in associated trusting behaviors.

Persuasion and credibility is the last conceptual model. It is about message acceptance. Aristotle's discussion of ethos is widely seen as being among the very first tries to conceptualizing what we now are referring to as source credibility (Danielson 2007). Ethos is the persuasion through character, although the classical rhetorical term ethos is merely about what the speaker can control. Ethos only denotes the strategies that the speaker creates and uses in the particular speech (Lindqvist Grinde 2008). Credibility is intimately tied to persuasion. The two constructs are not equivalent, although source credibility is a critical determinant of message acceptance.

Web credibility
There has arisen a new term in the theoretical works – web credibility. It is argued for that web credibility needs to be taken aside for discussion from the other types of credibility. This is because the ordinary methods for assessing credibility may not be useable on the web because its speed, complex features and link structure but also lack of referencing and organizational conventions (Burbules 2001). There are four general features that can show web user's credibility assessment strategies. 1) the lack of filtering and gatekeeping tools, 2) the form of the medium, including interaction techniques and interface attributes either inherent to the web and other hypertext systems or emerging from common design practices, 3) a preponderance of source ambiguity and relative lack of source attributions, 4) the novelty of the web as a medium in conjunction with a lack of evaluation standards (Danielson 2007).

Credibility ratings for both the Internet and traditional media may be on the rise. Studies indicate that when more people are drawn to use the Internet as a convenient source of information they develop an apprehension about which information and what sources to believe and not to believe. Several studies suggest that people now rate Internet as a credible source, and there is no or less attention to why (Johnson, Kaye, 2002). It can either be because

of the convenience of using the Internet that draws more people to use it, and thus boosting the credibility, or is the increased credibility simply a function of a greater reliance on the Internet? Or it might be so that the Internet credibility is a function of the demographic and political characteristics of its users. Little attention has been paid to why they believe that the Internet is credible. Convenience seems to be a primary reason individuals go online to find political information. When people become savvier in discovering where to find credible information, convenience is bound to become a more important reason to why the Internet is the first place to look for information.

Studies suggest that a primary goal of communication is to get information, regardless of the medium used (Flanagin, Metzger 2001). Internet was by far the most used channel to receive information over all technologies, in the study conducted. There are some potentially problematic issues of information verity and credibility. "Newspapers, books, magazines and television undergo certain levels of factual verification, analysis of content, and editorial review, for the most part Internet information is not subject to the same scrutiny" (Flanagin, Metzger 2001, 22). Of course there are Internet sites with as good editorial processes as their printed counterparts, they only make up for a relatively minor portion of the information on the Internet. It is common with less formal information that is generated by special interest groups, where the editorial process is not explicit. Editorial functions were previously the information producer's or publisher's responsibility but has fallen to the lot of the media consumer. Research has however not been consistent in its findings on the perceived credibility of the traditional information versus Internet information. It is not clear how users interpret the credibility of Internet information, what level of scrutiny they use on it, or if they use any methods of verification. So there is also not known if that is any difference on the perceived credibility between what kinds of information the users are consuming. Overall uses and gratification studies comparing media do not consider the content of the media and that is a criticism of the perspective. Flanagin and Metzger write that future research should explore what types of information received on the Internet the users make distinctions in regard to their needs and the skepticism which they approach the information. For them it would be interesting to locate the various levels of skepticism, scrutiny or verification applied to the Internet information by source or purpose.

Sources

"The term source refers to a variety of characteristics that, collectively, specify the conditions under which a memory is acquired" (Johnson, Hashtroudi, Lindsay, 1993). This concept is linked to the memory of context. The source-monitoring approach have a central claim saying that people do not really retrieve an abstract tag or label that can specify the memory's source. Instead when remembering, people use decision processes to evaluate and attribute activated memory records to particular sources. For many cognitive tasks it is critical to be able to identify the source of remembered information. In everyday life our ability to remember sources gives control over our own opinions and beliefs. If one remembers that the source of a stated fact was from a tabloid you will know that the information is important for evaluating the veridicality of the reputed fact. Perhaps above all, it is most important for the subjective life experience recollection – the feeling of remembering a specific experience in one's own life. It depends on the given source attributions that were based on certain phenomenal qualities of the remembered experience. The memory is experienced as knowledge or as belief if it enters the consciousness without these qualitative characteristics. "Inability to specify source information can be mildly disconcerting, as in not being able to remember whether the person to whom you are about to tell a joke is the one who told you the joke in the first place" (Johnson, Hashtroudi, Lindsay, 1993).

"Everyday experience indicates that source amnesia occurs frequently and individuals are often forced to begin stories with the common opener 'I think I read somewhere ...'" (Fragale & Heath 2004). Individuals must often reconstruct the sources of their memories. It is important because source information is critical to distinguishing reality from imagination, fact from fiction and reliable data from gossip. The beliefs of individuals are influenced by source credibility, because they have a well-developed association between truthful information and credible sources. By definition these credible sources have a reputation of being accurate and trustful (Fragale and Heath 2004). Individuals may come to believe information from credible sources, previous research suggests. Fragale and Heath suggest something related: individuals may infer credible sources for information they believe. They argue that when individuals are reconstructing source memories they spontaneously invoke a "belief force equals credible source" heuristic. The beliefs of the individuals inform the source inferences because they equate their subjective belief, their view of the truth of a statement, with the objective truth of the statement. In plain words – individuals assume that

their beliefs are true; otherwise it is not likely that they would have hold on to their beliefs. Individuals associate true statements with credible sources. Another heuristic is being used and is a consequence of this association – "the experts are usually correct". Fragale and Heath suggest that this association is bidirectional. Individuals can just as easily infer sources based on their beliefs. These two processes imply that individuals use their beliefs to make source inferences. When someone is trying to determine the source of a rumor or a statement the person might infer the belief that the statement is probably is objectively true and therefore deems that the source that the information came from is credible (Fragale and Heath 2004).

The concept that belief may be used to recreate source information is supported by related research that examined how people's beliefs affect their assessing of the credibility of unknown sources. In many cases individuals use their evaluation of the message itself to infer the source credibility when having little information about the credibility of an unknown source. Believing the message makes individuals think that the new unfamiliar source is credible and if disbelieving the message the credibility of the source is seen as low (Slater & Rouner, 1996). This research indicates that individuals' views about how credible the communicator is may be shaped by their own beliefs. Fragale and Heath suggest that individual's views about who the communicator is may be shaped by their beliefs. When the original source of a message cannot be recalled without doubt the individuals may infer a source that is consistent with their beliefs and that also is of known credibility. In their study participants could list any source and both the control and true beliefs conditions generated higher credibility for sources for the statements they believed rather than the statements they disbelieved. 70 % of the participants used their beliefs as guide and attached sources to statements, even though they were given the opportunity to avoid generating sources. The ones who were given explicit feedback that their beliefs were false participants did not use their beliefs as a guide for source inferences. There were no difference between those who were given no feedback (if their beliefs were right or wrong) and the participants who were given explicit information about that their beliefs were correct. This adds to the notion that individuals assume that their beliefs are true. "The accuracy feed-back provided in the true beliefs condition was essentially redundant information because participants naturally assume that their beliefs are correct without having to be told explicitly that this is so" (Fragale and Heath 2004). Untruths may flourish by hiding themselves in symbols of truth, such as attributions to a credible source.

2.3 THEORETICAL GAPS

Flanagin and Metzger points out that it is not clear why individuals perceive other encyclopedias to be more credible than Wikipedia. It is either that the characteristics of the encyclopedia entry play a role or the information content as in the reputation of the encyclopedia or both. Flanagin and Metzger suggest that future research should go in-depth and study what specific features that are important to users. Johnson and Kaye write that several studies suggest that people now (written in 2002) rate Internet as a credible source, but there is no attention to why. Flanagin and Metzger also write that future research should explore what types of information users make distinctions in, regard to their needs and the skepticism which they approach the information. Flanagin and Metzger would like to locate the various levels of skepticism, scrutiny or verification applied to the Internet information by source or purpose. It is also not clear how users interpret the credibility of Internet information, what level of scrutiny they use on it, or if they use any methods of verification. It is therefore not known if there is any difference on the perceived credibility between what kinds of information users are consuming. Uses and gratification studies have overall been comparing media but not considering the content of the media and that perspective have been criticized.

2.4 DISCUSSION

There have perhaps been more studies of Wikipedia made that I haven't found. However several of the studies mentioned that future research should go more in-depth in the subject. I interpreted the calling for in-depth studies and that I didn't find more studies about Wikipedia; that I had found the most of the studies that were relevant and that there really is a gap in the previous research. The theory part could of course been more thoroughly conducted with other aspects brought into it. However I felt that I needed to make a selection of what to add and not to add. Some of the theory is perhaps not applicable to the result, but I deemed that they still were vital for the understanding of sources and credibility assessment.

3. METHOD

3.1 QUALITATIVE METHODS

This study is based on a qualitative method. Qualitative research begins with both assumptions and the use of interpretive/theoretical frameworks. These give information about research problems to the study and are addressing the meaning both individuals and groups have towards a social or human problem. This problem is studied through a qualitative approach when collecting the data in a natural setting that is sensitive to the people and places being studied. The analysis of this data is conducted both inductive and deductive and establishes patterns or themes. The presentation of the result includes the thoughts of the participants and the researcher's reflexivity. It is a complex description and interpretation of the problem and its relation the established theories, both contributive and for change (Creswell, 2007/13).

The following quote is another way of trying to explain what qualitative research is:

"Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin and Lincoln, 2011).

Qualitative research is less generalizable than quantitative research (Bryman 2002). The area and the number of actors are not that many and therefore the result cannot give any generalizations. The purpose of the study is not to generalize but rather to study a phenomenon from the outside. This study aims to fill a whole in the field of knowledge among what high education students think about Wikipedia. "A qualitative methods opens up for and follows the participants thoughts" (Bryman, 2002). "There are though some who aims critique that the qualitative method also includes the participants' personal opinions, which can come to play a major role in the operation and analysis of the material." It is therefore

important to be aware of that you have an interview-effect on the participant and that their personal opinions are intervened with their more objective opinions. There is no way around the personal opinions and they are indeed a part of the qualitative goal.

3.2 CHOICE OF QUALITATIVE METHOD

Qualitative research can provide complex representative views of the qualitative human existence. Qualitative interviews can give us well-founded knowledge about our conversational reality. Research through interviews is knowledge-producing. The question though remains how to characterize the form of knowledge that the interviews are providing. From an epistemological view, the philosophy of what knowledge is and how it is obtained, knowledge from qualitative interview bears upon conceiving and practicing research interviewing. There are issues; for instance the question whether the spontaneous narratives of the interview object should be seen as deviation from the scientific finding of facts or if they should be seen as fundamental views of human knowledge (Kvale 2009).

I used qualitative interviews to gain my material. The interviews were semi-structured. In semi-structured interviews the interviewer tries to elicit information from participants by asking questions. The interviewer has a prepared list of predetermined questions; however semi-structured interviews unfold in a conversational matter. The participants are thus offered a chance to explore issues that they feel important (Longhurst 2003). This means that I gained information through asking open questions, but based on a structure of questions or themes. Having an open but thematically interview opened up for the participants to speak more freely. This was important, as my thesis is about gaining new knowledge in the field, not only verifying theories and assumptions. In my interviews I had main questions that opened up for a discussion and work as a framework.

The interviews were recorded, but first after asking the participants if they approved it. During the interviews I also took notes. This was made both for my own memory's sake but also to be seen more active for the participants.

I focused mainly on Wikipedia and had NE as a comparative example in my interviews. Even though were many thoughts and ideas about NE I didn't go further and in-depth analyze it.

NE was primarily used as an example to gain more material and opened up comparison for the participants in the interviews.

Method and theory

As mentioned, many of the theories were of quantitative character. The choice to use these theories in connection with a qualitative method was partly based on the authors urge for more qualitative studies but also based on the research question. In order to get in-depth I needed a qualitative study. I also needed the theories that I have used. To be able to truly understand why the students believe like they do and also to have a thick foundation to stand on I needed many of the theories that take up assessment of sources and source credibility. There is no doubt from my side that there are other theories that could have been used, but I am content with my selection which fits the volume of this thesis.

Interview questions

In this study I used NE in my interviews as a comparative example to gain further and deeper knowledge among my participants about their perceived credibility compared to their perceived credibility of Wikipedia.

The interviews were started with an open and easy question: "What is Wikipedia?" The purpose with the question was to get the interviewed into the mood and being able to easily answer the first question. It was also a way to see what the participants knew about Wikipedia and how they would describe it in their own words. According to the theory in this paper – it should not be taken for granted that everyone knows what Wikipedia is and how it operates. The question was often met with the participant repeating the question and smiling while trying to put their minds on the matter. In this way beginning with an easy laid question opened up the participant to think and analyze about something they maybe never had formulated before. If the answers became short I followed up with "How does the site work?"/"What functions are there?"/"From where comes the information?"/"Who can contribute with information and on which sites?"/"What do you know about the sites sources and historical account?" In this way I could find out more exactly what the participants knew about the site Wikipedia. After the first question I asked how often the participants are using Wikipedia. That was followed up with asking if the participants themselves had added any information about the site. If so they were asked how often.

Next the participants were asked in what purposes they visited Wikipedia. This question was held kind of open to let the participant freely speak about why they visited the site. They were also asked how they used Wikipedia and how they for instance did to determine whether the information and the sources were valid and accurate. This was followed by asking if the participants went on with the sources. To complement these questions I asked if they had used Wikipedia in connection to studies. If not already said I asked if they had straight away cited Wikipedia in any academic work during their high educational studies. This was followed with questions about if they think they had cited Wikipedia during earlier studies in "gymnasium" (high school) or in the elementary/primary school. Regardless of the answers I asked what the difference was between high educational studies and earlier studies when it comes to the usage of Wikipedia and other sources. The participants were also asked to describe both the weaknesses and strengths of Wikipedia.

The next part of the interview was bout NE. The same questions were asked about how the site works, where the information comes from, who is adding the material, on which sites and also about sources and historical account. This was followed by asking if the participant use NE and how often. They were then asked to describe the strengths and weaknesses of NE.

The participants were asked about how well the information relevant to their academic studies was on Wikipedia. They were asked how deep the knowledge seemed to be and how accurate it seemed to be. In contrast they were also asked how well NE had such information. After that the participants were asked to give their views about what the difference in the information between different subjects on Wikipedia. This question was somewhat hard to understand straight away. Sometimes I had to expand the question asking what the difference is between both different academic subjects but also popular/cultural subjects. With difference I explained that I meant differences in quality, credibility, depth and coverage. This was a very broad question so sometimes I had to repeat the question or parts of it.

The next question was "How big is the difference between Wikipedia and NE generally speaking?" This lead the participants to speculate broadly and talking about the points that they thought were most important – for instance credibility, depth, coverage or all of them.

Then I asked what they would require from Wikipedia for the participant to cite it in an academic work.

In the end of the interviews I asked the participants if they deemed themselves to be source critic as persons. I also asked how they perceive that other people use information from Wikipedia and it that usage should change in any way. Then the participants were given the word to add anything they wanted about Wikipedia, NE, source criticism or anything else related to the interview.

At last I repeated briefly the main points of what the participants had said during the interview. In this way they could add more or correct me if I had understood anything wrong. Then the interviews were over.

3.3 SELECTION AND PRESENTATION OF THE INTERVIEW OBJECTS

I was supposed to interview ten students, five men and five women. One got cancelled and I was already content with the material that I had gained. So the total number became nine instead, four men and five women. I chose to have close to an equal amount of men and women. I wanted to have a selection that in this aspect reflected the reality, even though my results are not generalizable. I didn't pay any attention to their age, but it was fairly between 20-28 years. The persons were Swedish, born and raised in Sweden. They have several semesters of experience in high education. They are with other words used to search for information, assess information and have a lot of experience with the internet.

I got hold of these persons through myself and various contacts that I have accessed during my university studies. The participants represented different academic subjects, with subjects like theology, sociology, economics, media and communication, history and language. I tried to cover many different areas of scientific studies among my interview objects.

Here follows a brief presentation of the persons who participated in this study:

➢ Student one had recently graduated; finishing a bachelor of social work. The student had read subjects like sociology and psychology.

- ➢ Student two had one year left on a dispensing pharmacist-program, with subjects like chemistry, bioscience and pharmacy.
- ➢ Student three read media and communication studies, but had also been studying political science and economic history.
- ➢ Student four had also studied media and communication but instead sociology and business economics as side subjects instead.
- ➢ Student five was recently finished with a translational program for English and Swedish. The person had also read other languages and continued studying after graduation.
- ➢ Student six was reading a bachelor in history but had also studied language.
- ➢ Student seven was studying a master program in economic history, with that subject as bachelor and rhetoric as side subject.
- ➢ Student eight had studied applied system science with subjects like physiology but also business economics.
- ➢ Student nine was studying to become a clergyman, which included language courses but mainly theology.

3.4 ANALYSIS METHOD

Analyzing data can be described as going through a spiral. Firstly, you collect the data. Then you manage your data by organizing it into files or units (Creswell 2013). When I had gathered my material I firstly transcribed the interviews. The transcribing was simply writing down what I had recorded and written during the interviews. I transcribed to be able to organize the data. Next step in this spiral is to read through the data and reflect over the whole database, taking notes and analyzing the across sections (Creswell 2013). I read through my material and highlighted text and wrote notes in the margin. The next part of the analysis is where you describe, classify and interpret data into codes and themes. Themes in qualitative research consist of several codes coming from a common idea (Creswell 2013). I analyzed one question/area of the interviews at a time. In every area emerged different themes.

The next step is to interpret the data. It is about making sense of the data and abstracting out the larger meaning from beyond the codes and themes (Creswell 2013). The material was analyzed in the light of the theories, both being aligned with and straying from previous research.

The final step of the spiral is to represent the data. This can be done in many ways, for instance through a packaging of what found in text (Creswell 2013). I presented the analysis in a separate chapter following the result chapter. I included my own thoughts and ideas about the themes in the analysis.

3.5 CRITICAL VIEW OF THE METHOD

Validation

There are eight strategies that are frequently used by qualitative researchers to obtain validation (Creswell 2013). Creswell recommends that qualitative researchers engage in at least two of them in any given study. In this study I have focused on three. *Prolonged engagement and persistent observation* in the field include building trust with participants, learning the culture and checking for misinformation that stems from distortions introduced by the researcher or informants (Creswell 2013). It is not possible for me to have been long engaged and persistent in the any research field. But it is defendable that I chose participants that I already have been building trust with while studying different fields and I have learned the culture. Therefore there was little or no misinformation from distortions between the researcher and the participants in this study.

In *triangulation* researchers make use of multiple and different sources, methods, investigators and theories to provide corroborating evidence (Creswell 2013). For such a small work as this is, there was no time or room to use several investigators or methods. However I used a rather broad spectrum of theories ranging from previous research with focus on Wikipedia, to research about memory creation and assessments of sources. My participants were mostly studying in different fields in the university which adds to the notions of multiple and different sources.

Peer reviews of debriefing as an external check of the research process (Creswell 2013). This was done by the supervisor of this thesis, other teachers in the programme, and other students during meetings where our theses were discussed but also other people that I took use of that were well aware of how qualitative studies should be conducted.

Reliability

Reliability is a concept to evaluate quality in quantitative studies. Quantitative study is a concept with a "purpose of explaining" while qualitative study on the other hand is a concept with the purpose of "generating understanding". "The difference in purposes of evaluating the quality of studies in quantitative and quantitative research is one of the reasons that the concept of reliability is irrelevant in qualitative research" (Golafshani 2003). "The concept of reliability is even misleading in qualitative research. If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good" (Stenbacka 2001).

However some reliability can be reached. Reliability can be attained in qualitative research if the researcher obtains detailed field notes by employing a high quality recording and by transcribing it (Creswell 2013). The interviews in this study were both recorded and notes were taken and afterwards it was transcribed, therefore I made it possible for others to reach the same conclusion with my material.

Critical view of the methods

To be able to gain information about the participants' beliefs about credibility, source assessment, Wikipedia and all that this thesis is about I deemed that I had to use a qualitative method. I needed to go in-depth and be able to ask follow-up questions and elaborate the issues at hand. A quantitative method would not have worked with my research questions or the focus that I set out before beginning with this work. Qualitative studies give the researcher the opportunity to answer how the individuals and their characteristics influence their responses. What could have been extended in this work is the background check of the participants. I had much information about the participants and could have analyzed how their personalities, backgrounds et cetera affected their answers. This could have been used to a much greater extent in this study. The strength in qualitative studies lies in being able not only to answer what some certain individuals think about something, but also why the specific individuals do that.

Since I used a qualitative method it was hard for me to apply my interview results to a wider population. I therefore had to be modest with my results and focused on the in-depth attitudes among students.

Critical view of the selection

My selection of participants was made out of "convenience". Since I knew and had studied with many of the participants their opinions might to some extent reflect my own beliefs. Since there is a background between me and my participant I might affect them in some ways and I might overinterpret parts of what they are saying. On the plus side there was a great deal of trust between me and the participants, which could encourage them to speak more freely. There could also have been the effect that the participants wanted to perform extra well in the interviews since I knew them and this might have affected their answers. However through this selection I could be certain that the participants were serious and would give me honest answers. The students were Swedish, made in Swedish, between 20-28 years of age and descending or been living in the same city for years. The answers they give are affected by these aspects and somewhat overlooked in the analysis.

Interviewer effect

A qualitative interview is somewhat a delicate situation. I did not want to let external factors anyhow deteriorate the quality of the interviews. Therefore I tried to dress myself as neutral as possible. I did not wear any specific clothes that would put me in any position above the interviewed; neither did I wear sloppy clothes that might have made the interview unserious. I tried to dress casual. As far as possible I tried to arrange the interviews in either the home of the interview or at my own place. I believe that it is easier to relax in a home environment without extractions. Otherwise some of the interviews were at academic institutions, in quiet places, where the risk of being disturbed was less likely. On the plus side, being in an academic place might be good since the interviewed students are in a place where they usually are staying sharp and focused, which might not always be the case in a home environment. As I have mentioned my special relation to the participants affected the interviews in seen and unseen ways. I have argued for both the positive and negative aspects of it.

Critical view of the interviews

The interviews in this study were made in Swedish. I did my very best to translate the interview result into English. I am content with that I succeeded to relate what my participants said. Still there remains some problematic. For instance the participants used a number of different ways to say "credible/credibility". Some of the used Swedish synonyms actually mean slightly something else. But in the context of the interview I have a hard time to see

how anyone could have meant something else that would stray from what the others meant. In my work I have solely used the word credibility as for a measurement for what the students can rely on.

Ethical considerations

I used Vetenskapsrådet recommendations for my ethical considerations. The consideration between demand of the protection of the individual and the demand of research is the most fundamental one. The public utility of the research must be equilibrated to the individual's integrity. Individuals that contribute to research must be protected from lesion and harm. On the other hand, research is important from the society and therefore shall not be hindered by insignificant harm for the individual (Vetenskapsrådet 2011). There is however an importance of confidentiality and that the researcher institute actions to protect participants' integrity and right to protection from insight in their private life. In the Helsingforsdeklaration 2008 it is underlined: "Every precaution must be taken to protect the privacy of the research subjects and the confidentiality of their personal information and to minimize the impact of the study on their physical, mental and social integrity" (Vetenskapsrådet 2011).

In this study I have done what I can to keep information about the participant confidentially. I have not benamed them or stated their exact age. They have been fully anonymous. Further, I have informed the participants about what their information will be used for and that I record the interview. The material (recordings and the transcribing) will be stored in my own computer and removed once the thesis has been approved. The subject of the study is not particular sensitive and is not taking part of information of personal character. I deem that the demand of protection of the individual, in relation to the demand of research, is achieved.

4. RESULT

Here follows the main result of my qualitative interviews. The result is divided into themes, based out of based on the questions from the interviews. The guidelines for my questions can be found in appendix*. I have chosen to present the participants' answer theme by theme, instead of one by one.

What is Wikipedia?

Wikipedia was described as being an encyclopedia, information website, dictionary or a search engine where you can search for any type of information. The word "encyclopedi" was seldom used by the interview participants. Instead the word "uppslagsverk" was used which is a Swedish synonym to "encyclopedi". One of the participants described Wikipedia as "… a direct democratic gathering-point for information and knowledge". Some pointed out that it was not an academic website. There were divided thoughts about who could add information and if everyone have editorial access to all pages. Many were not sure and said that they only assumed that they were right. Two participants believed that only people with a Wikipedia account could add information. One participant even believed that all information had to be scrutinized before it was added to the page. Overall most of the interviewed believed that everyone could write, or edit anything on Wikipedia. A few thought that some pages were restricted or limited in different ways. Nearly all participants believed something that was not correct when talking about who could add information, where they could add it or features on Wikipedia. The participants had fairly good knowledge about the features on the Wikipedia website. Those who knew about the tabs with discussions and history didn't really use them. One participant said that "I know that there is history, where it stands how they have changed the page (article). There is also a discussion thread. I have got in to a discussion thread through Google, but it is not like that I have been there and actively been looking for them." Some simply said that they didn't have much knowledge about the site's features. All seemed to be aware about the site's sources. Overall – the features, except for links in the text, the search feature and sources, weren't used at any wider range by the participants.

Usage of Wikipedia

A few participants said that they often got to Wikipedia by searching something on Google – sometimes even though they already knew they were going to end up at Wikipedia. The

participants were frequently users of Wikipedia. Four of them said that they were on average using it every day. Among the others it varied between four times and one time a week. The least frequently user said first to be using it once a month but changed its mind later and said every second week. Only one had a Wikipedia account, but didn't log in when using Wikipedia. Two of the participant had added information to articles. The first one had only done it once and the participant described it as "for fun's sake". The person had added information that was kind of personal and of humoristic value. Although it wasn't false information it lacked relevance for the article. The person claimed that the information was removed after only fifteen seconds. The participant added several things until they were removed of the rights to edit at Wikipedia. The other individual had in total added information to Wikipedia around ten times. All others had not added information to Wikipedia.

The participants usually used Wikipedia for a first glance at a subject, especially in connection to their studies. It was seen as a good source to get a general view of something and a gateway to a subject. Another participant, who was studying history, said that because history students write a lot of text, it is good to be able to quickly look up certain events on Wikipedia. In this way the person got a fast glimpse about the event and wrote something about it and later on search for a more credible source. One person saw thankfully on Wikipedia as a way to get shallow information. However the person would never use information from the website if the person wanted to discuss seriously if the article wasn't denoted as a featured article. A few used Wikipedia in their studies to look up concepts and ideas in their area. One participant that was studying a translation programme was using Wikipedia because of the easy way of using it and that it comes in several languages. The participant could look up a term in English and then look it up in Swedish and see what kind of word they were using. But it was not without any problems. The person added that "After that you must look up how credible that term is."

Outside academia the participants used Wikipedia to look up information out of curiosity. Many referred to the knowledge with TV-shows or knowledge games (Jeopardy-knowledge). There were mentions about how you could get stuck in Wikipedia. When reading about something the links in the text takes you further and into other articles. One participant said that "[…] when you are reading about a philosophical ideology […], then you are pointed

towards Plato […], and so you are reading further and further and further. At the end of the day it (Wikipedia) becomes some form of an educational tool."

One participant said that it was a good source for popular culture. "I am interested in music. One can read about an artist or look at the discography", said the person. Two persons mentioned the knowledge they were looking for was "nerdy", for instance how may inhabitants a country or city has. It was also like that when some of the participants heard something on TV or through other people – later they read about it on Wikipedia out of curiosity.

Citing Wikipedia

The participants used the articles' sources differently depending on what type of information or purpose they had behind using the information. If they needed the information for academic use they went on with the sources to find credible information, since they didn't cite to Wikipedia. When reading about everyday-knowledge they tended not to care about the sources. None of the participants had cited straightly to Wikipedia in any academic work. Although all participants did not fully remember if they had cited to Wikipedia during their time in "gymnasium", they believed that they might have. Those who knew they hadn't cited to Wikipedia, said that they knew that others had done it during those studies. They all agreed that there was a difference between high educational studies and earlier studies. One participant said that it depends on what kind of "gymnasieprogram" the student was studying. The person believed that the source criticism is lower among practical lines, such as vehicle engineering programme or the electrician programme, than programmes that are preparatory for higher education. Another participant said that in "gymnasium" the studies are supposed to give answers, which Wikipedia can provide. On the other hand in high education the student is the one asking the questions and building the problems. "In the university it is you that are asking the questions, you are the one setting the requirements, because it is you that must prove that you can do a selection. Therefore you don't use Wikipedia." Overall the students believed that the demands are higher in high education than "gymnasium" and that it is the main reason. In the university they have a greater claim to what they do; "gymnasium" becomes a repetition of what others have said, one participant pointed out. In the university it is demanded that you must draw your own conclusions and then it is extra important to see what you have built your conclusions on. On the other hand one participant believed that the

step between "gymnasium" to high education was being made bigger than what it really is. The person believed that individuals use their previous methods even though they move unto high education; therefore there is not a great difference in how people use Wikipedia in "gymnasium" and high education.

"Simultaneously the demands are rising for a scientific stringency […], then you must be careful with how you reference and then you will not reference to Wikipedia like a real source in the same way as to printed material for instance." One person said that since you have course literature and search for articles for further information, Wikipedia information is simply not needed in the university. In the "gymnasium" you have one schoolbook per subject and if a young adult need more information it is more likely that the person goes to Google instead of the library, the person believed. Overall the view on source criticism and primary sources is totally different in the university. In "gymnasium" you are only expected to use different volumes for overviews, one of the participants said. The person said that it wouldn't cite "Nationalencyclopedin" either since it is earlier research that is relevant, not the facts that "Nationalencyclopedin" and Wikipedia delivers. One person said that "I would be embarrassed if I cited Wikipedia". After being asked why the individual responded "because I would be taken unserious by teachers […]. That I haven't read the course literature, in a way." One person believed that you become more source critic when you learn how information can be distorted. In the university you also read heavier literature and you get a higher respect for what makes up good knowledge or trustworthy knowledge, the person added.

Jargon and justifiability

Some of the students were asked or came into the discussion if there is a jargon about Wikipedia's reputation, that it is not credible. One student thought that it had never been really question and that everyone accepts it. But the person was not clear if it is supposed to be changed, but speculated that maybe when it is easier material and not when it is supposed to be reasoned about. Another participant pointed out that Wikipedia's irregularity when it comes to quality makes its hard to say that it is credible in a monolithic view. The person said that the tags that say how good the quality of the article is, is one step on the way. There might be an idea to create two parts of it, that some material can go through a process and end up in a university like forum, the person suggested. "I am leaning towards believing it (the reputation) is justifiable. Because you can never be 100 % sure that it (Wikipedia's

information) is true", the person ended. Another one said that just because you don't know who is the author makes the reputation justifiable. A printed source is more solid since you can references to a certain edition, certain year of publishing and someone else can find out exactly what it says. An Internet page can be changes, said the person finally.

Credibility and broadness in the students' area

One person that had read a translation programme had assignments where they translated fictional texts. The person thought that the Wikipedia articles about the authors and the background to the text was very good. Otherwise in translation science the person hadn't used Wikipedia in any way, but believed that Wikipedia was quite bad in that aspect. In the persons field Wikipedia was sometimes great when they had to translate in example flower names, but in other areas there was nothing to be found. The participant that had read history said that Wikipedia was broad in the area but not very deep. The person said that it was a gateway into the area but not covering the historical science. One person had read French but had no use of Wikipedia at all, since their course literature and lectures covered all they needed to know. The same person had studied theology and believed that some articles were very biased. In example it was possible for the say if an article about Luther was written by a Lutheran or a non-Lutheran. Purely historical it is possible to read what a person have done, about his/hers childhood and for instance what the person has published without it being biased in anyway. But when it comes to what impact the person had and what is being emphasized in the article it is very affected by what theological background the writer has. One person believed that in sociology it was common to use informally. There are so many people that have written in the area so it is easier to use Wikipedia than to look them up in a literature list. One person that had read media and communication science adds to this and said that there are many old theoreticians that Wikipedia's information about them is very correct in comparison to the course literature. The participant that had read applied system science could find even better tables of certain mathematical measures than in other places. The person had cited it once, but with a back-up source. Another participant believed that all the terms in their own scientific paradigm, in example national economy, political science and economical history, couldn't be found. The articles become more about what is said commonly among people. Since political ideologies are in most people's everyday somehow there might be more about it that for instance gender science, the person ends.

The credibility and broadness among subjects on Wikipedia

In this broad and open question the participants had a bit different ideas about the difference on Wikipedia. Some of them said that they thought the bigger subjects on Wikipedia were more credible, because they believed that more read and edited them. In that it would be harder to get away with an error. One participant said that "for me it isn't about what subject it is about, but it simply depends on the size of the information that is available about the articles subject outside Wikipedia". On the other hand some of them pointed out that small subjects that demanded some kind of special knowledge also were credible. Since those who were even able to edit and write on such matters could easily detect if someone without the knowledge tried to add something (that probably would be wrong). One person addressed it as talking about popularity and difficulty. The person meant that if it is hard to write about because of the difficulty, there are fewer who can actually read it and therefore it does not become very popular. The person did not believe it to be likely that anyone would spend a month to write an article on Wikipedia about complex studies, since it is unpaid. The person who had read history said that physics and mathematics were probably more credible and accurate on Wikipedia than history. History is so broad and a minor qualitative event can have a vast article in comparison to other events and that makes it unbalanced, said the person. Others were also into the idea that mathematical articles were of higher credibility. One person said that when there is only one answer it becomes more credible since anyone can calculate it. Other subjects where there are many different answers are harder to estimate the credibility to. Some said that information about celebrities in example artists, what songs they have made and when they are born et cetera, was credible. This since everyone can go in and edit, because people would know it straight away. Another individual pointed out the exact opposite when telling that the person had found a wrong fact – a celebrity was wrong year of birth, but the person did not change it. The individual who had studied theology said that its trust for simpler knowledge was high, for instance where a place lies in the world. The person saw no reason why someone would lie about something like that. Same person saw scientific knowledge considerable more sensitive because "there can be an interest in biasing it". Otherwise were political and newsworthy subjects those who were updated in contrast to all historical events. The deeper and specialized the knowledge is the higher the probability is that there is little information about it on Wikipedia, the person ends. An interviewed said that subjects that arouse strong feelings and are sensitive in political aspects were subjects that the person was more skeptical to trust. Especially conflicts where there is no consensus, such as

the Palestine-Israel conflict, where the interviewed believed that the article had been changed numerous times. It is more credible "if there is a battle in history […] I can imagine that some nerd have quite good knowledge about it and has written about it, something that do not upset anyone", the person said.

Estimation of credibility on Wikipedia

One student said that he/she usually didn't use the information in anyway and therefore didn't feel any need to verify if it was credible more than using its own reasoning. If the information seemed biased the person would google more about the subject. The person lifted as positive that there are often two or several different stories on Wikipedia. Overall the interviewed tried to deem the listed sources to estimate the credibility. Some went further with the sources to check them out if they needed the information for something, others tried just to estimate the credibility by reading their titles. The person who had studied history said that you can never trust historical facts wherever they are. Even though you have very much empirical evidence you can only get so close to the truth as possible, but never knowing for sure. "Wikipedia will never be that is closest to the truth, there are always some other source that is better than Wikipedia", said the person. For one of the interviewed the lay out was important, for instance if a text is spelled wrong the credibility sinks, but generally this is not the common case on Wikipedia. Another one also pointed out that the language usage could tell some of the quality of the text. An individual said that the color of the labels/locks (estimations of quality) of the articles were important, that they could guide the reader and tell what quality the article has. One said that it didn't do that evaluation on Wikipedia. "It could be if I wanted to go on to a real study, in my courses you must always check if the references are good and that it is credible. But at Wikipedia it becomes not so much (of that)", said a participant. With other words; the participant didn't evaluate the quality of Wikipedia credibility since the person didn't use it in academia.

Citing Wikipedia

One person pointed straight out that there was no need to cite Wikipedia, or any other likewise source (encyclopedia) even though it was academic proven. Another one said that the teachers of the courses said that it wasn't acceptable. Other suggestions were made such as article author, that some articles become scientific accepted by some institutions and are not editable, a sister company like Google Scholar but differently. It would be a quality secured

version of Wikipedia. The person suggesting it added that everything written on Wikipedia has the chance to be accepted there but after a very rigorous scrutiny like the peer-review-system for scientific articles. Notable is that many of the participant had ideas that the information had to be stable somehow, that the earlier versions must be saved somewhere, since someone reading the academic usage of the information must be able to reach the same material. However the participants often ended up in that you in either way must continue with the listed sources to be sure of the knowledge, thus the citing of Wikipedia would be totally unnecessary.

Wikipedia's strength

The interviewed students saw the quantity of the information as strength and also that Wikipedia's information is broad. "There is very much information and I perceive that it becomes more and more credible as well", said a participant. They also reckoned that the easy access to the site and that many different types of people is engaged in it was good. One person said that because of the multitude of people that are involved some kind of neutrality emerges. The quick response of information about recent events was seen as strength especially compared to NE. Another strength pointed out by a person was that if there is several meanings for one term Wikipedia suggest the different options. Further Wikipedia uses links in highlighted words so the reader can continue to read about related subjects, the person added. For the one that had read the translation programme the multiple languages on the site was seen as strength. Other participants also saw it as strength because you are able to compare the different versions, in example the Swedish one and English one.

Wikipedia's weaknesses

A weakness that was pointed out was the sources. They can disappear and if there isn't any source people can write whatever they like, according to one participant. Even though that the quantity was a strength one participant said that it was weakness that everything does not exist on Wikipedia. Further the person said that a weak Wikipedia is created when given an untrustworthy reputation. The person believed that even though the material could be written by a researcher who is best in the field and cites its own work you as an academic should check the sources instead of blindly trust the information. "I think we unconscious underestimate Wikipedia", the person added. Another person added that it can be unbalanced in quantity between different areas. Others said that weakness on Wikipedia was that the

information you read not necessarily is true and you don't know where it has originated from. It could be biased in ways you don't know. One person said that there always is a coincidence chance. In any given moment you cannot know that it is true. "If you are there and do something (wrongly), it is changed back very fast. The problem is if you are there exactly when someone has put in something that is false. You can never estimate that", said the person.

Nationalencyclopedin

Nationalencyclopedin was described as being an encyclopedia, a dictionary, database for facts or a search engine. No one really knew who was adding the information to NE, but all were agreeing upon that it was restricted to a chosen few experts. The information was overall more trustworthy, however some saw it as they lacked in speed of updating and information broadness. NE was seen as a more formal site. Several persons believed that it was the (Swedish) state or some administrative authority, for instance the Swedish Academy or the Swedish Research Council that was behind it. Where others could not say where they had gotten the information about that NE was driven by experts, one person guessed that the name Nationalencyclopedin made it sound legitimate. Others speculated that it was because they used to have printed versions that made it more valid. The overall view was that the articles on NE were more concise that on Wikipedia. The students used it less, but were able to use it differently since it is acceptable for them to cite it in their studies. However the information was seen more as short facts and always not usable. It seemed that it was mostly used to cite definitions for concepts and terms, which otherwise could be hard to find. One person had not cited to it and shouldn't do it either since it was seen as the same sort of information as Wikipedia – not in-depth enough to be of any value. The obvious strength with NE was that it is secure as a source and academic proven. The weaknesses were that it isn't available free for all and there is a much larger delay before something is added to the site. NE was not used that very much. "Not so often, it happens, but I use Google a lot. If I google a word and NE comes up, then I click it, if I google a word and Wikipedia comes up then I click that", said a person.

The students' source criticism

Five of the students answered yes to the question "Do you see yourself as being a person with high source criticism?" Four students answered no, often with a little laughter afterwards.

They said that they were tending to trust information easily and were being naive when given information. One student said that "I'm tending to accept things rather easily and pass it down: 'now, I don't know if it's true, but I have heard'… I often say: 'I read that…'."Those who answered yes had less to say in the matter. They simply said "yes" and added "a little too much sometimes" or "you should be source critic against the best academic, all the time".

General use of Wikipedia

The view was diverging somewhat. Some believed that people used Wikipedia to find general information. Some had the belief that it was generally known that you shouldn't trust Wikipedia, but that some do it anyway because it seems correct. Some had experience of people using Wikipedia information in a destructive way - for instance in political debates. Another one had an experience where someone had quoted a Wikipedia article that proved his point. The participant had used the same article but another segment of it to prove that the point was wrong. The person said that to get a good picture of something you need to read everything and he/she didn't believe that people do that. One student was very critical towards the trust put in Wikipedia saying that "I have experienced that many people argument through Wikipedia and it is very tragic in a way."

Most didn't believe that the usage of Wikipedia should change in any major way. "It should ruin the purpose with Wikipedia, if you should have much source criticism and fact scrutinizers, then you must hire people and then it cannot be free anymore. No, I think that Wikipedia should be as it is and then you should use it cautiously", said one of the interviewed. Another one pointed out that the subjects that aren't scientific, in example argumentations for that we haven't landed on the moon, are part of what Wikipedia is. The person said that it is fun and people like the material that is part mythical. On the participants thought it was interesting that it was taboo that in the gymnasium to use Wikipedia while the person had been encouraged to use Wikipedia in high educational studies to get a first brief view into the subject. The person indicated that Wikipedia could be used to that – get into a new area but still never use it as a primary source. "I think that you should continue develop and use Wikipedia. There is something very powerful in it, that it is our in some way collective knowledgebase that we are building together. There is both problems but also immense possibilities how we make knowledge available", one student said.

5. ANALYSIS

It is important to verify whether people understand what Wikipedia is or not, according to Flanagin and Metzger's (2011) research: you can't assume that they do. Participants in this study showed real knowledge about what Wikipedia is, how the information is generated, however their knowledge and especially usage of the sites functions varied. This is not surprising at all, since all the students grew up in Sweden and very likely have been brought up to internet usage. All of them also had studied at universities or other high educational institutions and it is very likely that they have encountered or discussed Wikipedia in some ways before. The knowledge and how able they were to point out functions as for instance history account and discussion page were low however. This could be seen in later questions that were about what changes the participant felt that they must have to be able to cite Wikipedia in academic works or at all. Some of them said that you had to be able to see changes to the specific article and in other questions the participants said that it could be good to go back and be able to see previous versions. This is something that you are able to do currently. There was an underlying sense that the students saw themselves as being less probable than others to experience negative effects of being exposed to false Wikipedia information, like Flanagin and Metzger (2011) write about. Some were skeptical toward other persons' use of Wikipedia information. With this said, there was also a lot of humility toward others use of Wikipedia among the students. This was maybe because they had discussed usage of Wikipedia with other persons with varying beliefs.

Wikipedia and other encyclopedias

Flanagin's and Metzger's (2011) studies say that Encyclopedia Britannica was perceived as significantly more credible than either Citizendium or Wikipedia. This thesis compared the Swedish Nationalencyclopedin and Wikipedia. Flanagin and Metzger wrote that future research should go in-depth to find out to see what features are important for adults to perceive information as credible. In some sense this thesis has done that. The students of this study did not believe that NE was in average particular more credible than Wikipedia. So the tendency that people trust vetted information and go with what Fragale and Heath (2004) described as "the experts are normally right" is not applicable with this study. This can be because the participants in this study are taught through their studies to be source critic against vetted information as well as any information, which perhaps the individuals in

Fragale's and Heath's research were not. The participants in this study however answered that it might be slightly more accurate, but significantly. The biggest difference was in some sense that it was because they were able to cite NE in university studies, but not being able to cite Wikipedia. Also aspects like that – Wikipedia is being used by so many in some sense create a balance of neutrality – might have come to matter in the idea of the credibility. This is not the case with NE. NE might be biased if there is only a few monitoring, writing and editing it. The information on NE seemed as more credible between the lines since it is acceptable for them to cite for their teachers. When asking if this was a jargon that maybe was in need of questioning most of them didn't change their standpoint. It was suggested that Wikipedia might be used for smaller project when you don't need to speculate and reason about it.

One student pointed out that she would never cite either Wikipedia or NE since their information is more of fact databases and their information didn't really give anything of value for the student. More in-depth science was needed and therefore neither of the encyclopedias was of any value. The person trusted both sites equally, and made no distinction between them since the person didn't use any of them in any academic sense. The person said that the main reason that Wikipedia wasn't good for citing or reference to was the risk of every moment. Someone can change it at any time, which in some sense would seem to give NE some extra points in credibility; however Wikipedia was seen by the students to be changed back rather immediately. Even one student had experienced this, in a very obsolete topic on Wikipedia, and according to that student it only took some seconds before the information was changed back. The possibility to change back to an older version if someone has ruined an article was important. Since no versions disappear and the information is as good as another encyclopedia – of course Wikipedia can be seen as equally credible with its information. The difference is that you don't know where or which version is the best or that Wikipedia is not a stable source since it is changeable, where NE is more of a stable source (although also changeable). Out of Taylors six categories when making choices students mentioned three: ease of use, time saving and cost saving as strength at Wikipedia. The same went for NE except for the cost saving. That NE cost was seen as weakness.

Subjects and topics on Wikipedia

One student pointed out that there are many subjects and topics where there simply is no truth. This student was perhaps influenced by its own field of studying, where many of the theories

are discussable (in contrast to more mathematical subjects). The Israel and Palestine conflict were given as an example where on Wikipedia two sides can be represented in a good way, yet there will be no solid truth. History as a subject was also being used by the participant that were studying it saying that there is no truth, you can come as close to it as possible, but there isn't really any truth (in the academic field of history). This of course goes with NE as well; there are many subjects with no sole truth. And for those more fact based subjects like mathematics, the students perceived it rather accurate on Wikipedia since it is "either yes or no". All (or many is perhaps more correct) can double check by counting for themselves and therefore there shouldn't be so many errors. This kind of information was either non-existent on NE or the same information as Wikipedia. This reasoning leads to that the sites are more equally accurate than the inverse, especially in the "mathematic" topics. One student who read a more mathematical subject tended to believe that Wikipedia was accurate and had actually cited to it in an academic work (along with another source). In contrast one who studied history believed that Wikipedia in some sense was overused. Here it is possible to reckon a notion of that the fields that the students study affect their view of the encyclopedia.

Utility of Wikipedia

Aligned with the studies of Chung (2012) the students were aware that their choice of source would affect the quality of their work. Although some listed as strength that Wikipedia was easy to use it was not seen as strength in an academic context. One student said though that he/she wished to be able to cite Wikipedia, probably out of comfortableness. The participants were overall leaning toward that the utility of Wikipedia was not high enough for academic works in several points. For instance the information in scientific subjects was seen as shallow information, and more fact database like. They said that it was not deep enough and good enough for academia. With unstable sources and not being 100 % sure that others can read exactly what the person cited on the website it in an academic work; the use of Wikipedia in high education seemed very limited for the students. The risk of every moment is overhanging – even though changed back from vandalism frequently. Academia is about being sure about something and to prove it – Wikipedia does not fulfill that notion. Chung writes that peer influence affect Wikipedia use. This was not something that came up in the interviews; it was never really an outspoken question though. Some students said that they weren't allowed according to their tutors to use Wikipedia, which would be a hierarchical influence rather than a peer influence.

In line with what Brown (2011) writes, the students in my research seemed to be more critical toward omission than actual factual errors on Wikipedia. Brown says that it reflects the limited expertise and interest of contributors. This on the other hand was not something the students pointed out. They believed rather strongly that the multitude on Wikipedia would contribute quite broadly and somehow creating a neutral space of information since there is people from all directions adding material. This might be because the students mostly have been using Wikipedia in the areas they are interested in – out of curiosity, their field of study or other factors. Since they hadn't done any study about Wikipedia their beliefs about the encyclopedia might have been influenced by their limited overlook of the different areas of Wikipedia. They could of course discuss and elaborate about what the possible differences might be, but the question remains to what extent they actually had witnessed it with own experience. They though pointed out that the information can be uneven between equal topics in the same subjects. This was something NE was pointed out to be better at. Students also believed that articles about older events on Wikipedia were more likely to be less covering or non-existing at all, rather than newer events, also aligned with Browns studies. Those who pointed that out seemed to be more connected to search about older events because of their field of studies, but this notion is mostly vague. Brown suggest that Wikipedia's usefulness is that the user can gain access for a quick overlook for a subject and that serious research should always be based on primary or secondary sources. This is something the students in this study agree upon, time after time. This suggests that students in high education are well aware of source criticism, even those who deem themselves not to be source critic as persons. They are used to the internet and its fasts and convenient ways of receiving information – but they are skeptical towards its credibility.

Brown writes that Wikipedia's surprisingly accuracy can be useful for researchers with limited resources, for instance quick preliminary analyses of different types. But when continuing on primary sources would of course be needed but Wikipedia could work as a preliminary source. Researchers with limited resources could partly be a definition for a high education student. One participant in the interviews said that Wikipedia maybe could be used in Wikipedia when addressing "easier" tasks, but not when there is something to be reasoned about. The students in this study used Wikipedia overall for a quick overlook; to get into a new subject or topic.

Assessing source credibility

According to Fragale and Heath (2004) credible sources are able to be seen to create credible message and these messages are seen as likely to have come from credible sources. This can be seen in my interviews where the students express that the credibility is seen to be low if the language standard is low. This might be because they are used to read literature in their studies and comparing the language standard with other textual entries along with credibility might affect their views. Wikipedia seen as a monolithic source is problematic – especially since some of its content is perceived credible and some is not. The student seemed to believe that they were able to estimate the credibility of the information somewhat of the content. This might come from usage to evaluate the credibility of what other persons say or texts they read, which might be enhanced by their source criticism learned in their studies. The question remains: if the students find something they perceive as credible on Wikipedia, do they believe it has originated from a credible source? Even though they might check the source at the bottom of the article they must still make the assessment if the unknown person who wrote it was biased in any way and if the person interpreted the information correctly from the original source. In this case if the students find information that is not credible on Wikipedia it seems not really do damage their view on Wikipedia's overall credibility – more likely to raise the awareness even higher that Wikipedia contains errors. But as the students also said, many of these ideas around Wikipedia should be applied to all sources. So the credibility of sources is not really applying in all senses to Wikipedia. Experts and objective persons should influence people more than in-experts and biased persons. Slater and Rouner (1996) write that the removal of authors causes a problem on Wikipedia since you cannot know who wrote it and therefore you are left alone in estimating the credibility of the information. Some of the students mentioned that out-written authors of the text would be one of the steps if they would ever be able to cite Wikipedia in academic works. False messages from Wikipedia might not hurt the perceived credibility of the encyclopedia, in the same way as it would to another source. Likewise, studies made that prove Wikipedia to be credible might not add positively to its perceived credibility (due to selection of topics in the study, previous reputation, and changeableness) as it would to another source. The source has power in shaping the message's impact. Even though Wikipedia would have a message that would be perhaps the best source there is, the reputation that Wikipedia has makes it that it would still be perceived as of perhaps same credibility as of something with much less credibility. There are three sources of data that are concerning the source's credibility that Slater and Rouner write about. One of

them is where the individual must assess the spokesman of the message is not possible on Wikipedia. The third one is that individuals must make inferences about the quality of the message to determine the credibility. This is something the students in my study said to partly be doing. If they really wanted to know the credibility for some academic work or "higher" usage they went on with the sources. If they only needed the information for own interest or less important reasons they didn't really make that kind of assessment.

When creating a memory individuals do not retrieve a tag that specifies what the source is, according to research by Johnson, Hashtroudi and Lindsay (1993). Instead when remembering individuals use decision processes to evaluate and attribute activated memory records to particular sources. One can question when information that first was read on Wikipedia is being assessed as credible information. If the students assess the source at the bottom of the article to be credible, or even goes on with the source, is then the Wikipedia information seen as credible? Which of the sources will be remembered?

One of the students admitted to be experiencing what Fragale and Heath (2004) calls source amnesia. The person believed itself to be naive and forwarding information that the person was not sure of its origins, saying: "I have read that…" without being able to identify the source. In some sense all information from Wikipedia becomes a sort of "source amnesia information". Even though the person would remember reading it on Wikipedia the person could perhaps not identify the origin of the message and therefore can only say "I read that…" or "I read on Wikipedia that…". The adding of "on Wikipedia" does not change the second source of data that Slater and Rouner (1996) writes about – the assessment of the spokesman. In some sense according to the theories in the field one might have a greater influence and one's message might be better believed among friends and colleagues when saying "I have read that…" instead of "I read on Wikipedia that…". Danielson (2007) writes in his work about Wilson's (1983) ideas that individuals assess friends, neighbors and colleagues as trustworthy and therefore credible sources. If an individual would use Wikipedia as source in a message, the audience of the message might asses that it is not credible, since they do not know who wrote it on Wikipedia. Instead they might asses the individual to be more credible when *not* admitting Wikipedia as the source, even though it is likely could have come from Wikipedia or that the person behind the message on Wikipedia might be much more credible that the person who read it.

Belief and credibility

Fragale and Heath (2004) suggest that individuals use a heuristic: belief force equals credible source. In this sense individuals estimate a credible source if it is aligned with their beliefs. In my interviews it is hard to tell if the belief in the credibility of Wikipedia is somewhat govern by what subject the students are studying and what impact it has on the perceived credibility. As I have written previously, I have a feeling that it to some extent does. Some students that are studying subjects that are perceived as more credible seem to be as likely minded towards the general credibility of Wikipedia. There might be a slightly more positive view of Wikipedia in general among those perceiving their own area as credible. Overall the students are aligned on the view that some subjects are more reliable, regardless of their own field of study. Studies show that when having little information about sources individuals judge the credibility of the source based on the message. This is however hard to analyze because it is unknown if the participants in this study see Wikipedia or the unknown contributors as the true source to the information. If they see the unknown information generators as the source they are perhaps judging the specific subjects source credibility based on the information they are given. On the other hand Fragale and Heath suggest that the individuals view about the communicator is shaped by their beliefs. This is only possible if the students in this study view Wikipedia as the source of the information. And perhaps their view of the communicator Wikipedia is being shaped by their beliefs that are either confirming or denying their opinions. There is a possible danger when untruths can flourish in hiding in symbols of truth – sources perceived as credible, Fragale and Heath write. This is the case with Wikipedia. In some knowledge areas on Wikipedia the accuracy and credibility is high, both validated by experts as to be fairly credible (especially when compared to other encyclopedias) and aligned with the beliefs of the participants of this study. But Wikipedia's broadness leads to that there are many minor subjects that have articles, in difference from other encyclopedias (NE in this study). Therefore there might be many untruths that are flourishing in the symbol of Wikipedia. If Wikipedia is a symbol of truth however does not the theory or this study answer. Since Wikipedia most of all would like to have as accurate information as possible, they might aim to be a symbol of truth. Those using Wikipedia might see the site in more complex terms than of truth or falseness.

Four notions of credibility

Fogg (2003) suggest that there are four types of credibility assessing information systems. The first is *presumed credibility* where individuals have easier to believe what friends tell them than salespersons. This goes in two ways when applied to this study. Some of the individuals in this study seemed not to be very critical toward the information on Wikipedia – since they didn't use it in any academic way. Since anyone could have written the information on the site one can assume that they wouldn't be so critical if their friends would tell them something. However some of the students held a high view of vetted information especially in connection to studies and therefore in the very basic example might trust the "salesperson" or that kind of person over a friends view.

Reputed credibility is when an individual belief something because of what a third party has said. When talking about Wikipedia the students reflected most from their own view. But when talking about NE many of them didn't know who wrote the information but knew that it was reliable. Most of the participant couldn't recall where they had heard that, which concurs with what Fragale and Heath call "source amnesia". This is because individuals must often reconstruct the sources of their memories. This is of importance since source information is critical to be able to separate reality from imagination. The students in this survey relied heavily on the reputed credibility of NE when assessing its credibility but own views mostly when assessing Wikipedia. One of the students believed that it maybe was because of the name Nationalencyclopedin (roughly translated: the state/national encyclopedia) that persons assumed that it was state funded and therefore reliable. Another one said in the interviews that you never know if the information is accurate and might rely on NE too much just because you have heard that it is credible – if it is not then you are standing like a deer caught in the headlights. Several times in the interviews there were mentions of tutors, regular discussions or unknown sources saying that Wikipedia isn't credible. In this sense the belief is shaped because of a third party. Some believed that this was a jargon about Wikipedia but if it should be questioned there were divided ideas about. Some other students pointed out that you should be equally source critic regardless if it is Wikipedia, NE or the best professor they know. Opinions surely affected by their time in academic studies.

Surface credibility is when an inspection of some sort, for instance the cover, outlay or language, is the base for believability. A few participants pointed out that they could assess on

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the language level in the Wikipedia articles if the information was perceived as credible. Otherwise the layout of Wikipedia could maybe affect the perceived credibility; this is something this study didn't examine.

Experienced credibility is when first-hand experience is the base for believability. When interacting over a long time expertise and trustworthiness can be assessed. This was the students in this study mostly was using – their own experience of Wikipedia.

6. CONCLUSION

This study's purpose was to discover the opinions about the credibility of Wikipedia among high education students. The assumption, that students are aware of being source criticizing and not directly citing Wikipedia in academic works, was confirmed by the participants in this study.

The perceived credibility of the information on Wikipedia among the students was that it is fairly credible, fast updated and neutral. However it is not material for academic works so in all aspects the students did not do the evaluation of the encyclopedias credibility.

The students were lacking to some extent to describe the encyclopedia's features and did not use it fully. They used it frequently, both in academic situations and everyday situations. The main usage in academic situations was when they wanted to get a first overlook in a subject, but they never citing it. The assessment of credibility was perhaps not really made since they anyway were going to search for primary sources for further readings and citations. In everyday situations they used Wikipedia to read about topics they were curious about. Here as well the assessment of the credibility was not really thought of since the students wouldn't really use the information for anything important.

Some were leaning towards that there was a jargon in the academic sphere about Wikipedia not being credible. However they did not truly believe it was wrong, but maybe there was maybe a need to question it according to one student.

I suggest that the notion of Wikipedia becoming academic is not possible if you do not change Wikipedia from what it was meant to be. One student said that Wikipedia is good as it is and changing it would ruin its purpose. I agree. Wikipedia fulfills an educational tool for the public even though it is not always correct. It is important to be reminded that Wikipedia contains error but no other source is completely flawless. Trying to make Wikipedia academic would be worthless. There would be a need to vet all information and not being open for all to edit. In that sense it would be smarter to start a new encyclopedia, perhaps open for professors only and would in the end only contain vetted information, however mostly/only in academic fields.

I also suggest that there is a need for an online dictionary for academic terms, which is citable. Many of the students in this study used both Wikipedia and NE to search for academic terms. They needed to get a short definition of what something was. Of course some academic terms can be elaborated to infinity. But I see the need for a dictionary that with a few sentences can describe what phenomenology, doxa or binary tree algorithms are.

6.1 LIMITATIONS AND FUTURE RESEARCH

I am quite content that I covered different subjects of high education, but with the results at hand I should maybe have put an even greater spread among those I interviewed. The main purpose was not to find out what different areas of studies could affect the views of those interviewed. But as seen in the result it affected the opinions among the participants somewhat. Maybe I should have covered areas as for instance law, biology and geography. I can of course argue that it would stretch the work out of its limitations. Also the number of scientific areas goes well beyond the number of participants in this study, so I couldn't cover them all.

The interviews were made with Swedish students only. This might in some sense influence the result in some way and the result might perhaps not be applicable to any other nationality/country.

Future research related to this study should focus on how different areas of knowledge affect our view on information in connection to phenomena like Wikipedia. Do we judge Wikipedia as a source according to what areas we are experts, becoming experts or simply have some level of knowledge in? As written in the analysis I speculated that the participants that are studying what is referred to as a "mathematical subject" have overall a more positive view of Wikipedia, since the articles on the students field is overall very accurate. On the other hand students who study subjects that don't really have any clear truths, do they consider Wikipedia less credible since the typical article in their field is biased in any way, not deep enough or just incapable to represent the topic? Future research should also look into how different scientific subjects change our views and opinions, not only about Wikipedia, but overall, maybe political or religious for instance. It should also be interesting to make a similar study as this one but use tutors from different levels of education instead of students.

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APPENDIX I

INTERVIEW QUESTIONS

*What is Wikipedia? How does it operate? What are its functions? Where from comes the information? Who can add information? On which articles? What about sources/history?

*How often do you use Wikipedia? Have you added any information yourself? When/how/how often?

*In what purposes do you visit Wikipedia? How do you use Wikipedia? How do you do to assess what is credible?

*Have you used Wikipedia in connection to studies? How? Have you cited directly to Wikipedia in an academic work?

*What are the strengths/weaknesses with Wikipedia?

*Have you cited to Wikipedia directly in previous studies outside high education? Why/why not? What is the difference between high education and lower education in this?

*What is NE? What does it operate? From where comes the information? Who can add information? On which articles? What about sources/history?

*How often do you use NE? Strengths/weaknesses?

*How is Wikipedia's information in your areas of study?

*What is the difference between different topics on Wikipedia when it comes to broadness and credibility?

*How big is the difference between Wikipedia and NE?

*How do you experience others' use of information from Wikipedia? How should it change?

*What changes to Wikipedia would you demand to be able to cite in in high education?

*Do you see yourself as a source criticizing person?