Online skills of the Dutch adolescent in the age of 14 to 16

Models on internet skills combined to test information-, communication- and strategic-skills in an online context.

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Abstract

Adolescents these days grow up with internet as 'an absoluteness' and are often seen as digital natives. 99.1% of all adolescents have access to the internet at home, and they use the internet for many purposes. Despite the high percentages of access to, and usage of the internet, several researchers reject the term of digital natives. Some speak of a second digital divide in which groups may lack the skill to successfully use the internet. This second digital divide can also have consequences for the quality of the web in the future. Two research questions are proposed:

1) *What is the level of Dutch secondary school students on Online (information, communication and strategic) skills?*
2) *Does the level of these three online skills differ between educational attainment and gender?*

The second research question is divided in six sub questions focusing on the possible difference in score between educational level and gender.

Adolescents are in a difficult stage of their lives. Physically they are maturing or even full grown, but psychologically they are still evolving and developing, and not always able to grasp consequences of their actions. They are looking for their identity and independency, and maturing in sexuality. The attraction of the internet on the adolescent is explainable with Uses and Gratifications Theory. With online activities moving from searching and collecting information (web 1.0) to communication and online collaboration (web 2.0), adolescents, can satisfy curiosity, need for entertainment and socialization. With all these aspects of internet usage, a good insight in the skills to use this medium in its broadest form is needed. Therefore this research combines the 'Internet skills' model of Van Deursen and Van Dijk (2009) and four forms from the participatory cultures of Jenkins (2009) to create a new model of 'Online skills'. This model divides three online skills:

1) Online Communication Skill; Making contact, and expressing online.
2) Online Information skill: Searching and evaluating information online
3) Online Strategic Skill; Solving problems through online collaboration

An experiment and a survey were conducted among a sample of 92 respondents, 59 female and 33 male subjects. All students were randomly selected over age (3rd and 4th grade), all from the same secondary school. Respondents first had to answer 34 survey questions regarding the use of the internet and several aspects of their usage of social networking sites (SNS). After this, 6 assignments had to be made with the help of the computer and Internet. Respondents had to search for information, websites, and personal profiles or group pages on SNS. The whole test took on average 35 minutes of their time.

Results show that higher educational groups score slightly better in information skills. Difference is not significant but does appear in previous research. Communication skills show differences in several sub skills: Lower educational groups spend more time online and on SNS and also exchange more messages, but they score lower in message quality and receive more negative reactions. Scores on strategic skills, tested with more complex assignments show that adolescents tend to be a bit naïve and easy-going, they mostly rely on a single source. Females appear to score better on this strategic skill. Overall

difference in gender is little, but also proven in some small sub skills within communication skills which supports previous research on difference in gender and mediated communication.

The exploratory nature of this research comes with some limitations. The problem of social desirability in this case might occur within the survey questions regarding accepting and receiving friendrequests or public reactions. Therefore a recommendation for future research on online skills is to develop and use assignments which can be analyzed more thoroughly, and are focused on that particular skill. A combination of several methods is advised.

This study shows that adolescents aren't automatically digital natives. Especially information and strategic skills need to be developed, preferably in an educational setting. With this study hopefully a first step is taken to focus on the broad spectrum of online skills of adolescents in both educational as leisure settings. In both settings all the three skills (information, communication and strategic) are needed to gain benefit from internet usage.

1. Introduction

Usage of the internet is a daily activity for adolescents of 14 to 16 years old. They keep in touch with friends through social network sites (SNS) like, Facebook[1] and Hyves[2]. They 'microblog' via Twitter[3], but they also search for information for school projects on sites like Wikipedia. Assumptions are made that young people are preferred to be called 'digital natives' (Hargittai, 2010). A conclusion made by several researches is that due to widespread and daily exposure to the new media, there won't be a difference in knowledge and capability of how to use them.

The exact usage of the internet in the Netherlands is investigated by IVO (Van Rooij, Schoenmakers, Meerkerk & Van de Mheen, 2008), 99.1% of all Dutch youth had access to internet at home. From 2009 until 2011 this number stayed at 99% of all kids, adolescents and young adults (CBS, ICT gebruik van personen naar persoonskenmerk, 2011). Looking at these numbers in relation to education and age, the following appears: 39.2% of all first graders (in Secondary school) used the internet every day and the daily usage of the internet among second graders is almost half; 49.2%. First and second graders spend over more than 2 hours a day on the web. The amount of hours online is still growing; In 2006 usage of first and second graders was 13.3 hours a week, in 2008 this rose to 14.0 hours. When looking at the usage of social networking and profile sites, The Netherlands is leader when it comes to amount of children with an own profile on a Social Network site (SNS), this is 80% off all children from 9 to 16 years who use the internet. Also children start using the internet at ever younger ages. Across Europe one third of the 9 to 10 year olds use the internet on a daily basis. This usage rises with 80% in the group '15 and 16 year olds' (Livingstone, Haddon, Gorzig & Olafsson, 2011).

A closer look at content creation shows that more and more teens have created media content and share these projects online (PEW internet, 2010). These teens are actively involved in so called participatory cultures. In this online culture the barriers for creating and sharing content are very low. Jenkins (2009) divides four forms within this participatory culture;

1. Affiliations; Memberships, formal and informal in online communities centered around various forms of media such as Facebook messageboards and gameclans.
2. Expressions; Producing new creative forms, such as digital sampling, skinning modding, fan videos, fiction and mash-ups.
3. Collaborative problem solving; Working together in teams, formal and informal, to complete tasks and develop new knowledge, such as through Wikipedia, gaming, or spoiling.
4. Circulations; shaping the flow of media, such as podcasting or blogging.

According to a growing amount of scholars these forms of (online) participatory cultures could have big potential benefits when it comes to peer to peer learning and diversification of cultural expression. The limitation to all this is the limited access (Digital divide) and lack of online skills (second Digital divide) of children and adolescents to take part in this online participatory culture.

[1] www.facebook.com
[2] www.hyves.nl
[3] www.twitter.com

The figures on internet usages indicate that the group of children and adolescents using multiple aspects of the internet is growing fast, especially within the subgroup of children under the age of twelve. The question that rises within this research proposal is: Are they capable enough to use such a medium in a safe and productive way, while risks of coming across potential harmful or unreliable content or people could lie just around the digital corner.

In the Netherlands organizations like Digivaardig & Digibewust[4] and Mijn Kind Online[5] concentrate on the possible dangers of the internet for kids and teenagers. They look at a broad usage of the internet and conclude that children are a bit naive, are extremely interested in being social online and aren't the best at searching for reliable information (Digivaardig & Digibewust, 2010).

When looking at the situation of kids almost growing up online, (Courtois, Mechant, De Marez & Verleye, 2009) it's important to get a better insight in the broad set of skills which are needed by children in using the internet in a way that allows them to move freely and safely through the web. Therefore this research will aim for a better insight in the information and strategic internet skills (Van Deursen & Van Dijk, 2009, 2011; Van Deursen, 2010) and online communications skills of the Dutch youth. Where these skills mostly are used during educative and goal orientated internet usage (school projects etc), the more 'social' internet skills are of great influence in internet usage with more participatory and social goals.

So with both; the information gathering aspect of internet skills (Van Deursen & Van Dijk, 2009, 2011; Van Deursen; 2010), and the online participatory and social skills (Jenkins, 2009) taken into account, a closer look at the 'online skills' of Dutch adolescents will be the main focus of this research. Therefore the first research question is:

1) *What is the level of Dutch secondary school students on the following Online skills;*
    - Information skill (searching, using & evaluating)
    - Communication skill(affiliations and expressions)
    - Strategic skill (collaboration and knowledge exchange)

The above mentioned sub skills will be explained in the literature review. With this research question the focus lies on a global view of the online skills, this is partly due to the exploratory character of this research. Besides this broad focus, the interest also lies in the possible differences in gender and education. This provides a second research question, which is sub divided in 6 sub questions. The sub questions are all discussed with related research and models in the literature review.

2. *Does the level of these three online skills differ between educational attainment and gender?*

[4] http://www.digivaardigdigibewust.nl/
[5] http://www.mijnkindonline.nl

3. Literature review

As seen in the introduction, almost every adolescent in the Netherlands uses the internet on a daily base. The introduction made clear why this research can be of importance, not only from a micro level (users point of view), but also from a macro level (evolution of the web). In this literature review the focus broadly lays on the following aspects; the web, the user in this case the adolescents, and the definition of internet and new media skills.

The social web or Web2.0 captures a combination of innovations on the web in recent years. A precise definition is elusive and many sites are hard to categorize with the label web1,0 or web2.0 (Cormode & Krisnamurthy, 2008). The essential difference between these two is that the content creators were few in web1.0 with the vast majority of users simply acting as consumers of content, while any participant can be a content creator in web2.0. The web has the potential to be shaped by its users. So in this case today's adolescent users can be tomorrow's authors (Sorapure, Inglesby & Yatchisin, 1998).

2.1 Psychosocial aspects of the subjects

When trying to grasp the subject of internet skills within the target group of adolescents and teenagers, a thorough look at the target group is requisite. As noted in the introduction, the adolescent is continually surrounded by new media. The boys and girls in this age are literally deformed with new media devices like their smart phone. So is this group more sensitive to (new) media and their social and online environment? Today's adolescents are growing up with the internet as an 'absoluteness' (Courtois et al., 2009). Besides this continues surrounding of (new) media, the adolescent period (roughly from the age of 10 to 22) is also of big importance in this context. Teenagers are physically changing until their late teen years and psychical changing and developing until their early twenties.

During your childhood there are two important periods according to Freud's psychoanalysis; the early childhood period and the adolescence period. In this research the focus lies on that second period. These adolescence years can be quite difficult to handle for a teenager. Where the body is mature and full grown during (the end of) puberty, the brain is still maturing during this entire period (Holzer, Halfon, & Thoua, 2011). So at the age of 14 to 16 the brain is not fully developed, therefore adolescents don't fully grasp the consequences of their actions. The reason for this is the fact that the brain grows from back to front, meaning that the prefrontal cortex develops as last. This prefrontal cortex is the part responsible for planning, organizing, reasoning, problem solving and abstract thinking (Nelis & Van Sark, 2010). As mentioned the body is enduring fast changes during puberty, for one the sexuality becomes mature. On a cognitive and social level they 'need to' develop a certain level of independency.

All These factors show that it's a time in which they struggle with several aspects including the own identity. The search for an own identity takes place in the social environment, like parents, friends but also the internet (Frankenhuis et al., 2007). When describing the adolescence period as one in which the adolescent needs to achieve psychosocial autonomy, three developmental tasks need to be fulfilled during these years: 1) Develop a good sense of their own identity, 2) develop a sense of intimacy, and 3) develop sexuality. For the development of identity, intimacy and sexuality, adolescents need to learn to

present themselves to others and adjust their self-presentation according to the reactions from others in real life (offline) and online (Valkenburg & Peter, 2011).

Almost every adolescent in the Netherlands uses the internet on a daily base. This can be explained with using the Uses and gratifications Theory (UGT). This theory puts the individual in the middle of his social context with its needs and goals; media use is therefore active and goal driven (Blumler & Kats, 1974).These needs can be satisfied with the use of certain media. When an individual chooses a certain medium to reach a certain goal, and this goal is successfully achieved, the appreciation for the use of this particularly medium will increase. In the process of choosing the right medium there are four gratifications;

1. Entertainment; media usage for leisure purposes, distraction or escapism.
2. Information; gaining knowledge and satisfying curiosity
3. Personal Identity; looking at others (role models), and identification
4. Personal relationships and social interaction; Building bridges between people and societies

All these gratifications can be met with the use of internet (Raacke & Bonds-Raacke, 2008; Park et al., 2009). One can see the big attraction the internet has on people and especially adolescents. Motivation to use the computer and the internet do differ between male and female. For example females use the internet more often to communicate, and males to search for information (Jackson, Ervin, Gardner & Schmitt, 2001). In a study on adolescent in the age of 15 to 16, boys indicate to like computers more than girls do. Also the boys are more self-confident in their use, plus they use them more often out of school (Colley & Comber, 2003). This higher level of self confidence corresponds with results from other self efficacy test on the subject of internet skills (Hargittai, 2005).

UGT is one way to explain the appeal and attractiveness of the online web to the adolescents, but also from a psychosocial point of view this phenomena can be adequately explained. A plausible explanation which received support from several studies is that in comparison to face to face (ftf) communication, online communication enhances the controllability of self-presentation and self-disclosure. This in turn creates a sense of security in adolescents, allowing them to feel freer in their interpersonal interactions on the internet than in ftf situations (Valkenburg & Peter, 2011). There are also resemblances between online and offline exposure; in everyday interactions, the body serves as a critical site of identity performance. In conveying who we are to other people, we use our bodies to project information about ourselves. This is done through movement, clothes, speech, and facial expressions. In mediated environments, bodies are not immediately visible and the skills people need to interpret situations and manage impressions are different (Boyd, 2008). This also is a consequence of the richness of a medium. When non-verbal signs or communication is not transmitted, messages send online can be easily misinterpreted. According to media richness theory a medium must be chosen to ‘fit’ the message (Dainton & Zelley, 2005). At the other hand, the advantage of being able to select which cues one wants to send is also used by the adolescent in creating the identity. This advantage will also be explained in section 2.3.

2.2 Internet related skills

Within the subject of internet and new media usage several terms are spread concerning the topic of literacy or skill. A definition of the 'twenty first century literacy' according to the New Media Consortium is: The set of abilities and skills where aural, visual, and digital literacy overlap. These include the ability to understand the power of images and sounds, to recognize and use that power of images and sounds, to manipulate and transform digital media, to distribute them pervasively and to easily adapt them to new forms. Web literacy is also used, and derives from the library studies. This term focuses on the internet as a new source of information and on the technical aspects of seeking information on the internet (Snyder, 2002). In this research the focus lies more on internet skills than on new media literacy. The term internet skills is used in several studies (Hargittai 2005, 2010; Van Deursen & Van Dijk, 2009).

While internet behavior is thoroughly being studied by several scholars (Frankenhuis, Van der Hagen & Smelik, 2007; Courtois et al,. 2009), a measurement of internet skills in this particular group is lacking. There are some studies that focused on the own estimation of one's skills by using self-efficacy tests (Hargittai, 2005; Livingstone & Bober, 2004). But the validity of these results could be compromised (Kuiper, Volman & Terwel, 2008; Livingstone & Bober, 2004) and show an overconfidence attitude within the adolescent group, especially with male subjects. This overconfidence is also affecting the public opinion when it comes to children and their skills in using the new media. 'Some have argued that children and youths acquire these key skills and competencies on their own by interacting with popular culture. Three concerns, however, suggest the need for policy and pedagogical interventions (Jenkins, 2009);

1) The participation gap, which addresses the unequal access to the opportunities experiences, skill and knowledge that will prepare youth for full participation in the world of tomorrow.
2) The transparency problem, this is the challenge young people face in learning to recognize the ways that media shape perception in the world.
3) The ethic challenge; the breakdown of traditional forms of professional training and socialization that might prepare young people for their public roles as media makers and community participants.

According to Livingstone and Bober (2004), young people encounter difficulties with searching the web, evaluating content of websites and a range of other online skills. And these in turn are caused by the lack of educational support they have received in internet literacy teaching. More educational support on internet-related skills is urgently needed. Livingstone and Bober (2004) also pointed out that a clearer distinction between information-based and communication-based use of the internet is needed.

Where Livingstone and Bober (2004) make a distinction between communication and information based use of the internet, Van Deursen & Van Dijk (2009) made a distinction in the internet skills that are needed to successfully use the internet. They made a subdivision in internet skills, containing; medium related skills and content related skills. Medium related skills contain; 1) Operational skills (typing, using the mouse and basic software knowledge) and; 2) Formal skills (using internet browser, keeping orientation, and filling in e-forms). The content related skills are a little more complex; 3) Information

skills (selecting search engine, using right search queries, evaluating sources) and; 4) Strategic skills (comparing information, reaching a certain goal and gaining benefit). In their research on these four skills they found that educational level is an indicator for both medium related and content related internet skills. While their research had a target group of respondents from 18 to 65 years old, this study will investigate if these findings also apply at the adolescent group.

Therefore sub question 1a will be:

Q1a) Does a higher level of educational attainment result in a higher level of online information skills?

Van Deursen and Van Dijks (2008, 2010) definition of internet skills cover the more 'information consumption' orientated use of the internet, these skills and measures particularly address the aspects of web 1.0 usage. Although searching and finding information for example with educational purposes is people's number one motivation to use this medium (Livingstone & Bober, 2004; Einstein doesn't exist, 2010), this definition doesn't cover the skills one requires when it comes to online social interaction, which is a distinctive feature of the web 2.0 (Courtois et al., 2009) To illustrate the importance of online communication skills one can look at the growing activities (of children) on the internet. According to the 'Risks and safety on the internet rapport' by Livingstone et al. (2011) using internet for school is still the biggest reason for boys and girls in the age of 13 to 16 years: namely 89% of this group uses the internet every month for school purposes. Looking at the more communication orientated activities online the following numbers within the same age group appear: Visiting a SNS: 81%, use instant messaging: 77%, use email: 75%, sharing video's or music: 55%, Playing online games with other people: 48%, post messages on a website: 42%. In the Internet monitor by IVO we can see the actual change in internet usage by category. Using a forum or a SNS has grown from 40% in 2006 to 77% in 2008 (Van Rooij et al., 2009). Also the 'PEW internet; social media and young adults' (2010) shows an increase in using social media online; from 55% in November 2006 to 73% in February 2010. These numbers indicate a possible shift from purely information based usage of the web to a more social usage this is also illustrated by the rise in users of SNS.

While several articles concerning the usage of web 2.0 have chosen for a user's perspective, a perspective from within the evolution of the World Wide Web is also needed. Looking at internet skills and especially internet participation from a more strategic point of view, one can also see that the quality of content in the 'web 2.0 sphere' lies within the amount and diversity of participators. A smoothly functioning web 2.0 depends on user interactivity to nourish its participative architecture, collective intelligence, and dynamic structures (Courtois et al., 2009). Thus to improve the content of the web in the 2.0 evolution, it's all about participation. From a more strategic point of view; Benkler (2006) puts it as following; *'The second major implication of the networked information economy is the shift it enables from the mass-mediated public sphere to a networked public sphere. This shift is also based on the increasing freedom individuals enjoy to participate in creating information and knowledge, and the possibilities it presents for a new public sphere to emerge alongside the commercial, mass-media markets'.* Changes in society demands new skills, especially those related to the internet as one of the most important means of communication in contemporary society (Van Deursen & Van Dijk, 2011).

2.3 Online skills

The numbers above indicate the central place new and social media have taken in the lives of adolescents and teenagers. Valkenburg and Peter (2011) argued that the attractiveness of online communication lies in the ability of controllability of self-presentation and self-disclosure. The adolescent is almost able to modify the richness of the message one wants to send. This controllability creates a sense of security within the adolescent. Three factors of online communication encourage this enhanced controllability:

1) Anonymity; being able to control the richness of the cues your wish to convey;
2) A-synchronization; the possibility to decide when to transmit a message; and
3) Accessibility; the abundant opportunities to find and create identity, intimacy and sex related information.

Jenkins (2009) also looks at the more social skills needed to use communication features of the web, only he has a more educational point of view. As said in the introduction, Jenkins (2009) categorizes the (online) participatory culture in four forms;

1) Affiliations; memberships, and online communities
2) Expressions; producing new creative online content.
3) Collaborative problem solving; Working together in online teams.
4) Circulations; shaping the flow of media, such as podcasting or blogging.

Besides these forms, Jenkins also points out that the participation gap, the transparency problem and the ethic challenge are the main threats or barriers for online participation. The new media almost all involve (some sort of) social skills, which can be developed through collaboration and networking. These skills build on the foundation of traditional literacy and research, technical, and critical-analysis skills learned in the classroom. These seem to overlap some aspects of the medium (information and strategic) related skills developed by Van Deursen & Van Dijk (2008). Jenkins (2009) defines an own, new set of new media skills, which are more socially orientated:

Table 1; Jenkins' new media skills

Skill	Description
Play	the capacity to experiment with one's surroundings as a form of problem-solving
Performance	the ability to adopt alternative identities for the purpose of improvisation and discovery
Simulation	the ability to interpret and construct dynamic models of real-world processes
Appropriation	the ability to meaningfully sample and remix media content
Multitasking	the ability to scan one's environment and shift focus as needed to salient details.
Distributed Cognition	the ability to interact meaningfully with tools that expand mental capacities
Skill	Description
Collective intelligence	the ability to pool knowledge and compare notes with others toward a common goal
Judgment	the ability to evaluate the reliability and credibility of different information sources

Transmedia navigation	the ability to follow the flow of stories and information across multiple modalities
Networking	the ability to search for, synthesize, and disseminate information
Negotiation	the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.

This set of new media skills is quite extensive, while the four forms of the participatory culture grasp most activities on, and abilities of the social web. For this research three forms of this participatory culture are selected and combined with the skills above. This is shown in table 1, 'Online communication skills' will contain 'affiliation' and 'expression'. Online communication skills and before mentioned online information skills, however both contain aspects of; searching, selecting and evaluating, within communication skills it concerns particularly, people and networks online, referred to as affiliations. Online communication is not only about searching for, and communicating with others, it's also about expressing yourself. The ability to create an online identity or profile (whether it is for play/self-exploration or professional purposes), but also being able to attract attention. This description of 'online communication skills' leads to the second the following sub question:

Q1b) Does a higher level of educational attainment result in a higher level of online communication skills?

On the subject of expression and communication on social network sites a difference in male and female usage was found. Females are likely to give and receive more positive comments than males, a difference for negative comments wasn't found (Thelwall, Wilkinson & Uppal, 2010). Also in online group discussions a difference between male and female appears. The usage of so called emoticons is higher within the female group than the male group. When there is an online group discussion between male and female, males seem to adopt the online behavior of females. (Wolf, 2000). Also overall usage of aspects of the internet differs between male and female. Usage of email for example was higher among females than among males. This last group uses the internet more for searching for information (Jackson et al., 2001). Although in recent studies no significant differences were found between male and females on internet skills (Van Deursen & Van Dijk, 2011) (Van Deursen, 2010), a distinction between online communication skills and online information skills isn't been made before. Therefore the next sub questions are:

Q2a) Do male respondents have a higher level of 'online information skills' than female respondents?

Q2b) Do female respondents have a higher level of 'online communication skills' than male respondents?

Besides the above stated information and communication skills people need more advanced skills to solve more complex problems and actually gain benefit from the information, the network or the people they have found. The definition of online strategic skills is a combination of the strategic skills of Van Deursen and Van Dijk (2009) and the collaboration form of Jenkins (2009). The steps, that are separated in the strategic skill of Van Deursen and Van Dijk (2009) are followed, but in this research have a more

communicational and social perspective. The strategic skill is constructed out of 5 aspects: 1) searching for a collaboration; 2) initiating contact and setting up a collaboration; 3) maintaining a collaboration; 4) creating and sharing collective knowledge; 5) gaining knowledge and benefit from the collaboration. An example of online collaboration is online gaming. This can be seen as social play and experimentation in fact, much of contemporary gaming is built on the premises that players will engage in experimentation on their own in a context of social support. Players learn about new abilities and skills from other online players (Ito, 2010). This aspect can also be seen in online forums and discussion groups, and builds heavily on the aspect of online collaboration and sharing collective knowledge.

The fifth sub question is:

Q1c) Does a higher level of educational attainment result in a higher level of online strategic skills?

Looking at the activities of males and females online several studies indicate that males use the more information orientated aspects of the internet, and females engage in more communication activities online. This in comparison with the description above leads to the last sub question;

Q2c) Do female respondents have a higher level of 'online strategic skills' than male respondents?

In this context one could conclude that information skills are universal, they are needed to look for reliable information like websites, but also for the search of people online in online networks. It's searching on Google vs searching on Facebook. It is searching for 'minimum wages' vs searching 'for an old classmate with the name Jan de Vries'. With both you have to come up with the right search queries and you have to evaluate if the person or information you found is reliable, is it the right information and is it the right Jan de Vries. Also from a strategic point of view one can see the overlay between the social context and information context. It is both goal driven, one has to evaluate, compare, and eventually gain benefit from several sources. There is no difference whether they are online individuals with a certain expertise, or it is (multiple) websites with solid and reliable information. The real communication starts when, after the search, one has to initiate a contact with a certain individual, this is where the difference in both skills emerge. As one can see in the title of the table 2, there is a new name given to the subject of information, communication and strategic skills, simply: Online skills.

The following table (2) gives a schematic view of the 'new' Online Skills. The online information skills are directly adopted from the content related internet skills of Van Deursen & Van Dijk (2008, 2009). The Online Strategic skills are a combination of both studies of Van Deursen & Van Dijk and Jenkins. The steps taken follow the same line and order as the steps in the strategic skills of Van Deursen & Van Dijk, but the specific content of the steps is derived from the four forms and eleven new media skills (table 1) of Jenkins (2009)

Table 2; Online skills.

Online Skills	
Online Communication Skills (OCS) Affiliations	Online information Skills (OIS)

OCS 1	Searching and connecting to networks and individuals	OIS 1	Locating required information by;
OCS 2	Expanding own online network	OIS 1	Choosing a website or search engine to seek information
OCS 3	Exchange and interpretation of messages (within a network)	OIS 1	Defining search options or queries
Expression		OIS 1	Selecting information
OCS 4	Constructing and creating online identities and profiles	OIS 1	Evaluating information sources
OCS 5	Attracting attention		
OCS 6	Expressing yourself		

Online Strategic Skills (OSS)

OSS 1	Searching for (most profitable) collaboration
OSS 2	Initiating contact and setting up collaboration
OSS 3	Maintaining collaboration towards end goal
OSS 4	Creating and sharing collective knowledge
OSS 5	Gaining knowledge and benefits resulting from the collaboration

4. Research methodology

Internet skills have been measured in several ways. Hargittai (2005) conducted a research through a survey in which respondents had to indicate how familiar they were with several internet related tasks and terms. The main reason for this kind of research is the benefit in speed, reach and time. At the other hand there are some limitations concerning the validity of the research. People's own estimation and rating of skill isn't always a good indicator of actual level of that skill.

The use of the internet should be measured during an actual test in which the internet is used by its respondents also pointed out by Van Deursen (2010). The advantage of measuring this way is a better insight in skills people have and especially the choices respondents make during the use of the internet. The down sight is the labor intensity which is both for respondent and researcher higher, than when measuring skills through a survey. The practical implications and solutions regarding the choice of research methods will be handled in the next paragraph. Respondents are going to make assignments which are designed using (parts of) internet skills created by Van Deursen and Van Dijk (2008). Besides this respondents also have to fill in a survey.

3.1 Sample

To select the subjects a secondary school community in the East of the Netherlands was contacted. They were asked to cooperate within this study in a way that would create data that was beneficial for both the researcher and the Secondary school itself.

The sample of this research contains 92 Dutch secondary school students in the age of 14 to 16 years old (1 student at the age of 17), all from the same secondary school; Carmel College Salland, located in Raalte. In short the Dutch secondary school is roughly divided in three levels of educational attainment: VMBO (low), HAVO (medium) and VWO (High). Based on their performance in primary school, children in the age of eleven to twelve will attend education on a secondary school corresponding to their level. VMBO takes four years to complete, HAVO five, and VWO six.

In this research only students from the third and fourth class among the three educational levels were chosen. This means a random quota sample was taken over education and age. Invitations were send with the help of ItsLearning[6] school software. Students were obliged to participate, unless there were special circumstances like school tests or illness, for this occasion a reserve group was created in which substitute respondents were selected if necessary. In table 3 on the next page one can see that there are more female (59) than male (33) respondents. This could be explained by the fact that especially in the higher education level the ratio between girls and boys is in favor of the girls (CBS, 2011). In the age category most students are in the age of 15.

[6] http://www.itslearning.nl/voortgezet-onderwijs

Table 3; Sample descriptive

Sample			
		N	%
Gender	Male	33	35.87
	Female	59	64.13
Age	14	27	29.35
	15	43	46.74
	16	21	22.83
	17	1	1.09
Education	VMBO (low)	28	30.43
	HAVO (medium)	31	33.70
	VWO (high)	33	35.87
Total		92	100.00

3.2 Procedure

The actual experiment took 20 to approximately 40 minutes in which respondents fulfilled:

- 6 assignments and;
- 34 survey questions.

The research method had to be designed so that every respondent was able to complete the test within 45 minutes. This was done to fit in with the normal school schedule of 50 minute classes. The assignments and survey questions are partly derived from the information skills according to Van Deursen & Van Dijk (2010) and the online communication skills partly based on Jenkins (2009) list of new media skills and forms of participatory cultures.

The experiment took place on the secondary school itself because of facility advantages such as the sufficient amount of computers, and direct availability of respondents. Assignments which were made on the school PC's were recorded with Camstudio[7] recording software for further analysis and evaluation. Supervision was done by the researcher to introduce and explain the test.

The actual test is pretested in different forms within the sample group of secondary school students in the age of 14 to 16 years. After this test several assignments were adjusted in difficulty and length. Also some language use in the assignment description and survey questions was changed.

3.3 Measures

In the following paragraphs the model of online skills will be linked to the survey and the experiment which are developed. This will be done by addressing all the 'groups of skills' from table 1, and linking them to the different survey questions and assignments. The complete test can be found in Appendix A.

As mentioned the test existed of two parts, 1) survey and 2) assignments. This combination was made because some of the skills in this research can't be measured through a valid experiment. This means

[7]: http://www.camstudio.org/

that behavior and activity on the internet are measured with a 34 item survey. In table 4 (page 22) there is an overview of the three skills, and with which survey question or assignment, these skill are measured. Next to questions about internet usage, respondents also had to answer questions concerning age and education

The first questions of the survey are stated to establish some general data about the usage of the three most used social network sites in the Netherlands (Hyves, Facebook and Twitter). Also the amount of hours respondents spent on social network sites will be asked. After these questions, the following topics are; friends and interaction on social media, other online social groups (forum etc) and choices concerning information spreading.

Before each sub skills a code is displayed, these codes stand for: OCS= Online Communication Skills, OIS= Online Information Skills and OSS= Online Strategic Skills. These codes are also displayed in the model of table 2; Online skill. At the end of this chapter a schematic model (table 4) is given in which all the skills with their code are linked to the question and assignment numbers used in the actual test.

3.3.1 Online communication skills

OCS 1: The skill of searching and connecting to certain network to reach individuals. This skill will be tested with two survey questions and one assignment.

- The amount of online friends, on Hyves, Facebook and Twitter; Gives an indication of the capability of people connecting to others on the internet and are able to find others who are interested in becoming online friends. The total amount per respondent per medium will be calculated.
- The amount of online friends they have daily contact with; Having a lot of online friends doesn't directly mean that people are acting in a social desirable way on the internet. 1000 online contacts but no interaction or communication with them says something about being able to add or invite the right people. Therefore the amount of contact is a good indicator for online social behavior (Golder, Wilkinson, & Huberman, 2007).
- The ability to search for people and groups online. This is tested with an assignment that contains 6 search tasks. Respondents have to search 1) personal profile, 2) a group page about Jack Russell dogs and 3) a fan page of ROHDA Raalte, the local soccer club, each of these pages have to be found on Hyves and Facebook, making a total of 6 search tasks. The personal profile is a fictional character created by the researcher. The other two are both already existing pages. The personal profile, the group pages and the fan pages are the three primary components or pages with most usage on the SNS. This assignment will be judged on fail/success in locating the profiles/pages and the amount of time that was needed. All pages and profiles are also publicly available for respondents without an account on one or both of the SNS.

OCS 2: Second; expanding your online network. After searching and connecting, the adding of people to your network is a second step. The skill of adding the right people and thereby expanding your network is measured through the following three survey questions:

- From whom do you accept friendrequests?
- To whom do you send friendrequests?
  These first two questions both have (almost) the same answering options;
  a) Everyone who sends me an invite.
  b) Everyone who looks nice or interesting.
  c) Friends of friends.
  d) People who I met in person.
  e) People who I actually see as a friend.
- Question 2 doesn't include answer a). With these questions the focus lies on the skill of judging who to add or to send a request. Does a respondent accept every friendrequest, or randomly asks everyone to be their online friend, or is he or she critical in determining who is suitable as an online contact. Lacking this skill can indicate a smaller capability in expanding the quality of your social network or social capital (Elisson et al., 2007). Because there isn't any research concerning this topic, the answers won't be quantified in terms of bad or good. Here the focus mainly lies on the possible difference between the groups.

OCS 3 The last part of affiliation contains the subject of exchange and interpretation of messages. Here two survey questions are asked and one assignment is given. The online communication with friends has a stimulating effect on the well-being of the adolescent and has a positive effect on the time which is spent with existing friends. (Valkenburg & Jochen, 2007). The total score within the exchange of message will combine sending and receiving message as one score.

- How often do you send messages via SNS. Sending messages takes time and investment and might even be a better way to measure social activity (Golder et al. 2007).
- How often do you receive messages via SNS. These two questions are multiple-choice with answers and corresponding in the range of a 5 point Likert-scale:
  a)Several times an hour;
  b)Several times a day;
  c)Several times a week;
  d)Several times a month; and last:
  e)Never.

- Write a forum post within a casus. With this assignment the focus lies on the actual writing of a message. Respondents can score points according to aspects a, b and c displayed below. A minimum score for an understandable post is set to 4 and the maximum amount of points available is 10. Assessment of this exercise is done with help of the following aspects.

a) A list of keywords was created each with a value of 1 point. These keywords were used in the assignment description and should be used in the message in order to create a good informative forum post. See Appendix C for the keyword list.
b) Besides the keywords a normal opening and ending of a post was also rewarded with 1 point.
c) The actual use of a question is rewarded with 1 point.
These three aspects are all important factors for constructing a good forum post. A good description (via keywords) is most important; peers have to be able to understand the question and its context (Weimer, Gurevych & Mülhäuser, 2007). The other aspect is the use of an opening and ending, this is a matter of social desirable behavior online. In several netiquettes on the subject of forum usage it is stated that one should always remember there is another person who reads your post, so try to be polite especially when it's your first post on a forum (Hodges, 2002).

The second part of online communication skills is: Expression. Here the aim is to grasp the skills that are needed to express oneself on the internet in a safe way, that isn't harmful for the creator or others, this is especially relevant since the adolescent is seeking and creating its own identity, offline and online (Frankenhuis et al., 2007).

OCS 4 Constructing and creating online identities and profiles is the first subject of the skill; expression. The following survey questions are asked:

- Which social media do you use and how often. Respondents indicate their use of a) Hyves, b) twitter, c) Facebook and d) online forum. With time intervals from a) several times an hour, b) several times a day, c) several times a week, d) several times a month and e) never.
- Do you use your own name or a created nick name for the following social media, the same social media as in question 1 to 4 was asked with the adding of online games. Different social media context ask for different use of a created profile. A good personal usage of Facebook or Hyves demands that you choose your own name, else peers won't be able to 'recognize' ones profile. When creating a profile on Twitter, a forum or in an online game it is wise to use a nickname. This is to avoid that online information can be traced back to the user itself (Borgdorff & Pardoen, 2011). Below the best answer for each online medium is displayed;

  a) Facebook Own Name
  b) Hyves Own Name
  c) Twitter Nickname
  d) Online Forum Nickname
  e) Online game Nickname

  Each good answer results in 1 point, making it possible to score 5 points max when a respondent uses all the online media and choose the right name for each individual medium. The scores will be divided by the number of media one uses. This makes a total score (from

0 to 1), which will be compared between the gender groups and educational groups.

OCS 5 Attracting attention is measured with two survey questions who investigate how much input people get when they post something on social media. Not only the amount of reaction one receives is important, the focus also lies on the frequency of negative reactions one receives on their updates or public messages.

- How much reactions do you receive when you post an update or message publicly online (on your profile). The amount of reactions one gets here is an indication of the quality and socially desirability of the information in the post (Weimer et al., 2007).
- How often do you receive negative reactions on posts. Respondents answer according to a 5 point Likert-scale; a) Always, b) Often, c) Sometimes, d) Rarely, e) Never. In studies on forum posting quality, 'negative reactions' is one aspect on which post quality is based (Weimer et al., 2007). In addition, bad quality posts in combination with posting to frequently can be a reason to 'unfriend' an online contact (Sibona & Walczak, 2011).

OCS 6 The last subject of expression is 'expressing yourself'. Here the focus lies on the awareness of the respondent in what they say and do online. This is measured with 5 statements. Five statements are posed on which the respondent have to react in the following 5 point Likert-scale; a) Always, b) Often, c) Sometimes, d) Rarely, e) Never. The statements are:

1. Do you think about what info you post on social media and what info not to post on social media,
2. How often do you express dissatisfaction online,
3. How often do you express your anger online,
4. How often do you post pictures of yourself online,
5. How often do you post pictures of you with others online, without their permission.
6. How often would you send out an invitation to a party online.

All statements but the first, are asked negatively, this means; answers are rewarded with 1 to 5 points with always=1 and never=5, with statement 1 the other way around. Some of these statements are based on a parenting brochure 'Sociale Media'? (Borgdorff & Pardoen, 2011), others are derived from examples from practice. The Cronbach's Alpha of the construct analysis is shown in the results chapter. The total score per respondent will be calculated, maximum possible score; total=30 points and Mean=5.

3.3.2 Online information skills

The online information skills are directly derived from research from Van Deursen & Van Dijk (2008) and Van Deursen (2010) on internet skills. These skills are measured with a single assignment.

OIS 1 Respondents have to locate information online on the subject of part-time jobs. Specifically they have to find out if a 15 year old is allowed to work behind a register in the supermarket. This assignment requires to; locate required information, choose the right search engine, choose the right queries, select the information and evaluate the source. (Van Deursen & Van Dijk, 2008). Assessment is done by three factors:

1. Success or fail 2/0
2. Time needed seconds
3. The used website 1 /0

When a respondent locates the information online, he gets 2 points, and if he/she collects it from a genuine and reliable website he gets an additional point. Reliable sources in this case are; governmental website, labor union sites and other informative websites, such as branch specific websites. A list of these sites is displayed in appendix C. As seen in the theoretical background it is certainly important to create a critical view instead of being a naïve user. The younger users of the internet tend to take information easily for granted (Digivaardig & Digibewust, 2010). A list with used sites and corresponding additional points can be found in appendix B. Governmental and informative websites=1 points, user generated content sites = 0). During the entire process the monitor is recorded for analysis of the used website and the used search-engine and queries.

3.3.3 Online strategic skills: Collaboration

Online collaboration (Jenkins, 2009) is tested with five assignments which all are part of one case/problem description; the question if a 15 year old is allowed to work behind the register in a supermarket. These skills are needed to successfully start, maintain and gain benefit from cooperation in an online (forum) community.

OSS 1 In this question the respondent has to choose a forum (all about work, law or teenagers) within a multiple-choice question (6 possible answers, 1 is correct) based on the problem description. Searching for the best collaboration is the starting point here. The problem is defined in the description of the assignment and based on that, one has to select the most profitable collaboration.

OSS 2 Write a forum post within a casus. Initiating a contact and setting up a collaboration is tested with assignment 36: Assessment of this exercise was done with help of the following aspects.

a. A list of keywords was created which each had a value of 1. These keywords were used in the assignment description and had to be used in the assignment in order to create a good informative forum post.
b. Besides the keywords a normal opening and ending of a post was also rewarded with 1 point

c. The actual use of a question was also given 1 point.
With these three aspects a maximum score of 10 is possible, and a score of 4 was the least acceptable for an understandable forum post.

OSS 3 The respondent has to evaluate several fictional reactions on their post and chose the one that fits the best as an answer to their question, which is stated in the problem description. This is called maintaining the collaboration. This is tested with a multiple-choice question where they can only choose one right answer.

OSS 4 In this multiple-choice question, respondents were asked if they would share their gained knowledge about the subject back on a forum. Creating and gathering collective knowledge investigates if respondents are willing to share the information they found with others online. Collaboration is a two-way street, besides creating new knowledge. Respondents can choose between; yes, no or maybe, below the amount of points is displayed.

a) Yes, 2
b) No 0
c) Maybe. 1

OSS 5 Are you allowed to work behind the register? This question was asked within the forum context, but now respondents had to crosscheck the information they gained, on the internet. This last sub skill is actually gaining knowledge from this collaboration to achieve the before stated goal. This is simply measured with success or fail.

Each step in this collaboration cycle is important and needed to gain actual benefit, but the assessment of these steps is somewhat different. Therefore all the scores will be standardized to create a total score which says something about the complete online strategic skills.

3.4 Testing the model.

In the model 'Online Skills' on page 22 the link between the proposed skills; online communication, online information and online strategic skills and the questions and assignments in the survey are displayed. The numbers in brackets are the corresponding questions from the experiment.

Table 4; Linking the survey questions and assignments to the online skills.

Online Skills			
Online Communication Skills		Online information Skills	
Affiliations			
OCS 1	Searching and connecting to networks and individuals (6,7,8,40)	OIS 1	Locating required information by; (38)
OCS 2	Expanding own online network (9,10,11)	OIS 1	Choosing a website or search engine to seek information (38)
OCS 3	Exchange and interpretation of messages (within a network) (12, 13, 36)	OIS 1	Defining search options or queries (38)
Expression		OIS 1	Selecting information (38)
OCS 4	Constructing and creating online identities and profiles (17,1,2,3,4)	OIS 1	Evaluating information sources (38)
OCS 5	Attracting attention (16,24)		
OCS 6	Expressing yourself (18-23)		

Online Strategic Skills

OSS 1	Searching for (most profitable) collaboration (35)
OSS 2	Initiating contact and setting up collaboration (36)
OSS 3	Maintaining collaboration towards end goal (37)
OSS 4	Creating and sharing collective knowledge (39)
OSS 5	Gaining knowledge and benefits resulting from the collaboration (38)

Numbers between brackets correspond with the assignments and survey questions.

3.5 Statistical Analysis

The second research question and the sub questions specifically go into the difference in internet skills between the independent factors Gender and Educational level (low, medium and high). Therefore the statistical tests consist of a T-test for gender differences and One-Way Anova with Bonferonni Post-hoc for the educational differences. Because there are more female (59) than male (33) respondents, the Anova test for difference between the educational groups, is performed with Gender as a co-variate following the univariate method in SPSS 18. Significance level for all tests is .05. Since internet experience within in this sample group is pretty much the same, this won't be taken into account

4. Results

Results are displayed in the same order as the skills in the measures section. Numbers in italic in the following tables are standardized scores; this was done in order to make a reliable combination of several sub scores. Most scores are displayed in a table where within the rows the letters 'a, b, c' are displayed after a score within a group. A difference in these letters within a row indicates a significant difference between the groups. Most results are gathered from 92 respondents in total, several questions apply to a smaller subgroup, and in all the tables N is displayed.

4.1 Internet usage

Looking at the average time, for schoolwork plus leisure time online a total amount of 3.71 (SD= 1.75) hours appears, which translates into 3 hours and 42 minutes a day. When it comes to the use of social media, 72% uses twitter, 32% even uses it several times an hour. 89% uses Hyves, but most people only are on Hyves several times a week 33%. Facebook is used by 64% of the respondents. Online forums are used by no more than 21% of all respondents. Within Hyves users have the highest amount of online contacts; 396. On Facebook this amount is 143 and on twitter its 101.

4.2 Online skills

The results from the survey and the assignments will mostly be presented in tables. Within each sub skill the total sample is divided based on educational level and gender. The results are shown in order with the related skills; Online communication skills, then Online Information Skills and last; Online Strategic Skills.

4.2.1 Online Communication Skills

In OCS 1 until OCS 3, the online communication skills; Affiliations will be discussed. OCS 4 until OCS 6 address the skill of Expression.

OCS1: Searching and connecting to certain networks and to reach certain individuals. This skill is tested with, the amount of online friends, the amount of friends respondents have daily contact with, and the ability to search for people within a social network site

- On the next page table 5 is displayed with the amount of users and online friends: The figures give a good view of the differences in online friends between the three educational levels.
- When looking at amount of daily contact respondents have with their online contacts the following numbers appear: The difference between the educational levels is significant ($F=4.26$, sig $<.05$). After a Bonferroni test, difference only is significant between the medium and high education groups. In this case, the medium group scores better when it comes to amount of online friends which whom they have daily contact with.

Table 5: Affiliations. #online friends, daily contact and search assignment score. (N=88)

OCS	Skill	Education			Gender	
		Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
1	# onlinefriends	247(148) a	277(162) a	226(94) a	216(117) a	265(143) a
1	# people daily contact	9.7(6.9) a,b	12.2(8) a	6.0(4.5) b	9.8(7.8) a	8.9(6.7) a

For gender and age, within each row, means with non-common letters are significantly different, p<.05.

- The assignment in which respondents had to fulfill six search tasks in total. For each successful completed assignment 1 point was given, making a possible total of 6 points. After ANOVA analysis the difference in total score is significant between low and the high educational level (F=7.282, p<.001). So here the higher education group scores better than the lower. Overall score of the group of 92 respondents was 3.66(SD=1.44). Looking closer at the different assignment, it appears that search tasks on Hyves are performed with a higher success rate then search tasks on Facebook. Also the search for a person or personal profile in this case, is done better than the search for a group page or a fan page.

Table 6: Search assignment; Searching for people, fanpages and grouppages on Hyves and Facebook. (N=84)

OCS	Skill	Education			Gender	
		Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
1	Search tasks score	3.04(1.53) a	3.52(1.41) a,b	4.33(1.11) b	3.36(1.62) a	3.83(1.44) a
	Successful respondents per assignment	%	%	%	%	%
	Hyves personal page	68	97	91	72	93
	Facebook personal page	32	41	55	31	50
	Hyves group page	57	66	76	66	67
	Facebook group page	39	24	61	44	41
	Hyves fan page	39	69	85	50	74
	Facebook fan page	46	34	55	56	40
	Time used (sec)	280(130) a	236(100) a	253(113) a	276(114) a	245(115) a

For gender and age, within each row, means with non-common letters are significantly different, p<.05.

OCS 2 Expanding your network is measured with the questions:

- From who do you accept friendrequest and
- To whom do you send friendrequests?

  Here the focus lies on the distinction respondents make in adding and requesting friends. Since this question can't be quantified a deeper look on internal difference within the sample group is possible. Between male and female and within the educational level a slight difference appears, that however is not significant.

Table 7: Sending and accepting friendrequests. (N=91)

OCS	Skill	Education			Gender	
		Low	Medium	High	Male	Female
2	Accepting request	%	%	%	%	%
	Everyone who sends invite	3.6	3.2	0.0	3.1	1.7
	Everyone who looks nice	14.3	3.2	9.4	15.6	5.1
	Friends of friends	2.6	45.2	34.4	25.0	30.5
	People I met in person	71.4	45.2	56.2	50.0	61.0
	People I see as a friend	7.1	3.2	0.0	6.2	1.7

OCS	Skill	Education			Gender	
		Low	Medium	High	Male	Female
2	Sending request	%	%	%	%	%
	Everyone who looks nice	14.3	6.5	0.0	9.4	5.1
	Friends of friends	10.7	6.5	21.9	18.8	10.2
	People I met in person	75.0	64.5	59.4	59.4	69.5
	People I see as a friend	0.0	22.6	18.8	12.5	15.3

All numbers shown are percentages within the group. Underlining indicates the most given answer.

OCS 3: This section focuses on the activity when of sending and receiving messages and the skill in composing a message (table 8). The measure of exchanging messages is a score in frequency in which both sending and receiving messages on SNS is combined. Looking at gender: there is very little difference in total score. In educational groups it appears that lower education group is significantly more active when it comes to exchanging messages ($F=4.576$, $p<.05$).

Table 8: Score in exchange of messages (N=88) and score in writing a message (N=92)

OCS	Skill (max score)	Education			Gender	
		Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
3	Exchange messages (4)	3.25(.62) a	3.10(.81) a,b	2.63(1.02) b	2.94(.90) a	3.00(.87) a
3	Writing a message (10)	5.14(1.21) a	5.48(1.79) a,b	6.0(1.35) b	5.42(1.7) a	5.64(1.39) a

For gender and age, within each row, means with non-common letters are significantly different, $p<.05$.

The actual composing of a message was tested with an assignment. Score was calculated with three factors 1) keywords, 2) use of opening and ending, 3) use of a question. A minimum score for an understandable post was set to 4, maximum points is 10. Here the differences is significant in score between the low and the high education group in favor of the latter. Difference between male and female was very little and not significant.

After the affiliations part of the Online Communication Skills follows the expression part of this skill in OCS 4 until OCS 6.

OCS 4: Constructing and creating online identities and profiles is the first subsection of expression

- In table 9 'frequency in usage' is shown of the three main social network sites and the use of online forum all combined. Hyves still has the biggest amount of users within this sample group but is not used very often, in general only several times a week or a month. There are trends indicating that Facebook is rising within this group. With twitter use the largest part uses it very intensively, namely several times an hour (45% of twitter users).

Table 9: Frequency of usage of Social media; never (0) to several times an hour (4). (N=92)

		Education			Gender	
OCS	Social Medium	Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
4	Twitter	2.41(1.74) a	2.48(1.69) a	2.03(1.57) a	1.84(1.81) a	2.54(2.3) a
	Hyves	2.17(1.22) a	1.97(.98) a	1.91(1.13) a	1.81(1.24) a	2.13(1) a
	Facebook	1.89(1.55) a	1.55(1.33) a	1.36(1.39) a	1.34(1.52) a	1.72(1.37) a
	Forum	.18(.48) a	.55(1.15) a	.27(.67) a	.56(1.13) a	.22(.59) a

0= never, 1 = several times an hour, 2 = several times a week, 3 = several times a month, 4 = Several times an hour

For gender and age, within each row, means with non-common letters are significantly different, p<.05.

- The suggested use of nicknames or real names is something that changes per online situation and profile. For social network sites as Hyves and Facebook the use of one's real name is suggested as safe and better working than a nickname. With the use of twitter, online games and online forum it is recommended to pick a nickname (Borgdorff & Pardoen, 2011). Within educational groups there is no significant difference. It appears that males are a bit better at choosing a right name for the right online occasion, this difference however is not significant.

Table 10: Expression: Online profiles and identity. Choosing the right (nick)name. (N=88)

		Education			Gender	
OCS	Skill	Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
4	Choosing a profile name	.74(.24) a	.74(.23) a	.68(.22) a	.80(.20) a	.67(.23) a

For gender and age, within each row, means with non-common letters are significantly different, p<.05.

OCS 5: The next sub skill is attracting attention. Here the focus lies on amount of reactions people receive on online public posts, and if they receive negative reactions. The amount of reaction people receive online is an indication of the quality and if it's socially appropriate. (Weimer, Gurevych, & Mühlhäuser, 2007). In the table below there are some significant differences when it comes to negative reactions. Here respondents from high educational indicate they receive fewer negative reactions than the other two groups ($F=4.87$, $p<.01$), and females receive fewer negative reactions than males ($F=13.84$, $p<.05$). The amount of reactions differs between the low education group and the other two groups. The low educational group is receiving more reactions compared to the other two groups. Respondents who don't use any SNS at all (Facebook, Hyves or Twitter) are excluded in the analysis of this question.

Table11: Expression: Receiving negative reactions and receiving all reactions. (N=88)

OCS	Skill	Education			Gender	
		Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
5	Amount of reactions	8.1(6.78) a	3.6(2.61) b	3.6(2.19) b	5.96(6.02) a	4.55(3.88) a
	Negative reactions	%	%	%	%	%
	Always	0.0	0.0	0.0	0.0	0.0
	Often	0.0	0.0	0.0	0.0	0.0
	Sometimes	7.1	6.9	3.2	13.3	1.7
	Rarely	39.3	37.9	6.5	40.0	20.7
	Never	53.6	55.2	90.3	46.7	77.6

Underlining indicates the most given answer.

OCS 6: The last subject of expression is 'expressing yourself'. Here focus lies on the awareness of the respondent about spreading information online. This is measured with 6 statements, which al had to be answered on a five point Likert-scale (value of 5 to 1 point). The five statements together form a total score on the ability to express yourself. For example a statement was: 'How often do you express dissatisfaction online'. Multiple choice answers were: Always, often, sometimes, rarely and never. The table shows that the difference between the three educational levels is very little and therefore not significant. The same goes for the difference between male and female. The reliability for this scale is quite low with a Cronbach's alpha of .59.

Table 12: Expressing yourself online. (N=92)

OCS	Skill	Education			Gender	
		Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
6	Expressing yourself	3.68(.49) a	3.66(.49) a	3.80(.49) a	3.83(.59) a	3.66(.43) a

Six statements answered on a 5 point Likert-scale (max 5), numbers are averages. For gender and age, within each row, means with non-common letters are significantly different, p<.05.

4.2.2 Online Information Skills

OIS 1: This part of online skills is directly derived from Van Deursen & Van Dijk's (2008, 2010) internet skills. The online information skill is tested with just one assignment. Respondents had to search for information on the internet, concerning the laws on working as a cashier when being 15 years of age. Assessing this assignment was done by three factors; 1) found the information, 2) which website was used, and 3) time needed.

Table 13: Searching for information. (N=84)

			Education		Gender	
OIS	Skill	Low	Medium	High	Male	Female
1	Searching information	%	%	%	%	%
	Found information	57 a	58 a	79a	64 a	66 a
	Used reliable website	56 a	67 a	73 a	67 a	67 a
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
	Time used (sec)	73(27) a	83(67) a	75(36) a	95.62(59.37) a	67.34(32.89) a

Percentage of respondents who were successful in this assignment. For gender and age, within each row, means with non-common letters are significantly different, p<.05.

There is a difference in score between the three education groups. Lower education scores lowest with 57% respondents who were successful at the assignment, medium scores almost the same but the high education group is a bit above the other two. The needed time between these groups is also showing little difference, but here the medium education group needs the most time to complete the assignment. Of all the successful respondents within each group the used website was analyzed. Here a distinction between a reliable website and less or not reliable website was made, a list of these websites can be found in appendix B. Although differences seem pretty large, an Anova test indicates no significant differences between the groups. Difference between male and female is very little and therefore not significant.

4.2.3 Online strategic skills: collaboration

The skill of online collaboration is tested with five assignments based on the following subject: You are 15 year old working part-time in a supermarket and you are asked to work behind the register. Find out if that's allowed according to Dutch law, by searching this information online.

OSS 1: First question is about selecting the best suitable forum for the question which is stated above. It's a multiple choice question where screenshots of six different forums are displayed, with only one good answer. Surprisingly here it's the medium group which scores lower than the other two groups. The scores of low and high educational groups are pretty even. This difference is not significant.

OSS 2: Second skill of initiating collaboration is tested with writing a forum post. Score was calculated with three factors 1) keywords, 2) opening and ending, 3) use of a question. A minimum score for an understandable post was set to 4, maximum points is 10. Here a small significant difference between the educational groups is shown, ($F=4.576$, $p<.05$) where the high group scores better than the other two groups.

OSS 3: Following step in this collaboration cycle is maintaining the collaboration. This is done by evaluating several 'answers' to the forum message respondents wrote in section 4.2. Respondents now have to choose the best suited reply to their question. Table 14 shows the

percentage of respondents picking out the right answer. Surprisingly the lower education group scores best at this question, although these differences are not significant.

OSS 4: Next question focuses on the willingness to share knowledge online. Since the previous steps were about collecting knowledge by collaboration, one also has to share their knowledge with others to complete this cycle. In this skill no significant difference occurs.

OSS 5: The last step is evaluation of the collaboration and actually gaining benefit from the information one has gained from this collective knowledge creation. This is tested with assignment 38 in which respondents had to check if their used answer was right, thereby gaining actual benefit from the information created in the collaboration and the search. Here the large majority in all groups are able to solve the stated problem at hand. A significant differences between males and females appears.

When looking at the total score respondents could earn by finishing these assignments successfully the following results were found: The female group in this research scored better than the male group.

Table 14: (*Standardized*) scores on online strategic skills. (N=83)

			Education		Gender	
OSS	Skill	Low M(SD)	Medium M(SD)	High M(SD)	Male M(SD)	Female M(SD)
1	*Chose collaboration*	*.099(.979) a*	*-.302(1.047) a*	*.199(.931) a*	*-.175(1.041) a*	*.098(.971) a*
	% success respondents	67.9	48.4	72.7	54.4	67.8
2	*Composing message*	*-.364(.706) a*	*-.061(1.091) a,b*	*.367(1.024) b*	*.-202(1.111) a*	*.113(.923) a*
	Score on 1-10	5.14(1.21) a	5.48(1.79) a,b	6.0(1.35) b	5.42(1.7) a	5.64(1.39) a
3	*Maintain collaboration*	*.225(.75) a*	*-.192(.548) a*	*-.010(.636) a*	*-.073(.606) a*	*.041(.661) a*
	% success respondents	75	54.8	67.7	62.5	67.2
4	*Share knowledge*	*.108(1.044) a*	*-.122(.989) a*	*.023(.990) a*	*.125(.974) a*	*-.070(1.016) a*
	% Yes	35.7	25.8	30.3	33.3	28.8
	% Maybe	39.3	41.9	45.5	48.5	39
5	*Gain benefit*	*-.197(1.258) a*	*.079(.881) a*	*.093(.855) a*	*-.223(1.285) a*	*.127(.782) b*
	% success respondents	*85.7*	*93.5*	*93.9*	*84.8*	*94.9*
	Total Collaboration	*.074(2.399) a*	*-.526(2.733) a*	*.432(1.989) a*	*-.417(2.973) a*	*.233(1.988) b*

For gender and age, within each row, means with non-common letters are significantly different, p<.05. Underlining indicates the most given answer.

This was the last skill with the corresponding scores of the respondents. In the following section all the results will be summarized and used to answer the six sub questions and the two main questions.

5. Discussion

5.1 Main Findings

First the sub questions will be discussed in order to give an answer to the research question regarding the possible differences in the level of Online Skills. Both between male and female respondents, and the possible difference in score between the three educational levels. After this, the answer to the first research question will serve as an overall conclusion at the subject of Online Skills of adolescents. The two main questions are:

1) *What is the level of Dutch secondary school students on the following Online skills;*
    - Communication skill(affiliations and expressions)
    - Information skill (searching, using & evaluating)
    - Strategic skill (collaboration and knowledge exchange)

2) *Does the level of these three online skills differ between educational attainment and gender?*

The sub questions focus on the difference in online skills on gender and educational attainment, therefore the next section will be displayed in that manner. First the sub questions regarding gender will be discussed and second the sub questions concerning the difference in educational attainment will be answered.

5.1.1 Educational attainment and Online Skills

Q1a) Does a higher level of educational attainment result in a higher level of online information skills?

The above mentioned question was answered with an assignment OIS 1 in which respondents actually had to find reliable information online. Here it appears that the higher educational group scores better than the low educational groups. Although in this specific research the difference is not significant. There also seems to be a difference in used sites, where the higher educational group has a higher number of respondents using a reliable website. There is reason to believe that these differences will be significant when testing a larger sample. Statistical difference in this particular skill is also stated in several other studies (Van Deursen, 2010; Van Deursen & Van Dijk, 2009).

Q1b) Does a higher level of educational attainment result in a higher level of online communication skills?

To answer this question OCS 1 until OCS 6 was used. Due to the large number of sub skills without the possibility of combining these within a good constructs (except for OCS 6), all results are discussed separately.

Here it appears that parts of online communication skills do differ between the three educational groups and some do not. When it comes to amount online friends, accepting and receiving friend requests (OCS 2) frequency of SNS use and name usage (OCS 4) and expressing yourself (OCS 6) there is no significant difference between the three educational groups.

When it comes to daily contact (OCS 1) there is a difference in favor of the medium education group. So these respondents do have contact with significantly more people online on a daily base than the high education group. The difference between the medium and low group in this case is not significant. In the search assignment it's the other way around. Here respondents from the high education group score better on searching people and online groups and fan pages, this difference however is only significant between the low education group and the high education group. Here one could conclude that there is a resemblance between searching for information and searching for people. In both assignments it appears that there is a difference within educational attainment and the capability to search on the internet.

The exchange of messages is higher with the low education group than the high education group (OCS 3). And in the writing assignment the higher group scores better than both low and medium education. Amount of reactions (OCS 5) also differs between the groups in favor of the low group. Looking at negative reactions there is a decline in score at the low group, where the high group scores receive fewer negative reactions. Question is, is this caused by a higher level of social desirability in the high group, or do they really score better. It might be plausible that respondents with higher educational attainment are more capable in adjusting to the different online contexts.

A concluding answer to this question is that, there certainly is a difference between the educational groups. This mainly appears when it comes to measuring frequency and intensity of the usage (of aspects) of SNS. Then it appears that the low education group scores higher than the other two groups, meaning they use SNS more often. In the case where the focus lies more on the ability and capability of online communication, the higher educational groups score better, while they use it less often. These figures also are shown in previous studies (Digivaardig & Digibewust, 2010).

Q1c) Does a higher level of educational attainment result in a higher level of online strategic skills?

There are five aspects on which only one aspect results in a difference in score between the three groups. Composing a message (OSS 2) is done best by the high education group. In all the other skills some slight differences mostly in favor of the high group appear. Surprisingly the low education group scores better than the medium group. Adding all the scores, a difference between these groups however turn out not to be significant. This was slightly unexpected, but could be a combination of factors. The higher education groups score better in assignments like composing a message, but the low education groups spends more time online, with more often social or communicational purposes. At the other hand, these differences only appear within the strategic skills.

5.1.2 Gender and Online Skills

Q2a) Do male respondents have a higher level of 'online information skills' than female respondents?

As seen in other studies the scores between females and males usually only differ when it comes to self-efficacy tests (Hargittai 2005) or tests concerning attitude towards computer usage (Schumacher & Morhan-Martin, 2001; Colley & Comber, 2003). But when it comes to difference in score measured with an actual assignment, no significant difference was found (Van Deursen, 2010). In this study the same results (OIS 1) were found. Within the search assignment there were no significant differences between

male and female students. The possible difference in information skill which is partly indicated by Colley and Comber (2003) seems outdated. Especially when looking at recent studies, in which the process of searching for information is researched with reliable assignments (Van Deursen & Van Dijk 2008, 2010).

Q2b) Do female respondents have a higher level of 'online communication skills' than male respondents?

Looking at the communication skills there was one aspect in which males differed from females. The choice of a name (OCS 4) for a certain online occasion was done slightly better by males than females, but this wasn't significant. But when it comes to receiving negative reactions (OCS 5) the females scored better, indicating that they receive fewer negative reactions online than males. This latter measure strokes to some extent with existing studies indicating that females have more positive dimensions like support, solidarity or positive feelings within their online communication (Wolf, 2000). However in the most sub skills there was no difference. The study performed by Wolf (2000) investigated the content itself, where in this study the focus lied on self-efficacy testing.

Q2c) Do female respondents have a higher level of 'online strategic skills' than male respondents?

Here females do score better when it comes to online strategic skills. The strategic skill both has information and communication aspects in it, since it is constructed out of the strategic skills of Van Deursen and Van Dijk (2008) and the collaboration form of Jenkins' participatory culture (2009). The difference in the level of strategic skill between males and females probably derives from the fact that communication plays a big role within collaboration. In collaboration testing, the writing of a message is important, same as interpretation of others messages, which both are distinct communication aspects, in which females are more capable (Weimer et al.,2007; Wolf, 2007).

After looking at the differences in level of online skills, the next part tries to give a more global and comprehensive answer to the first research question.

5.1.3 Overall view of Online Skills

The first main research question was:

What is the level of Dutch secondary school students on the following Online Skills;

- Communication skill(affiliations and expressions)
- Information skill (searching, using & evaluating)
- Strategic skill (collaboration and knowledge exchange)

In order to give a general answer to this question a closer look in the descriptive results should take place. In most cases the primary focus was the difference between male and female and high or low educational level. Here the focus lies on the scores of all groups in contrast to the maximum score available. Answer to this question will be explained for the three skills; information, communication and strategic.

Looking at the information skills it appears that roughly 2/3 of all respondents were able to locate information and of this group another 2/3 used a reliable website. These numbers differ between the different educational levels, where a higher educational level seems to indicate better information skills.. All respondents but one, used a single source of information. Adolescents don't seem to question the source they find. Respondents all used Google as their search engine and mostly used a query of 2 to 5 words. Some respondents literally copied the question stated in the assignment, which mostly resulted in unusable or irrelevant search results. Also none of the respondents looked further than page 1 of the search results. If they didn't find it on the first page, people restate their search query. The use of Boolean commands in a search query was not performed at all. When taking the previous studies in account, where adolescents and children are said to be a bit naïve and miss critical judgment (Digivaardig & Digibewust, 2010) one can see the resemblance to the research at hand. Proper development and training of this skill is certainly needed to create users who know where to find information, and are capable of determining if certain information is valid and reliable. Here lies a important role for primary and secondary schools.

The communication skills contain a bigger number of sub skills. First an indication of online friends and meeting these friends online tells us that on average respondents are pretty good at collecting online contacts. A very little percentage says that they only ask real friends to be an online contact. So there definitely is a difference in how adolescents see online friends in comparison to real life friends they see. In contrast, a Belgian study named seven as the average amount of friends a person has (Agneessens et al., 2003), were online the average lies a bit above 200 contacts, the term online friends differs from the regular term friends. Comparing amount of online contacts and the amount they have daily contact with, it appears that only 4% of all contacts are met online. This could be due to social pressure, of showing how many contacts one has. Looking back at the literature review, the role of the social and psychological phase the adolescent is in plays a big part. This number primarily says something in combination with other values such as people they have daily online contact with and the amount of reactions one receives.

The skill of searching people and online groups shows an average score of just above half of the total score. Therefore one could conclude that these skills are not really satisfactory. Analyzing the videos it seems that respondents tend to 'give up' the assignment when it becomes hard. A retry via a different route is in most cases not considered as an option. If people can't find it within a couple of clicks or minutes, some respondents even say that it doesn't exist, and ask if the information in the assignment is stated in the right way. Taken into account that respondents performed these actions in a test context, the question rises how they would react and behave in ordinary circumstances. Would they try to find these people via different routes? For example calling or mailing friends for help? Or would they lose interest and give up.

The expansion of one's online network shows that respondents mostly say they primarily invite people who they met in real life. This question could be biased by the social desirability of wanting to look as a critical user.

The most important feature of SNS is the interaction between the users, part of this is: Exchange of messages. Most people indicate they send and receive message on a daily base. Because exchange of messages is a good indicator of actual use of SNS, one can conclude that adolescents use SNS more than daily. So the quantity or frequency is average, but how about the quality of the messages. When it comes to writing a message an average score of just 5.5/10 appeared in the results. A lot of respondents seem to write short messages which contain only the necessary information. When going deeper into the use of SNS one can see that Twitter is most often used. This microblog site generates more frequent usage than the other two SNS do. Online forums are used by less than 10% of all respondents, and are only used several times a month, with some exceptions.

Adolescents indicate they are capable in attracting attention online, given the amount of reactions people receive on their online status updates or public posts. With about 5 reactions on every post this seems quite reasonable. A good number of reactions combined with the low number of negative reactions indicate good quality of the content that is shared or the message that is posted (Weimer et al., 2007). 62% of all respondents never receive negative reactions online, and about 30% receives them rarely. The way adolescents express themselves online is fairly good. This can also be concluded from the 5 statements that were given concerning aspects of information they would or wouldn't share. These two aspects of; 1) very little negative reactions and 2) quite good decision-making on what to share and what not to share, can be seen as a coherent skill of expression.

The strategic skills were measured with a series of assignments and questions. About 60% was able to choose the right collaboration from a list, another 60% maintained this relation and about 30% says they are willing to share their knowledge online, about 40% says maybe to sharing knowledge. This means that about 30% said no to this question. So adolescents don't hesitate when it comes to searching for knowledge, but sharing knowledge is something different. In total about 90% of all respondents were able to answer a question after seeing some forum messages (containing the right answer) and searching for this information online. This score is pretty high, especially compared to the scores on the other subjects of strategic skills.

In conclusion, this research shows that the low educational group is very active online, with highest amount of hours spend online, especially for leisure purposes. They engage in a lot of online communication, looking at the high amount of reactions this group on average receives. This also has a downside, relatively they receive more negative reactions online then the peers from the medium or higher educational level receives. This is an indication that the message or posts they put online may lack some quality or appropriateness. Also they do need to develop more skills when it comes to searching and judging online information, in this group more respondents used unreliable sources when looking for important information.

The medium education group scores very high when it comes to amount of online contacts, and the amount of daily contact they have with their online friends. Also here it seems that the information skills need to be trained more, as well as the strategic skills. When it comes to the communication skills they do not differ much from the low educational group.

Respondents from the high educational level spend the least time online and are less active in communicating online then the other two groups. Despite this difference, they do seem to have a higher level of information skills, and more respondents in this group use reliable websites when it comes to using information. Concerning communication skills they also receive fewer negative reactions then the other two groups and are significantly better at composing message.

Looking at gender very little differences in this research appears. The communication aspects, which are suspected to have the largest differences in favor of the female group does show that females do receive fewer negative reactions. They use SNS a bit more and are slightly more active in communication online. While the information skills are almost on the same level. Strategic skills however are a bit better at the female group. Possible explanation is the combination of the several sub scores that also test communication skills for example composing a message. Besides the difference in strategic skill, an overall difference in skill between males and females remains small.

5.2 Limitations

The research at hand is one of the first to investigate skills with this particular combination of methods focusing on secondary scholars. Although the fact that this research is somewhat pioneering in this subject gives several usable recommendations. This first performance test on online communication however also has some limitations, which will be addressed first.

The practical downside of testing a broad model is that it consumes a lot of time (of the respondent) or forces the researcher to make concessions on how and what to test. The combination of survey and assignments can therefore be a good method to ensure that all skills are tested, but this also resulted in difficulties when it comes to combining these scores.

After analyzing the results both from the recordings as well as from the survey a conclusion is that complex or abstract skills like the strategic skill can't yet be measured with a survey. There are too many variables which occur during online interaction, which can't be simulated in a survey.

This brings up the following limitation, which often occurs when assessing behavior with the help of a survey; Social desirability. Especially in a research focusing on adolescents, where image, style and attitude are big influence on how respondents want to behave. Several questions in the survey could be influenced by the role of social desirability. Especially when asking at subject as amount of friendrequests or negative reactions. Here, there did appear a difference, where higher level of educational attainment resulted in fewer negative reaction. Question here is, receive lower educational really more negative reactions, or is the higher educational group more influence by the fact of social desirability. The same question rises with the difference between male and female respondents, for example; question 2b may also indicate that females are more influenced by social desirability.

The sample of this research consisted of adolescents from three educational levels but all from the same secondary school. This could be an implication when it comes to generalizing this to the whole Dutch youth. For example a closer look at the school's curriculum concerning internet use and projects is

needed. Also the ratio men versus woman was a bit skewed in favor of the woman. Interaction level of gender didn't appear during each Anova test (following the univariate method).

The results in general show some resemblances with previous studies, for example the difference in level of information skills. But also gives new insights: It also shows that people with lower education attainment do use more social aspects of the internet then people with higher educational attainment. And that people with lower education receive more negative reactions online. The purpose of this research however was to investigate the skill on these subjects, and on that note these results can be used as a first step or exploration in online skills. Some scores are likely influenced by social desirability, but the combination of all these questions makes these findings valuable. Total amount of online friends for example is just a number, but when one also takes 1) amount of online reactions and 2) online interaction a respondent has into account, then it can tell more about the actual capability in online communication.

5.3 Future research

As said, pioneering within this subject of research resulted in some recommendations for future studies. For future research it would be wise to focus on creating appropriate assignments that can be made within the online context instead of on paper. The investigation of skill in an online context provides a lot of opportunities and valuable data. There is however a difference in how the three skills can be tested in the most suitable way.

Previous studies show that information orientated skills are very much suitable for testing through assignments. Also this study shows that. For example, analysis of the results by recording screen actions gives a lot of in depth data on the process of completing assignments by the respondent. Here one can get a better insight of the decisions and actions respondents take during that assignment. Therefore this gives a better view of the actual skills because working with internet and the pc is more 'natural' than answering questions about that skill.

Looking at the communication skill it gets more complicated. Here several aspects and limitations have influence on the research method. When choosing for a survey, the role of social desirability or unreliable answers is an issue. Also online communication is a process that is influenced constantly by variables that can't be controlled; this uncontrollability is always part of online communication. To investigate this skill it is preferred to test this within the authentic online context. A possible solution could be 1-on-1 setting (researcher versus respondent), or the use of a (chat)bot. For the testing of actual online content such as a forum post a suggestion for assessing quality could be the use of an online panel. This panel could rate messages on several aspects, and hereby creating more reliable data on the subject of content quality.

The thoughts on testing communication skills also partly apply on testing strategic skills. Collaboration is communication, but since the main goal is gathering/creating information or solving a problem, it can be measured more accurately. It also has some aspects of testing information skills. The actual collaboration process can be controlled to some extend as is shown in this research. Doing this in a completely online context is preferred, but does consume more time from both researcher and

respondent. In this research, the strategic skill testing was more difficult compared to testing the other two skills. A close look at testing this skill in a reliable and valid way is certainly needed.

5.4 Concluding recommendations

Looking at the aim and motives for this research, two aspects can be distinguished. Firstly this study tried to give an insight in the online skills of adolescents in the broadest perspective. The term digital natives is often used to describe this group as computer savvy youngsters, but this doesn't apply to the entire group of adolescents. It is shown that this group does frequently use a broad spectrum of what the internet has to offer them, from games to communicating, to doing school projects. Existing models and theories of new media literacy or internet skills at hand do not combine all these aspects. Therefore this new model concerning communication, information and collaboration was created. Where the information skill was derived from existing research, the communication and partly strategic skills were not before used within the same study, this brings up the second aim; a new model.

Creating a broad model which contains the skills that address a complete spectrum of skills for beneficial use of the internet was the theoretical aim. This model would both take the educational need and motives as well as the motives concerning leisure purposes to use the internet into account. Looking back at the participatory culture of Jenkins (2008) this could be the shift which internet usage is going through. More social interaction, learning from collective knowledge, within online groups, and by (online) play. To ensure and improve the quality in these online collaborations and on the online sphere in general, the capability of the users have to be sufficient and taught at young ages. The question that is stated in several other researchers is; do adolescents learn new media and internet skills by just doing and playing, or do they have to learn it in more educational and perhaps more protective environment. Looking at the results from this study, adolescents are perfectly capable of learning and improving skills on the subject of online communication. This is something what in real life mostly does happen in real life interaction especially within the adolescent group. But adolescents do have to develop a certain critical view when it comes to assessing information online. This critical view and the capability of using and evaluating several sources is a skill that requires certain training, which is best suited to learn in a more educational setting.

Coming to the conclusion that the different aspects and capabilities of the internet are getting more complex and interwoven (from web 1.0 to web 2.0), the skills needed to use these aspects to the best, are also getting more complex. Growing up with, and using these media does not mean that people automatically develop the proper know-how and skill to use the internet beneficially. These skills need to be developed, trained and evolved both in a formal settings through education, but possible also in informal settings like gaming. Training these skills is needed for the improvement of (future) quality of content on the internet, as for the user and creator of the internet.

References

Agneessens, F., De Lange, D., & Waege, H. (2003). *Over het verband tussen sociale relaties en attitudes, waarden en normen.* Gent: Universiteit Gent.

Benkler, Y. (2006, 04 03). *The Wealth of networks - How social production transforms markets and freedom.* Opgeroepen op 09 30, 2011, van www.benkler.org: http://cyber.law.harvard.edu/wealth_of_networks/Download_PDFs_of_the_book

Blumler, J., & Kats, E. (1974). *The uses of mass communications: Current perspectives on gratifications research.* Beverly Hills: Sage.

Borgdorff, M., & Pardoen, J. (2011, 11 27). *Sociale Media?* Opgeroepen op 01 27, 2012, van www.mijnkindonline.nl: http://overupc.upc.nl/pdf/over-upc-maatschappelijk-sociale-media.pdf

Boyd, D. (2008). Why youth loves social network sites: The role of networked publics in teenage social life. *Youth, Identitiy, and Digital Media* (pp. 119-142). Cambridge: MIT Press.

CBS. (2011). *ICT gebruik van personen naar persoonskenmerk.* Den Haag: Centraal Bureau voor de Statistiek.

CBS. (2011). *Jaarboek onderwijs in cijfers.* Den Haag: Centraal Bureau voor de Statistiek.

Colley, A., & Comber, C. (2003). Age and gender differences in computer use and attitueds among secondary school students: What has changed? *Educational research* , 155-165.

Cormode, G., & Krisnamurthy, B. (2008). Key differnces between web1.0 and web2.0. *First Monday [online]* , 13-6.

Correa, T. (2010). The participation divide among "Online epxerts": Experience, skills and psychological factors as predictors of college students' web content creation. *Journal of computer-mediated communication* , 71-92.

Courtois, C., Mechant, P., De Marez, L., & Verleye, G. (2009). Gratifications and seeding behavior of online adolescents. *Journal of computer-mediated communications* , (15) 109-137.

Dainton, M., & Zelley, E. (2005). *Applying communication theory for professional life: A practical introduction.* Thousand Oaks: Sage Publications.

Digivaardig & Digibewust. (2010, oktober 04). *http://www.mijnkindonline.nl/1637/einstein-bestaat-niet.htm.* Opgeroepen op oktober 05, 2011, van mijnkindonline.nl: http://www.mijnkindonline.nl/uploads/Rapport-Einstein-bestaat-niet%204%20okt%202010.pdf

Elisson, N., Steinfield, C., & Lampe, C. (2007). The benefits of facebook Friends: Social capital and college students use of online social network sites. *Journal of computer-mediated communication* , 1143-1168.

Frankenhuis, S., van der Hagen, S., & Smelik, A. (2007). *De effecten van nieuwe media op jongeren van 12 - 14 jaar.* Enschede: Studies in leerplanontwikkeling.

Golder, S., Wilkinson, D., & Huberman, B. (2007). Rhythms of Social Interaction: Messaging Within a Massive Online Network . *Communities and technologies* , 41-66.

Hargittai, E. (2010). Digital na(t)ives? Variation in internet skills and uses among members of the "Net Generation". *Sociological Inquiry* , 92-113.

Hargittai, E. (2005). Survey Measures of web-oriented digital literacy. *Social Science Computer Review* , 371-379.

Hodges, J. (2002, 11). *Internet Netiquette - What Is It and Why Is It Important.* Opgeroepen op 01 38, 2012, van www.heinonline.org: http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/jrlpep4&div=53&id=&page=

Holzer, R., Halfon, O., & Thoua, V. (2011). Adolescent brain maturation. *Archives de Pediatrie* , 18, 579-589.

Ito, M. (2010). *Hanging out, messing around, and geeking out: Kids living and learning with new media.* Cambridge, Massachusetts: The MIT Press.

Jackson, L., Ervin, K., Gardner, P., & Schmitt, N. (2001). Gender and the Internet: Women Communicating and Men Searching. *Sex roles* , 363-379.

Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century.* Massachusetts: The MIT Press.

Kuiper, E., Volman, M., & Terwel, J. (2008). Integrating critical web skills and content knowledge: Development and evaluation of a 5th grade educational program. *Computers in Human Behvaior* , 666-692.

Lee, S. J. (2009). Online communication and adoleschent social ties: Who benefits more from the internet use? *Journal of computer-mediated communication* , (14) 509-531.

Livingstone, S., & Bober, M. (2004). *Taking up opportunities? Children's uses of the internet for education, communication and participation.* London: LSE Research Online.

Livingstone, S., Haddon, L., Gorzig, A., & Olafsson, K. (2011). *Risks and safety on the internet: The perspective of European children.* London: The London School of Economics and Political Science.

Mijn Kind Online. (2009, september). *Mijn puber op hyves.* Opgeroepen op oktober 07, 2011, van http://www.mijndigitalewereld.nl: http://www.mijndigitalewereld.nl//media/pdf/mijn_puber_op_hyves.pdf

Nelis, H., & Van Sark, Y. (2010). *Puberbrein binnenstebuiten. Wat beweegt jongeren van 10 to 25 jaar?* Utrecht/Antwerpen: Kosmos Uitgevers B.V.

Park, N., Kee, K. F., & Valenzuela, S. (2009). Being Immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior* , (12) 729-733.

Raacke, J., & Bonds-Raacke, J. (2008). Myspace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *CyberPsychology and behavior* , (11) 169-174.

Schumacher, P., & Morhan-Martin, J. (2001). Gender, Internet and computer attitudes and experiences. *Computers in Human Behavior* , 95-110.

Sibona, C., & Walczak, S. (2011). Unfriending on Facebook: Friend request and online/offline behavior analysis. *Proceedings of the 44th Hawaii International Conference on System Sciences* (pp. 1-10). Kauai, HI: Univ. of Coloraldo Denver.

Snyder, L. (2002). Literacy education in the digital age: Reframing curriculum and pedagogy. *Pedagogisch tijdschrift* , 145-157.

Sorapure, M., Inglesby, P., & Yatchisin, G. (1998). Web Literacy: Challenges and opportunities for research in a new medium. *Computers and Composition* , 409-424.

Thelwall, M., Wilkinson, D., & Uppal, S. (2010). Data mining emotion in social network communication: Gender differences in myspace. *Journal of the American society for information science and technology* , 190-199.

Valkenburg, P. (2000). Media and Youth consumerism. *Journal of adolescent Health* , 52-56.

Valkenburg, P., & Jochen, P. (2007, july 1). *Online Communication and Adolescent Well-Being: Testing the Stimulation Versus the Displacement Hypothesis.* Opgeroepen op 1 25, 2012, van http://jcmc.indiana.edu/vol12/issue4/valkenburg.html: http://jcmc.indiana.edu/vol12/issue4/valkenburg.html

Valkenburg, P., & Peter, J. (2011). Online communication among adolescents: An intergrated model of its attraction, opportunities and risks. *Journal of adolescents health* , 121-127.

Van Deursen, A. (2010). *Internet skills, vital assets in an information society.* Enschede: University of Twente.

Van Deursen, A., & Van Dijk, J. (2008). Improving digital skills for the use of online public information and services. *Government Quarterly* , 333-340.

Van Deursen, A., & Van Dijk, J. (2011). Internet skills and the digital divide. *New media & society* , 1-19.

Van Rooij, A., Schoenmakers, T., Meerkerk, G.-J., & Van de Mheen, D. (2009). *Monitor Internet en Jongeren 2006-2009.* Rotterdam: IVO.

Weimer, M., Gurevych, I., & Mühlhäuser, M. (2007). Automatically Assessing the Post Quality in Online Discussions on Software. *45th Annual Meeting of the ACL on Interactive Poster and Demonstration Sessions* (pp. 125-128). Stroudsburg PA, USA: Association for Computational Linguistics.

Wolf, A. (2000). Emotional Expression Online: Gender differences in emoticon use. *CyberPsychologie & Behavior* , 827-833.

Appendix A: The survey and assignments

(In the assignment section; in questions 35, 37, 38 and 39 the correct answer is highlighted in green.)

Respondent	
Datum	
Uur	
Computer	

Internet onderzoek
Carmel College Salland

Een onderzoek van de Universiteit Twente

Onderzoeker: Dave Jansman

Hartelijk dank dat je meedoet aan dit internetonderzoek van de Universiteit Twente!

Dit onderzoek bestaat uit 34 enquêtevragen en 6 opdrachten. De enquête vragen gaan vooral over het gebruik van sociale media zoals, Hyves, Facebook en Twitter. Tijdens de opdrachten zul je op het internet moeten zoeken naar personen en websites, maar ook online berichten uitwisselen.

We beginnen met de enquêtevragen, hierna komen de opdrachten aanbod. Bij alle opdrachten zul je ook een (meerkeuze)antwoord op dit blad moeten invullen, dit staat er dan bij.

Belangrijk: Alle ingevulde gegevens en opgenomen schermacties in dit onderzoek zullen geheel anoniem blijven en de resultaten zullen ook alleen bij de onderzoekers bekend blijven.

Met vriendelijke groet,

Dave Jansman
Master student Communicatiewetenschappen
Universiteit Twente

De Enquêtevragen

Welkom bij de enquêtevragen. De meeste vragen zijn meerkeuze vragen. Dit betekent dat je één of meerdere vakjes moet aankruisen, zoals: ☒. Bij sommige vragen staat een korte uitleg zoals: "één antwoord mogelijk", "Meerdere antwoorden mogelijk" of "sla deze vraag over".

Beantwoord de vragen eerlijk, de antwoorden blijven anoniem want je naam hoef je niet te vermelden. Succes!

Welke Sociale Media gebruik je					
	Meerdere keren per uur	Meerdere keren per dag	Meerdere keren per week	Meerdere keren per maand	Nooit
1. Twitter	☐	☐	☐	☐	☐
2. Hyves	☐	☐	☐	☐	☐
3. Facebook	☐	☐	☐	☐	☐
4. Online Fora of prikborden	☐	☐	☐	☐	☐

5. Hoeveel uur spendeer je gemiddeld per dag op sociale netwerksites: *(afronden tot op halve uren, dus bv: 1,5 uur)*	.....:Uur

Aantal online vrienden			
6. Hoeveel vrienden/followers heb je op de volgende sociale netwerken?	Facebook	Twitter	Hyves
(Gebruik je één van deze sociale media niet, zet dan een streep in dat vak.)			

Contact met je vrienden	
7. Met hoeveel online vrienden heb je iedere dag online contact? (geef een schatting)	.....

Contact met vrienden		
8. Hoeveel van je online vrienden zie je ook offline?	Al mijn online vrienden zie ik ook offline	☐
Één antwoord mogelijk	Ik zie driekwart van mijn online vrienden ook offline	☐
	Ik zie de helft van mijn online vrienden ook offline	☐
	Ik zie minder dan de helft van mijn online vrienden ook offline	☐
	Ik zie geen van mijn online vrienden ook offline	☐

Vrienden accepteren		
9. Van wie accepteer jij online vriendschapsverzoeken?		
Één antwoord mogelijk	Iedereen die mij een verzoek stuurt	☐
	Iedereen die er leuk of interessant uitziet	☐
	Vrienden van vrienden	☐
	Alleen mensen die ik persoonlijk heb ontmoet	☐
	Alleen mensen die ik ook echt beschouw als vriend	☐

Vriendschapsverzoek versturen		
10. Naar welke personen stuur jij vriendschapsverzoeken?		
Één antwoord mogelijk	Iedereen die ik interessant of leuk vind	☐
	Vrienden van vrienden	☐
	Alleen mensen die ik persoonlijk heb ontmoet	☐
	Alleen mensen die ik ook echt beschouw als vriend	☐

Stelling: Vriendschapsverzoeken ontvangen en versturen		
11. Welke stelling is op jou van toepassing?		
Één antwoord mogelijk	Ik verstuur meer vriendschapsverzoeken dan dat ik ontvang.	☐
	Ik verstuur evenveel vriendschapsverzoeken als dat ik ontvang.	☐
	Ik verstuur minder vriendschapsverzoeken dan dat ik ontvang.	☐

Geef aan hoe vaak je de volgende activiteiten doet op de sociale media.					
	Meerdere keren per uur	Meerdere keren per dag	Meerdere keren per week	Meerdere keren per maand	Nooit
12. Berichten versturen	☐	☐	☐	☐	☐
13. Berichten ontvangen	☐	☐	☐	☐	☐

Online vrienden categorieën		
14. Wie zijn je online vrienden op Hyves, Facebook of Twitter		
Kies <u>maximaal 3 categorieën</u> waarin je de <u>meeste</u> online vrienden hebt.	Klasgenoten	☐
	Goede vrienden	☐
	Familie	☐
	Sport(genoten)	☐
	Vakantievrienden	☐
	kennissen	☐
	Anders namelijk: …….	☐

Informatie via status updates en publieke berichten delen		
15. Over welke onderwerpen post jij het vaakst publieke berichten en status updates op je profiel?		
Kies <u>maximaal 3 categorieën</u> waarover je het <u>vaakst</u> publieke berichten online zetten	School	☐
	Hobby's en vrije tijd	☐
	Sport	☐
	Feestjes of uitgaan	☐
	Muziek	☐
	Tv-programma's	☐
	Anders namelijk:	☐
Is dit je antwoord? **à** *Sla dan vraag 16 over*	Ik post geen status updates of berichten	☐

(status) updates en publieke berichten posten op je profiel	
16. Wanneer ik publieke berichten op mijn profiel of 'wall' post krijg ik gemiddeld zoveel geschreven reacties:	Aantal reacties:.....

Accounts en profielen aanmaken			
17. Heb je bij online profielen een nickname (verzonnen naam of alleen voornaam), of gebruik je jouw eigen volledige naam?	Nick name	Eigen Naam	Niet van toepassing
Hyves	☐	☐	☐
Facebook	☐	☐	☐
Twitter	☐	☐	☐
Online games	☐	☐	☐
Online fora	☐	☐	☐

Stellingen	Altijd	Vaak	Soms	Zelden	Nooit
18. Denk je goed na over wat je wel en niet op sociale media plaatst?	☐	☐	☐	☐	☐
19. Hoe vaak uit je je ontevredenheid over school op sociale media?	☐	☐	☐	☐	☐
20. Hoe vaak uit je je boosheid over iemand op sociale media?	☐	☐	☐	☐	☐
21. Hoe vaak plaats je foto's van jezelf op sociale media?	☐	☐	☐	☐	☐
22. Hoe vaak zet je foto's waar jij met anderen op staat, zonder te vragen op jouw online profiel?	☐	☐	☐	☐	☐
23. Hoe vaak zou je uitnodigingen voor eigen feestjes op Hyves, facebook of Twitter zetten?	☐	☐	☐	☐	☐

Stellingen	Altijd	Vaak	Soms	Zelden	Nooit
24. Hoe vaak krijg je negatieve reacties op je profiel of publieke berichten die je post?	☐	☐	☐	☐	☐

Stellingen	Helemaal eens		Neutraal		Helemaal oneens
25. Ik vind het belangrijk dat een school aanwezig is op Social Media	☐	☐	☐	☐	☐
26. Ik vind het leuk dat een school aanwezig is op Social Media	☐	☐	☐	☐	☐

Schoolpagina op Social Media		
27. Zou je lid worden van een Hyves- of Facebookpagina die opgezet is door jouw school?		
Één antwoord mogelijk	Ja, ik zou hier lid van worden	☐
	Nee, ik zou hier geen lid van worden	☐

Schoolinformatie verspreiden		
28. Welke berichten zijn volgens jou nuttig om via social media te verspreiden		
Meerdere antwoorden mogelijk	Nieuws over de school	☐
	Mededelingen	☐
	Verslagen	☐
	Filmpjes	☐
	Foto's	☐
	Anders, namelijk	☐

Een school op Hyves, Twitter of Facebook		
29. Welk social medium zou een school het beste kunnen gebruiken?		
	Hyves	☐
	Facebook	☐
	Twitter	☐

30. Geslacht:		☐ Man ☐ Vrouw
31. Klas	☐ 3 VMBO	☐ 4 VMBO
	☐ 3 HAVO	☐ 4 HAVO
	☐ 3 VWO	☐ 4 VWO

32. Leeftijd:	.....
33. Gemiddeld aantal uren per dag dat ik internet gebruik voor vrije tijd	.....
34. Gemiddeld aantal uren per dag dat ik internet voor school gebruik	.....

Dit waren de laatste enquêtevragen.

Ga nu verder met de opdrachten op de volgende pagina's!

De opdrachten

35. Opdracht: Online samenwerking

Stel je bent 15 jaar en werkt bij een supermarkt als vakkenvuller. Tijdens het werk zegt jouw baas dat je volgende week achter de kassa moet werken, omdat daar iemand ziek is.
Je hebt het vermoeden dat je hier te jong voor bent, maar je weet het niet zeker. Daarom besluit je deze vraag: '*mag ik als 15 jarige achter een kassa werken?'* te stellen op een online forum.

Hieronder staan een aantal fora, bekijk het resultaat van de zoekopdracht; en kruis aan welk forum jij zou kiezen om jouw vraag te stellen: *(Hier is slechts één antwoord mogelijk)*

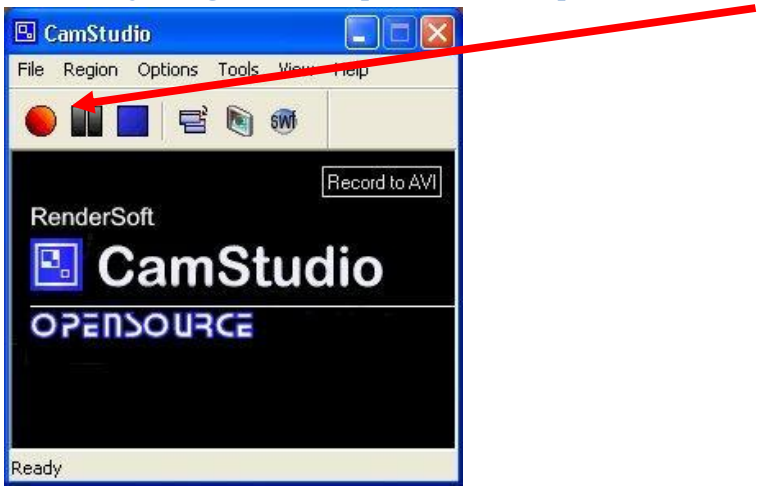
Starten na fulltime-**baan** - Belastingen en subsidies - **Forum** ... hallo.kvk.nl/hallo/financieel/belastingen_en.../f/.../t/19016.aspx +1 10 nov 2011 – Zoek Belastingen en subsidies. Home » Financieel » Belastingen en subsidies » Belastingen en subsidies - **Forum** » Starten na fulltime-**baan** ...	☐
Bijbaan	Werk, Geldzaken & Recht (WGR)	FOK!**forum** - Het Grootste ... **forum**.fok.nl/topic/1551007 +1 25 berichten - 12 auteurs - Laatste bericht: 27 okt 2010 Goed betaald **bijbaantje**. En bij een **supermarkt** wennen is ook wel een redelijk baantje met een een redelijk loon ;) ... **Bijbaan**	Puber- & Tienertalk (PUB) - 22 nov 2011 **Bijbaan** in Juridische sector, mogelijk?	Werk, Geldzaken & Recht ... - 22 okt 2011 Ah, c1000 of macdonalds?	Werk, Geldzaken & Recht (WGR) - 26 feb 2011 Heb jij een **bijbaantje** en hoeveel verdien je? #2	Puber ... - 19 aug 2005	☐
Bijbanen forum! - 9lives - Games Forum www.9lives.be › Forum +1 2 berichten - 2 auteurs - Laatste bericht: 22 sept 2010 Hey allemaal! Ik ben nieuw op dit **forum** en hoop dat jullie me kunnen helpen! Ik ben student maar ga vanaf januari een half jaar werken om ...	☐
StudieInfo.nl - **Bijbanen** www.studieinfo.nl/**forum**/6/ +1 De **Forums**. **Forum**: **Bijbanen Bijbaan** aanbieden, **bijbaan** gevraagd, tips, plaats een bericht ... Titel. Geld verdienen met internet · Geld online verdienen met een ...	☐
Goed betaalde **bijbanen**! - Studenten **Forum** www.studentenforum.net › ... › Vraag & Aanbod › Vacatures +1 1 bericht - 1 auteur - Laatste bericht: 12 mei 2009 kijk op Work-on Studentenuitzendbureau - Startpagina voor de leukste en goed betaalde **bijbanen** en leuke startersfuncties. De ideale **bijbaan** voor studentes! - 1 bericht - 26 aug 2011 **Bijbaan**? - 3 berichten - 20 aug 2010 Amedeo studiegerelateerde **bijbanen** - 1 bericht - 14 mei 2009 Studiegerelateerde **bijbanen** en startersfuncties - 1 bericht - 12 mei 2009 Meer resultaten van studentenforum.net »	☐

Scholieren.2Link.be - **scholier**, uitreksels, werkstukken, onderwijs **...** **scholieren**.2link.be/ +1 **Scholieren**.2Link.be - **scholier**, uitreksels, werkstukken, onderwijs, **forums**, **...** Werkstukken. - **Scholierensite** - **Scholieren**.com --huiswerk **...**	☐

36. Je hebt een forum uitgekozen, nu moet je jouw vraag nog stellen. Dus; schrijf hieronder kort het bericht met de vraag zoals jij die op dit forum zou plaatsen:

Je hebt zojuist je vraag op het online forum gesteld, hierop is door vier mensen gereageerd! Deze staan hieronder:	
Persoon	Geplaatste Reactie
A) Anne Arends	Hee, Ik ben zelf 16 en werk achter de kassa, maar toen ik 15 was mocht ik alleen vakken vullen. Hier op mijn werk zeiden ze dat je pas achter de kassa mag werken wanneer je 16 jaar of ouder bent. Groetjes
B) Piet Pieters	Hallo, Ik ben ook 15 en werk ook bij een supermarkt. Normaal als vakkenvuller, maar ik heb ook wel eens achter de kassa gewerkt. Mijn baas zei toen dat dit gewoon volgens de Arbo-wet was toegestaan, dus volgens mij mag dit wel. Groet Piet
C) Jan Jansen	Hee, Wanneer je 15 jaar oud bent, mag je slechts een paar werkzaamheden doen. Je mag bijvoorbeeld vakken vullen, auto's wassen of helpen bij het schoonmaken. Maar je mag geen kassawerk doen, dit mag pas vanaf je 16de. Groet Jan
D) Marie de Vries	Hallo, Ik werk bij een supermarkt en bij ons mogen de jongeren van 15 jaar gewoon achter de kassa zitten, dit mag omdat het lichamelijk geen zwaar werk is. Ze vinden het vaak ook erg leuk. Groeten Marie
37. Welke reactie is volgens jou het beste? (*één antwoord mogelijk)*	☐ A Anne Arends ☐ B Piet Pieters ☐ C Jan Jansen ☐ D Marie de Vries

Let op! Nu komen de vragen waarbij je de computer moet gebruiken: Druk voordat je begint met opdracht 38 op de rode ronde knop!



38. Zoek nu zelf op internet naar het juiste antwoord op de vraag uit opdracht 35 en 36; *'mag ik als 15 jarige achter een kassa werken?'*	
Wat is het antwoord?	☐ Ja, je mag achter de kassa werken
	☐ Nee, je mag niet achter de kassawerken
39. Stel dat je de juiste informatie hebt gevonden. Zou je dit dan via hetzelfde forum delen om anderen te helpen?	☐ Ja
	☐ Nee
	☐ Misschien

In deze laatste opdracht moet je mensen of groepen zoeken; lees eerst goed de volgende uitleg!

Het is van groot belang, dat wanneer je de persoon of groep hebt gevonden, je het scherm minimaal 3 seconden laat staan op het eindresultaat. Bijvoorbeeld: je hebt het profiel van Niels Nietjes gevonden, laat zijn profiel 3 seconden op je beeldscherm 'staan' vink af dat het gelukt is en ga dan pas verder met de volgende opdracht.

40. Opdracht: Zoek de volgende personen of groepen op binnen de sociale media zoals Hyves of Facebook.	Gevonden		Niet gevonden	
	Hyves	Facebook	Hyves	Facebook
a. Niels Nietjes 18 jaar, woont in Deventer, zit op het VWO, werkt bij de c1000	☐	☐	☐	☐
b. Een online discussie- of fangroep over Jack Russels	☐	☐	☐	☐
c. De fan of groepspagina van Rohda Raalte	☐	☐	☐	☐

Dit was je laatste opdracht, bedankt! Steek je vinger op wanneer je klaar bent!

Appendix B: List of used websites and corresponding values

		Education			
Value		VMBO	HAVO	VWO	Total
1	attractpayroll.nl	0	0	1	1
1	cnvjongeren.nl	2	3	7	12
0	forum.scholieren.com	2	2	2	6
0	goeievraag.nl	4	2	1	7
0	google zoekresultaat	0	1	0	1
0	google zoekresultaten	1	0	0	1
1	ikwerkindesupermarkt.nl	0	0	1	1
1	jipsite.nl	0	0	1	1
1	jongin.gelderland.nl	1	1	3	5
1	jongin.nijmegen.nl	1	0	0	1
1	kenniskring.nl	1	1	1	3
1	rijksoverheid.nl	2	3	4	9
1	vakantiewerkonline.nl	0	0	1	1
1	vakcentrum.nl	3	4	3	10
1	zakelijk.infonu.nl	0	1	0	1
	Total	17	18	25	60

Appendix C: Keyword list assignment 36.

Dutch Keyword	English translation
Caissière	Cashier
(achter de) Kassa	Behind the register
Bijbaan	Part-time job
Supermarkt	Supermarket
15 jaar	15 years (age)
Toegestaan/mag dit/ of synoniem	Is this allowed
Wet	Law
Toegestane leeftijd	Appropriate age