Modern Technologies in the Classroom and the Authority of the Teacher: A study about the influence of computers, *iPads* and digital textbooks on the authority of the teacher in Dutch primary schools.

Anne Vrolijk

s1279505

Book and Digital Media Studies

Prof. Adriaan van der Weel

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Introduction

The research question that will be answered in this study is: "How does the presence of modern technologies, such as *iPads* and computers, influence the authority of the teacher in Dutch primary schools?" The choice for primary schools instead of secondary schools or even higher education, has everything to do with at what level modern technologies, such as digital textbooks, are implemented. This mostly happens in the first years of children's education. The other reason is related to the different levels and subjects of secondary education in The Netherlands. While primary schools are relatively similar and have equivalent curricula, secondary schools are so different, it is hard to make a comparison between them.

The two main subjects, technology and authority, at first perhaps seem not immediately related to each other. However, nothing is further from the truth: especially in the educational field, technology clearly has an impact on authority. Why and how this happens will become apparent in the course of the study. But firstly, this short introduction will attempt to clarify why the influence of modern technologies on the authority of the teacher is worth studying.

In this thesis, the word "technology" will be constantly referred to. Technology comes from the word *techne*, in Greek, which means art or skill. All man-made tools can be classified as being technology. From the earliest forms of cutlery, to the newest phablet (a tablet with the features of a phone), it is all technology. This study, as mentioned above, is about the influence of digital technologies in the classroom that have been connected to the Internet, so not about chalk, blackboards or even televisions. So, what is meant by technologies in this study are *Smartbaords*, tablets, *iPads*, computers and other similar devices from which the Internet can be accessed.

This time is called the digital era, technological era or new media era. The era is characterized by technologies that increase the speed and breadth of knowledge turnover within society.[1] The impact of the introduction of these new technologies into human existence is considered so large that the new era's arrival has been widely accepted. One only

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[1] J. Shepherd, 'Why the digital era?', in G. Doukidis, N. Mylonopoulos and N. Pouloudi (ed.), *Social and economic transformation in the digital era* (Hershey/London: Idea Group Publishing, 2004).

has to look around in the streets or in one's home to see how many modern technologies are present and how important their role in the everyday life has become.

Education changes as society changes and the other way around. Given the fact that a new era has arrived in which digital technologies set the tone, this definitely will have an impact on education. The education children receive will determine to a large extent what society will look like in the future, because, like Marshall McLuhan said, "The medium is the message."[2]. So, by replacing a book for a tablet or a face-to-face-conversation for an online chat, the messages will be affected. Changes in education, or reforms, have led to major changes in history. A good example of this is the so-called Dutch school battle (*Schoolstrijd*). Ultimately, in 1878, the fight for the right to send one's child to the school of choice, resulted in catholic, protestant, liberal and conservative electoral associations. It was the beginning of political parties.[3] Another example is Aletta Jacobs, the first woman ever to attend university in the Netherlands. She also stood as an important model for what society would look like in the future. By becoming a physician, she was able to fight for women's emancipation.[4]

Dutch education is being changed by the ongoing process of introducing new media into the classroom. As digital technologies become more and more important in society, schools are also starting to implement them at an increasing pace. Even before the influences of the latest technologies have been studied, new one's are already being widely implemented into the Dutch primary-school classrooms. Changes are happening so quickly that it is crucial to study the impact of technology as soon as possible.

The discussion about the quality of primary school education in The Netherlands has been going on for years. Although the level of education still can be classified as being good, in 2010, The Netherlands left the Top 10 of leading countries. This is remarkable, because in the

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[2] M. McLuhan, *Understanding Media: The extension of man* (New York: New American Library, 1964).

[3] F. Anders, 'De schoolstrijd in Nederland' Geschiedenis.nl, 04 February 2011 <http://www.geschiedenis.nl/index.php?go=home.showBericht&bericht_id=3366> (06 November 2013).

[4] F. Anders, 'Aletta Jacobs en de vrouwenemancipatie' Geschiedenis.nl, 08 March 2011 <http://www.geschiedenis.nl/index.php?go=home.showBericht&bericht_id=3392> (06 November 2013).

last decade much has been invested to improve the quality of education. In total, more than thirty reforms have taken place. In 2014, 32.1 billion euros will go to culture, science and education, which is about twelve percent of the government's budget.[5] As an attempt to once again be part of the world's leading countries, in the coalition agreement of 2012 the prime minister Mark Rutte and the leader of the labor party (*Partij van de Arbeid*) Diederik Samsom stated they will invest more money in education and demand more of the quality of teachers and principals.[6] Interestingly, when it comes to the quality of education, Rutte and Samson immediately related this to the people involved in the learning process. Teachers and principals are mentioned and not, for example, the quality of the learning materials or the infrastructure of school buildings and it is self-evident that these elements also play a very important role when it comes to the quality of education, but the human factor is considered superior. Among all humans involved in the learning process, the teacher is probably considered to be the most important, for he or she has direct contact with the students. So, in order to improve the quality of education, it is necessary to improve the qualities of the teacher. This is why this thesis is about the influence technology has on teachers, for he or she is the central human figure in the learning process.

These previous paragraphs quickly mentioned why it is so important to study the influence of technology on the teacher. Which aspect of the teacher's work or behavior would be influenced by technology, still needed to be defined. Finally, it came down to authority: a very controversial term. It is also a very adequate term, because authority has always been associated with teaching. Jesus Christ, probably one of the most well-known teachers, distinguished himself, because, according to the *Bible*, he taught with authority: "When Jesus had finished saying these things, the crowds were amazed at his teaching, because he taught as one who had authority, and not as their teachers of the law." (Matthew 7:28 – 29)[7]

Nowadays, authority, together with the traditional way of classical teaching is being mistrusted. An authoritarian teacher in front of a classroom is suspicious and does not seem

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[5] < http://www.rijksoverheid.nl/onderwerpen/miljoenennota-en-rijksbegroting/huishoudboekje-van-nederland> (14 February 2014).

[6] A. de Weerd, 'Verbetering van het basisonderwijs' *VPRO Tegenlicht,* 08 November 2012 <http://tegenlicht.vpro.nl/nieuws/2012/november/onderwijs-in-Ned.html> (4 November 2013).

[7] <http://www.biblegateway.com/passage/?search=Matthew%207&version=NIVUK> (20 May 2014).

to fit into modern society. However, traditional hierarchical teaching manners have served society for over twenty-five centuries. Consequently, it would be hard to say that a teacher, standing in front of the classroom, as a source of knowledge, has not done any good at all.[8] Although the discussion in this study is not whether authority in the classroom is a good or bad thing, it is a good topic for a discussion.

The introduction of tablets and other digital media in Dutch primary schools make it possible for schools to adapt more to the student's individual needs, besides facilitating the access to information. These two specific and other characteristics of digital media will cause the role of the teacher to switch. Summarizing, the role of teacher will be affected by the introduction of digital media into the classroom. Within this changing role, authority is one of the characteristics that could also be affected and that is why it is interesting to analyze the influence of modern technologies on the authority of the teacher.

In the previous paragraphs, the subject of the study has been defined. However, the methodology has not been described yet. In order to study the influence of computers, *iPads* and digital textbooks on the authority of the teacher in Dutch primary schools, it was necessary to combine the research of literary sources and some personal experience. All of this can be found in the next two chapters. Although these chapters contain a solid amount of information, it still remained interesting to ask for the opinion of other people who had some sort of experience or knowledge regarding the subject. Besides it being interesting to have people from different professional areas commenting on teacher authority and technology, it would also guarantee this study would not be outdated. It would be of interest as well to find out whether the literature research and the opinions of these professionals would match or complement each other.

The method chosen to learn about the opinion of professionals form different fields, was a simplified version of a Delphi Panel. A Delphi Panel is a research method in which the opinion of several experts - in this case, of different academic areas - is given about the topic of interest. The experts are presented with a set of statements, on which they comment. Normally there still will be no consensus when comparing the opinions of all the experts. It is expected to find different answers and different opinions, because the experts answer from

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[8] Hermsen, J.J., 'Een uitweg uit de crisis in het onderwijs: Geef de leraar zijn klas terug', *Vrij Nederland,* 01 February 2014, p. 41.

their point of view, which is their own academic area or professional experience. Although the answers are different, there will probably still be statements all or most participants will agree on. By putting together these statements, it is possible to form a common opinion. This common opinion can be seen as the result of the Delphi Panel and, in this case, will be compared to the results of the literature research of the first two chapters.

In this introduction, the subject of the study and the methodology have been defined and some background information has been given. In the next two chapters, the subjects of technology and authority will be covered, based on literary research. The third chapter will focus on the simplified version of the Delphi Panel, presenting some of the information obtained during conversations with experts. Finally, this study will close with a brief conclusion that will clarify how the authority of the primary school teacher is threatened by technology.

Chapter 1

The following chapter will be about the introduction of new technologies into society, schools and the classroom. It will be explained why the influence of digital technologies has been bigger than the influence of other technologies and what the reactions in society have been. More specifically, digital media technologies will also be linked to the role of the teacher.

1.1 Digital media as an agent of change in the classroom

Professor Andreas Lund of the University of Oslo argues that the first major challenge for education in general and teachers in particular is represented by a changing perspective on learning, teaching and knowledge. The process accelerates as information and communication technologies increasingly make their impact and force people to reconsider how such technologies may affect classroom practices.[9] The impact of digital technologies in those

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[9] A. Lund, 'Teachers as agents of change: ICTs and reconsideration of teacher expertise' *Analytic survey: Information and communication technologies in the teaching and learning of foreign languages: state-of-the-art, needs and perspectives* (Moscow: UNESCO IITE, 2004) p. 28.

practices is huge for several reasons. For example, technologies develop and update all the time and therefore force the classroom environment to keep up with updates and completely new gadgets. Also, online information is always available and teachers need to adapt themselves to a situation in which they do not necessarily need to have the knowledge, that needs to be passed on to the students, ready in their heads, but they will have to guide the students in their search for knowledge. In other words, the role of the teacher changes.

Since some years, this has also been happening in Dutch primary schools. In some of these, paper schoolbooks have been (partially) replaced by digital learning platforms and the blackboard has been replaced by the *Smartboard*. The pace at which these changes are taking place is extraordinarily quick. Especially since it is not known what the long-term effect of these technologies will be on children, simply because there is still no generation that has finished their complete education in a classroom taken over by digital technologies. Hence, it can be said that schoolchildren of the tablet and *Smartboard* generation are part of an experiment, as it is not known what will become of them.

This all sounds a little dramatic and perhaps exaggerated, but in order to understand why these technologies have such a great impact in the classroom and in schools in general, it is necessary to admit they are more than just aids, like chalk and blackboards. The shift from a paper textbook to a digital textbook is much bigger than, for example, the shift from chalk to markers.

The fact that Dutch classrooms are gradually taken over by digital textbooks and platforms, *iPads, Smartboards* and other digital devices, is ultimately the result of one man's idea. In 1954, Alan Turning was the first person to think of a device that could be programmed and therefore adapted to our needs. With the help of this device, words, numbers, sounds, images and moving pictures could all be translated into digital codes, or in other words, be computed. He called this imaginary predecessor of the modern computer, the *Universal Machine*.[10] When, several decades later, the computer first reached people's households, it was already different from most other devices While a radio could only transmit sound and the newspaper could only hold text and still images, the computer was special, because it could hold all four medial modalities: text, sound, still images and moving

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[10] N. Carr, *The shallows: How the internet is changing the way we read, think and remember* (London: Atlantic Books, 2010), p. 82.

images.[11] However, the true potential of the computer only came to light when it was linked to the *World Wide Web*. When this happened, the home computer became part of a network: the Internet. The Internet distinguishes itself from all other mass mediums, because is bidirectional. Messages can be sent, as well as received, through the network and this characterizes the Internet's important social feature.

The technologies that are subject of this study are information and communication technologies (ICTs). Their general impact is beyond anything ever seen with previous media technologies, because ICTs incorporate all modalities that these individual technologies could possibly incorporate. And, more importantly, none of these former media technologies used to be interactive and bi-directional. New ways of communicating with one another have emerged since the introduction of the *World Wide Web.* Some examples are: e-mail, *MSN messenger, Facebook, Twitter* and *WhatsApp.* These new communication forms do not only influence the lives of adults, but also those of children. 'Social Media Wijs', a group that organizes workshops for parents and teachers about social media for children, discovered that more than seventy-five percent of Dutch children start using social media before they reach the age of ten.[12] This exemplifies how big the impact of ICTs on the lives of children already is, even if they are not or barely used inside the classroom environment. Children are part of more than one system and they move between them: school, home, the community, the sports club, the online and the offline world. This polycontextuality is brought into schools as ICTs continue to infuse classroom practices.[13] This happens, because the same device is used in all these different contexts. The *iPad* is used in school to do exercises, but also used at home to play games. It enables children to communicate with children from all over the planet by being part of an online network. It becomes easy to watch videos, listen to songs and read all sorts of texts, because of the unrestrained access to information that children are exposed to.

Although some fear the introduction of ICTs, it was never realistic to think they could be kept out of the classroom. If there was already so much of it in the outside world, it would

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[11] A. van der Weel, *Changing our textual minds: Towards a digital order of knowledge* (Manchester/New York: Manchester University Press, 2011) pp. 59-60.

[12] <http://socialmediawijs.nl/over-social-media-wijs/profiel/> (10 October 2013).

[13] A. Lund, 'The multiple contexts of online language teaching', in *Language Teaching Research 10,2* (London: Edward Arnold Publishers, 2006) p. 186.

not take long before they would enter the school building. There will always be those in favor of using new technologies to our advantage and others who are more reluctant.

However, being anxious and apprehensive about the introduction of new technologies is not something new. In the book *De laude scriptorum manualium* (1494), also called *In praise of scribes,* Abbot Johannes Trithemius spoke about the superiority of handwriting to printing. By making this argument, he knew that he was going against the mainstream idea of his time. Many monks, including his own, thought that handwriting had become superfluous by Gutenberg's invention. Trithemius, on the other hand, believed that a handwritten manuscript on parchment would last for a thousand years, while the printed version would get lost in two-hundred years. Printing, in his opinion, generally neglected orthography and various other types of embellishment that characterized books. Also, as printing had not been introduced for a long time, many titles were only available as manuscripts, handwritten on parchment, so the printed version was harder to encounter. Another argument was that the manuscript copyist did not suffer constraint under the contract of a printer, but that he would be free and by his office would take pleasure in the sweetness of his liberty.[14] Another important figure who worried about the arrival of new technologies was Hannah Arendt. More than half a century ago, in what is probably one of her most famous works, *The human condition,* she already declared her worries about the influence of machines on society (p.151):

> the whole problem of technology, that is, of the transformation of life and world through the introduction of the machine, has been strangely led astray through an all-too-exclusive concentration upon the service or disservice the machines render to men. (…) The question therefore is not so much whether we are the masters or the slaves of our machines, but whether machines still serve the world and its things, or if, on the contrary, they and the automatic motion of their process have begun to rule and even destroy world and things.[15]

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[14] N. L. Brann, *The Abbot Trithemius – 1462-1516: The renaissance of monastic humanism (Studies in the history of Christian thought)* (Leiden: Brill Academic Publishers, 1981) p. 156 – 158.

[15] H. Arendt, *The human condition* (Chicago: The University of Chicago Press, 1958) p. 151.

Fact is that probably Arendt's worries were real and things have definitely changed in society because of the introduction of machinery. Probably though, none can imagine what the world would have looked like without the printing press and machinery to do some of the hard labor.

New inventions change society and it is, most likely, inevitable. So the remaining question is: how to deal with the changes. Some might embrace new technologies, while others will always be apprehensive. The teacher should ask him or herself this question too. Should they adapt to the overwhelming prevalence of technology or should they try to continue being who they always were?

1.2 Digital textbooks

One of the reasons why digital technologies have become so important in the classroom is because of the devices on which educational content can be found. While some primary schools just use searchable information on the Internet as a their learning material, most schools choose to use digital textbooks. A digital textbook is used on a device, generally a tablet, and can come in the form of a program or an application. Within the program or the application, learning material can be found as text, images, audio and video.

In order to understand why many primary schools have chosen to use digital textbooks instead of paper textbooks, it is necessary know which extra features a digital textbook contains. According to John B. Thompson there are at least nine aspects in which new technologies can enable publishers to add value to the existing content of (text)books: ease of access, updatability, scale, searchability, portability, flexibility, affordability, intertextuality and multimedia.[16] When it comes to educational publishing, updatability, intertextuality and multimedia are some of the most important respects. Textbooks are frequently sold to schools in large numbers and many times the same books are used over and over again by different students. When they are delivered electronically, changes can easily be made and content is always up-to-date. Especially regarding subjects such as geography, in which the content can modify due to current affairs, this characteristic of digital textbooks can be very useful. The other important feature, intertextuality, enables students to work with only one device that

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[16] J. B. Thompson, *Merchants of culture: The publishing business in the twenty-first century* (Cambridge: Polity, 2012) pp. 339-340.

contains the content of all their books and other learning materials. This makes it possible to switch from textbook to exercise book and from one subject to another, using the same device. Even more useful for textbooks is multimedia. Differently from the other two respects, this one does not only support and enhance existing features, it also comes up with entirely new possibilities for the classroom environment and enables publishers to supplement text with a variety of media, such as video, sound and images. It really makes classes richer and offers a different way of learning. Instead of solely reading and listening to the teacher's explanation, school children now have the opportunity to learn from videos and sound recordings. Images serving to illustrate texts can be of high quality and may appear in large numbers, because the printing costs are non-existing. Besides many other new activities, students now have the opportunity to create their own video presentations, using materials from all sorts of different online sources.

Summarizing, digital textbooks can be enhanced with multimedia up to a level where the entire learning experience changes. This is probably why textbooks are among the most popular book genres to be digitized. A novel, for example, does not need to be updated as soon as it has been published. Also, the possibility of intertextuality is not really interesting, because clicking on hyperlinks will only distract from the reading process. Watching videos or listening to sound recordings during the novel will also just distract instead of enrich the reading experience. If people wanted to see videos, they would have decided to watch a movie rather than reading a book.

These sorts of distractions might also occur when dealing with digital textbooks. The fact that it is so easy to switch from the textbook to the exercise book, to a video, to an audio recording or to any online content, is asking a lot from the student's concentration. Still, this way of offering learning materials to students is becoming increasingly popular. One of the reasons for this is that most passages in textbooks, especially for younger school children, are relatively short. This makes it easier for the student not to get distracted. They can, for example, read a paragraph containing information and then switch to a instructional video that complements the paragraph. However, simply because the device offers all the learning materials in different formats, this will already get the student more distracted than he would have been when working with an analogue textbook. For every time a student switches to another medium, he or she loses part of their concentration.

Not surprisingly, many educational publishers who have been producing analogue textbooks for primary schools, decided to start producing their books also in a digital version.

This process started decades ago with the inclusion of CD-ROMs in the textbook. Students could use them, for example, to do extra exercises or to listen to a spelling test. Gradually, the inclusion of digital content became more important. Some classes, for example, were especially designed for the use of a computer. Investing in digitizing content will most likely be the way to go in the educational publishing field, because due to the real value that can be added to a textbook when digitized, institutional and business purchasers are far more amenable to buying books in digital formats when compared to private book buyers. As an example, already in the school year of 2005/2006, about twenty percent of the total value of the UK educational publishing market was accounted for by digital resources and software, [17] while in March 2013, only two percent of the European book market consisted of e-books.[18]

1.3 Schools using digital textbooks in The Netherlands

Many Dutch schools have chosen to shift from an analogue environment to a digital environment or, in most cases, a combination of both. A good example of an educational publisher that offers its textbooks in a digital format is *ThiemeMeulenhoff* and its digital platform is called *Schooltas*. In 2013, two hundred Dutch primary schools were already using it.*[19]* Also the more famous Steve Jobs schools are becoming increasingly popular in The Netherlands. In the academic year of 2013-2014, seven of these so-called *iPad* schools opened their doors.[20] Although both the *Schooltas* and the Steve Jobs schools work with *iPads*, their approach is different. *Schooltas* uses *ThiemeMeulenhoff's* analogue textbooks as a basis for the digital textbook, but the content is still the same. The only difference is the platform and the extra possibilities it has to offer. The *iPad* schools, on the other hand, do not have an analogue predecessor. Maurice de Hond, the founder of the *iPad* schools in The

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[17] G. Clark and A. Philips, *Inside Book Publishing* (London and New York: Routledge, 2008) p. 56.

[18] H. van Lier, 'Drie redenen waarom de e-book verkoop in Nederland achterloopt' *De Volkskrant,* 27 March 2013 <http://www.volkskrant.nl/vk/nl/2664/Nieuws/article/detail/3416404/2013/03/27/Drie-redenen-waarom-de-e-bookverkoop-in-Nederland-achterloopt.dhtml> (11 February 2013).

[19] <http://www.schooltas.net/artikelen/wat-is-schooltas.html> (11 October 2013).

[20] K. Ahles-Frijters, 'Eerste 7 Steve-Jobs-scholen gestart in Nederland' *Dutch Cowboys,* 30 August 2013 <http://www.dutchcowboys.nl/opleidingen/29527> (11 October 2013).

Netherlands, even went as far as to say the *Schooltas App* is not revolutionary at all. It only transfers the content from paper to a screen, while his schools change the entire way of teaching, leaving children, for example, surfing freely on the *Internet* in search for content and having their teachers occupying the role of a coach in this searching process. He believes children learn more when they have to find the content themselves instead of having it presented readymade to them.[21]

As could be expected, not all schools adapt to the digital era in the same way. Nevertheless, there are some general tendencies. Most school systems adapt to the digital medium already in primary school. *Steve Jobs* schools are exclusively primary schools, so they fit into that general tendency. More interestingly, two-hundred primary schools use *Schooltas,* while only fifty-six secondary schools use the platform.[22] Apparently, it is more common to have young children adapt to the digital medium, than older children. Schools opt to start afresh from the beginning of children's education, rather than introducing digital media at a further stage. Consequently, many of these young students do not know what it is to be part of an exclusively analogue classroom. They are an entirely new generation of digital learners.

Understandably, these rapid changes cause turmoil within society. In *De Volkskrant* of the 28th of June 2013, Jasper van Dijk, member of the Dutch parliament for the Socialist Party (SP) believes the Minister of Education Jet Bussemaker is taking a great risk by using a large group of young students to experiment on by exposing them to digital media in the classroom. These children's education could turn out to be a failure, for it is not known what the long-term effect of digital technology will be on their education.[23] No independent research has proven that the use of computers and screens solely, has increased the effectiveness of the learning process.[24] So, while digital technologies change the complete look of Dutch

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[21] Statements made by Maurice de Hond on the 12th of December 2013during the debate 'ForumDwarsdiep: iPads of boeken?' in the Groninger Forum.

[22] <http://www.schooltas.net/artikelen/wat-is-schooltas/feiten-en-figuren.html> (14 October 2013).

[23] <http://www.volkskrant.nl/vk/nl/2686/Binnenland/article/detail/3466853/2013/06/28/SP-kinderen-op-iPadschool-zijn-proefkonijnen.dhtml> (13 January 2014).

[24] M. Spitzer, *Digitale dementie: hoe wij ons verstand kapotmaken* (Amsterdam/Antwerpen: Atlas Contact, 2013) p.79.

classrooms and cost a lot of money, they themselves might not bring any change regarding the level of education. Clearly, the amount of research done on the effect of digital media in the classroom is by far too small. The research that has been done (more or less independently) mostly focuses on the student and on the quality of the learning process. But, it is important to not only look at what changes for the student, but also at what changes for the teacher. It is very important to research what influence digital media has on their role, for the teacher, historically speaking has always been a crucial part of the learning process within the school environment. The very fact that it is possible to have two classrooms in the same school, using the same learning method, where one classroom is dead and the other is vividly alive, illuminates the importance of the person enacting the role of the teacher.[25]

Possibly, the introduction of digital media could change the teacher's position. Even if there were evidence that learning with the help of digital media ultimately has a positive effect on the achievement of the student, it is also important to find out whether it has a positive effect on the teacher's abilities. If they, for example, find it difficult to adapt to the digital environment and struggle to work with the available media, this definitely influences their professional capabilities. If the scenery he or she works in changes, it undoubtedly has an effect on their work and this consequently reflects back on the student's achievements. Theoretically speaking, it might even be possible that working with an *iPad* or a computer has a positive effect on the student and its results, but that it does not come out in researches, because the teacher has hardly been studied. Imagine, for example, the following scenario: precisely because the teacher is such a central figure in the child's education, it might be the teacher who holds back the students' results, when he or she is not able to handle the new technologies. While the students are coping fine, the quality of teaching might have diminished, because the teacher is not able to optimize the use of the new technologies.

1.4 Technology as an aid

Digital media are not only changing schools by being directly applied in the classroom, as for example, in the form of *iPads* for the students and a *SmartBoard* for the teacher, but they also serve as an aid to keep the whole school system working. They are, for example, used as

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[25] D. T. Hansen, 'Epilogue: The sources and expressions of classroom authority', in J. L. Pace and A. Hemmings (ed.) , *Classroom Authority: theory, research and practice* (New Jersey: Lawrence Erlbaum Associates, 2006) p. 177.

administrative tools. Surely, these practical applications of the digital environment have facilitated certain aspects of the teachers' and school boards' tasks. A big aspect of this is the fact that modern technologies have enabled schools and also other public institutions to be more open about their data. It is easier to give an insight when results and policies can be accessed online. Content, such as students' results in the CITO test, can be easily accessed by parents. This is possible, because the multiple-choice tests are corrected by computers that are capable of easily calculating the average score of a class and of a school. All this data can simply be published online, because it is already in the computer. Therefore, it has become easier to collect data, to compare it and to publish it. This gives parents the opportunity to compare their children's score to those of other children and also compare schools among each other. This has all kinds of effects. When parents see the average score of their children's school is lower than that of other schools, they can start complaining about the level of education. When they see their primary school has a higher than normal average, they could be expecting their children to do really well in high school. Also, they could be choosing the school they want to send their children to on the basis of the school's test results. Anyway, the data available for parents has an influence on how they see their children's school and education and the decisions they are about to make.

Technology does not only offer the possibility to have an insight into the performance of different schools to the parents, but to the government too. The tests results and the data coming from these schools make it possible for the government to measure their quality. And, as always when using quantitative data in research, the more data one has, the more accurate the results will be. So, by creating obligatory tests in which all primary schools have to take part, the government creates a way to control the quality of education.

Lately, there has been a lot of criticism in The Netherlands on the educational system. People complain about this generation not knowing the same things as earlier generations and being lazy. This puts a lot of pressure on the government. At the moment, they are pondering about introducing a mandatory final examination for all Dutch primary school students. Preparations for this will start in 2014. Already in 2015, there will be a mandatory final examination that will test the mathematics and language skills of all these primary school students. The inspection of education will possibly use these examinations to give insight into

the performance of schools.[26] This definitely puts schools under pressure to deliver. In the Dutch school system, the primary school decides on which level of education the student will continue his or her studies in secondary school. Some primary schools take the CITO test results into consideration and others do not, but in practically all schools, the teachers, who work with the children during the most time, make the final decision. When the government decides to introduce a mandatory test for all students, they will probably want to have it taken seriously. This could mean the influence of the teacher on the final decision will be reduced. So what might have seemed to be an innocent practical feature of digital technologies, the easy publication of (a lot of) data, has an impact on the teacher's position within the school system, because of decisions he or she will be allowed to take.

Naturally, digital technologies also have some more innocent practical applications in the classroom. Just by looking at which *iPads* are connected, teachers can see which students are absent and a *Digibord* (an electronic blackboard) never needs to be wiped clean. Not surprisingly, many teachers like working with digital media, because in many aspects it facilitates their work.

Chapter 2

In this next chapter, a specific aspect of the teacher, his or her authority, will be discussed. Firstly, authority in general will be the topic, then the authority of the teacher will be mentioned and finally the influence of ICTs on the authority of the teacher will be discussed.

2.1 What is authority (of the teacher)

Authority is not an easy term to define and there is no consensus about it. There are ongoing debates that reflect different beliefs and confusion over what authority is and also about how it should be enacted in the classroom. On the one hand, authority is associated with coercive power that undermines the democratic ideal of freedom. On the other hand, it is

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[26] <http://www.rijksoverheid.nl/onderwerpen/basisonderwijs/vraag-en-antwoord/is-de-citotoets-of-een-andere-eindtoets-verplicht.html?ns_campaign=Thema-onderwijs_en_wetenschap&ro_adgrp=Basisonderwijs_citotoets&ns_mchannel=sea&ns_source=google&ns_linkname=%2Bcitotoets%20%2Bverplicht&ns_fee=0.00&gclid=CKSJ5L6Jt7oCFfHItAod32AAiw> (27 October 2013).

associated with respect and regarded as necessary for the stability in a community. Hence, the feelings towards the term 'authority' are negative, because it restrains people's freedom, as well as positive, because it allows people to live in a structured social environment. Authors with different backgrounds and from different times have always debated the subject. Before it is possible to say more about the influence of modern technologies on the authority of the teacher, it is crucial to understand what some authors with different views have written about it. Also, it is necessary to go back to the origins of the concept of authority. By doing this, it will also be partially unraveled why it is so hard to define the concept.

In the essay *What is authority?*[27] written in the sixth decade of the twentieth century, Hannah Arendt states that nothing about authority is self-evident anymore. The term has become clouded by controversy and confusion. Although authority has a long history, it has not always existed. In the fourth century before Christ, both Plato and Aristotle tried to introduce something that appeared to be authority into the Greek polis. The two existing structures they could fall back on were the political domain and the Greek private household. The head of the political domain was seen as an oppressor and was a leader by means of violence. The head of the family was also some sort of dictator vested with the power to coerce, but his power was incompatible with the freedom of others and therefore also incompatible with their free will that allowed them to decide for themselves whether they would listen to the head of the family or not. Consequently, none of these two historical figures traditionally had any authority.

Despite the effort of the philosophers and the confusion about it, not the Greeks, but ultimately the Romans were the inventors of authority. This happened because they were far more rooted to their lands. The sacredness of foundation has been the center of Roman politics, in the sense that when something is founded, it has a binding force to all future generations. This idea was so deeply rooted that the Romans were not able to repeat the foundation of their first city and create colonies, but they were only capable of adding something to their original settlement. Finally, the whole of Italy and the whole Western World were united and ruled by Rome. The word *auctoritas* comes from the verb *augere,* which means "multiply". The authority figure in the ancient roman empire, also called the *maiore,* multiplied the foundation by passing on the traditions from ancestors to everyone that

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[27] H. Arendt, *Between past and future: eight exercises in political thought* (New York: The Viking Press, 1961 & 1968) pp. 23-72.

was to come. In other words, holding on to the traditions of the first foundation and adding to Rome was so crucial for the success of the Roman empire that those who stood nearer to the first foundation gained authority. What is particularly interesting, is that the originally Greek metaphors for authoritarian relationships are widely remembered. A few examples of this are the statesman as a healer, physician, expert, educator and wise man. However, the only event that has brought authority as a word and a concept into our history, namely the roman foundation, has been almost lost and forgotten. This could be why, when thinking of authority, one gets lost in a maze of abstractions, figures and metaphors and it becomes very hard to grasp and to define the real concept.

Arendt's essay, in which she explains the origins of authority, is essentially about the political crisis happening since the beginning of the twentieth century taking place against a background of a dramatic breakdown of all traditional authorities. To her, the crisis is extremely serious, because it has got to the core of prepolitical areas such as the raising of children and education. In these areas authority has always been accepted as being a natural necessity, clearly demanded by a natural need, it being the helplessness of a child. It guarantees the continuity of an established civilization by guiding the newborn child into a pre-established world to which, at birth, it is still a stranger. Because of its simple and elementary character, this form of authority has been a model in the history of political thinking. Arendt argues that even these forms of prepolitical authority, such as the relationship between parents and children and teachers and students are not sure to continue forever. This means that all old and honorable metaphors of relations based upon authority have lost their credibility. And therefore, according to her, it is nowadays impossible to say what authority means.

Hannah Arendt did not only write about the history of authority and what it is or used to be, but in the essay *The crisis of education*[28] she also specifically wrote about the authority of educators and teachers. Given the fact that the child is not yet acquainted with the world, he or she must be gradually introduced to it. The role of educators is to substitute the world and to take responsibility for it, even though they did not make the world, or may not like the way it is. The responsibility lies in the fact that young people are brought into a continuously changing world by adults. In education, taking responsibility for the world, takes the form of authority. The authority of the educator should not be mistaken for the qualifications of the

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[28] Arendt, *Between past and future,* p. 116.

teacher. When a teacher has certain qualifications, it means he knows the world and instruct others about it, but his authority is there because he takes responsibility for that world. It is as if he were representing all adults. He explains things and tells the child: "This is our world."

Judith Pace and Annette Hemmings in the essay 'Understanding Classroom Authority as a Social Construction' retrieved from their book *Classroom authority: theory, research and practice* give a more modern and practical view on the authority of the teacher. In this first introductory chapter, the reader is introduced to the social theory on authority, a term that, according to the authors, cannot be dissociated from the classroom, education in general and finally democracy within schools and society. The authors find it most important that authority within the school system is recognized as a complex social relationship that unfolds in and around the school through various kinds of interactions. In other words, authority must be understood as a social construction. The relationship taking place in this social construction is one of command and consent based on the legitimacy of those who lead (generally the teachers) and the voluntary obedience of those who follow (generally the students). [29] Differently from Arendt, they see authority as something happening between two or more people. It is a relationship so it cannot exist without interaction. Arendt never mentions authority as being a social construction, but more as something someone possesses. The teacher has authority because he takes responsibility for the world and the roman *maiore* has it, because he received it through birth or through transmission of tradition. [30] This, once again, shows that authority is a concept very hard to define and therefore it is perhaps easier to say what authority is definitely not.

For instance, the most common mistake that has been made is to assimilate authority with power. If the students are forced to obey the teacher, their relationship is not based upon authority or the teacher does not have authority. Just like the Greek head of the political domain or private household did not have it, because as dictators, they forced others to obey them. Based on the fact that authority always demands obedience, it is commonly mistaken for some sort of power or even violence. However, authority precludes the use of external

[29] J. L. Pace and A. Hemmings, 'Understanding Classroom Authority as a Social Construction', in J. L. Pace and A. Hemmings (ed.) , *Classroom Authority: theory, research and practice* (New Jersey: Lawrence Erlbaum Associates, 2006) p. 1.

[30] H. Arendt, *Between past and future,* p. 53.

coercion and where violence is used, authority has failed.[31] Therefore, in order to have a relationship based upon authority it is necessary that the student, independently of his or her motivation, chooses to obey the teacher.

One of the features that the role of the teacher is highly associated with, is authority. Although not everyone agrees on whether authority is a good thing or a bad thing and whether it still needs to have a place within modern teaching, it is undeniably present to a greater or lesser extent in all schools. The authority of the teacher, but also that of parents and managing boards is linked to the power of decision. At some point, in all schools, even in those who aim at individual or personalized learning, someone needs to make a decision about how things will happen. That decision-making is generally the effect of the authority of one person, group or entity. Making the decision of how, when or what will happen, ultimately is the key to how education within the school building or classroom is shaped. Authority is consequential for life within the classroom, the achievement of the students, the work of the teacher and finally, democracy.[32] Authority is a very important part of classroom relationships.

2.2 Loss of control

A lot has changed in the last decades regarding education and the authority of the teacher. Although educational roles are universal, their implementation can be altered depending on cultural background and society. Also, within the same society, the educational role can evolve with the passing of time. Many would say the teacher's authority has been diminishing in the last decades. While fifty years ago, it would have been out of bounds for students and teachers to drink a coffee during a seminar at the university, today it is quite normal. A century ago, it would have been normal to stand up for the teacher when he entered the classroom,[33] while today in The Netherlands, that would be unthinkable. As soon as the children got into the school building, the authority of the teacher was applied and hardly ever questioned. These teachers from the past expected to be obeyed simply because they occupied the role of the teacher. In order to be able to do so, they relied on the so-called t*raditional authority* that is based on long-standing traditions that grant legitimacy to certain people with

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[31] H. Arendt, *Between past and future,* p. 24.

[32] J. L. Pace and A. Hemmings, 'Understanding Classroom Authority as a Social Construction', p. 2.

[33] D. T. Hansen, 'Epilogue', p. 176.

a superior status.[34] Therefore, it was not important who the person behind the role of the teacher was, the only thing that mattered was the fact that he or she was a teacher and hence should be respected.

Clearly, a lot has changed. Teachers cannot merely rely on *traditional authority* for them to have any kind of authority and while in former times learning was seen as a privilege, now it is seen as an obligation determined by law. Since 1969, The Netherlands has a Compulsory Education Act (*Leerplichtwet)* that obligates children from the age of five until eighteen to attend school.[35] The fact that school has changed from a privilege into something everyone is able to attend or even forced to attend, has altered the way students, parents and even professionals from the area of education look at schools and their teachers. Nowadays, it is not uncommon for parents to complain to the teacher when they do not agree with his or her practices.[36] In 2011, the Dutch magazine *J/M* researched what parents think of education in the Netherlands. More than five-hundred parents were interviewed and one of the conclusions was that teachers lack authority. Also, eighty-six percent of the parents think that teachers should be able to flawlessly spell and calculate, while two-thirds of the parents have seen the teacher make a spelling mistake.[37] It demonstrates that some teachers do not possess the basic skills most parents expect them to have. Buzzelli and Johnston argue the teacher holds authority both in the sense of having the power to direct classroom activities, and in the sense of having the knowledge the students need to acquire.[38] Not having this knowledge, automatically means the teacher loses that part of his or her authority.

Although this example does not immediately illustrate the influence of digital media in the classroom on the authority of the teacher, it does show how teachers can lose their

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[34] J. L. Pace and A. Hemmings, 'Understanding Classroom Authority as a Social Construction', p. 3.

[35] < http://www.leerplicht.net/webpages/leerplicht.html> (06 February 2014).

[36] C. Brinkgreve, *Het verlangen naar gezag: over vrijheid, gelijkheid en verlies van houvast.* (Amsterdam: Atlas Contact, 2012) p. 77.

[37] A. Elzinga, 'J/M-onderzoek: Ouders hebben het gehad met school' *J/M voor ouders,* 23 March 2011 <http://www.jmouders.nl/Themas/School/School/JMonderzoek-Ouders-hebben-het-gehad-met-school-1.htm> (08 October 2013).

[38] C. Buzzelli and B. Johnston, 'Authority, power and morality in classroom discourse' *Teaching & Teacher Education, 17* (2001) p. 875.

authority if their competences do not meet the expectations of the parents or other authorities. Undoubtedly, the introduction of digital media in the classroom asks for new skills that years ago were not needed. It is necessary for the teacher to have at least basic computer knowledge and knowledge of the specific platform, like *Schooltas* for example, in order to keep control over the activities in the classroom. If teachers do not develop the expertise they need, they will be left in an educational limbo where uncertainty is the only stable feature.[39] Teachers who work in a digital environment, will lose authority if they do not manage to develop the skills needed to work with the platform. On the popular Dutch talk show *RTL Late Night,* Alexander Pechtold of *D66*, a politician known for his commitment to education, talked about how important it is to prepare teachers, in their own education, for the digital era. He got the audience laughing when he gave the example of a teacher working with a *Digibord* (a version of a digital blackboard). When the *Digibord* freezed, he asked his primary school students to help him to get it working again.[40] A teacher who does not know how to deal with this technology and needs to ask young children for help, is apparently seen as someone to laugh at. Certainly, a teacher who is made fun of, does not hold a lot of authority.

Although it sounds like a joke, the lack of teachers' expertise when it comes down to dealing with digital and social media is a serious problem. Ten thousands of teachers are in danger of falling by the wayside, because digital learning methods that are introduced into their schools ask for the application of social media websites such as *Twitter* and *Facebook*.[41] Just like the teachers that make spelling mistakes, parents and authorities will hold them responsible for not having the skills it takes to manage the technology required to teach in a digital environment. Pace and Hemmings (p. 4) argue:

> Superordinates should be able to justify what they are asking others to do. This implies that teachers need to be clear about their purposes and be able to

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[39] A. Lund, 'Teachers as agents of change', p. 34.

[40] Statement made by Alexander Pechtold on the Dutch talk show *RTL Late Night* on 04 February 2014.

[41] H. Nijen Twilhaar, 'Leerkrachten vaak digibeet' *De Telegraaf,* 28 March 2012 <http://www.telegraaf.nl/digitaal/20032287/__Leerkrachten_vaak_digibeet__.html> (06 February 2014).

articulate them to students. Such purposes are integral to the moral order of schools.[42]

For such reason, if teachers do not know what is going on in their classroom, because they do not sufficiently master the medium they are working with, they lose control and simultaneously, their authority. If they struggle with the platform and cannot be clear about their purposes, it will definitely effect the moral order of school. To make matters worse, these are not solely teachers' problems, but they occur in the whole of society. A growing insecurity and agitation are developing among people. Technological changes are succeeding each other at an increasing pace and this causes it to be more difficult to be part of modern society. Changes are happening so quickly that is almost impossible to keep up with them. People feel as though they are falling behind and getting sidelined.[43]

2.3 Teachers and Social Media

In comparison to all other European countries, people in The Netherlands were found to be the most prolific social network users. A research done by the *Office of National Statistics* (UK) shows that in 2012 over sixty-five percent of the Dutch claimed to have used social media in the last three months.[44] Considering this research dates at least a year back, possibly these numbers have increased by now. Needless to say, social media are part of the everyday life and cannot be ignored as being an important way of communicating. Among these approximately eleven million Dutch users, there are definitely a lot of teachers. It is for them to decide how they want to make use of these platforms and how they want to present themselves there.

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[42] J. L. Pace and A. Hemmings, 'Understanding Classroom Authority as a Social Construction', p. 4.

[43] J. J. Hermsen, *Stil de tijd: Pleidooi voor een langzame toekomst* (Amsterdam: De Arbeiderspers, 2009), p.19.

[44] V. Woollaston, 'The meteoric rise of social networking in the UK: Britons are the second most prolific Facebook and Twitter users in EUROPE with a fifth of over 65s now using these sites' *Mail Online,* 13 June 2013 <http://www.dailymail.co.uk/sciencetech/article-2340893/Britons-second-prolific-Facebook-Twitter-users-EUROPE-fifth-aged-65.html> (06 February 2014).

Edublogger and PhD researcher at Leiden University, Martijn Wijngaards, thinks he knows the answer to how teachers should cope with social media inside and outside the classroom. It all comes down to three keywords: role model, recognition and application. The teacher should understand that he or she is always a role model to his or her students. There is no such thing as keeping a private *Facebook* or *Twitter* account. One should always set a good example by behaving as a teacher and never post inappropriate pictures or comments, because a student can always be watching. Just like it is not a good idea to cross the street while the traffic light is red and students are looking at you. When teachers decide not to use social media, they should still recognize the need a student feels to have a phone connected to the *Internet* and to use the medium. It is part of their lives and if students do not feel recognized by their teachers, they will not want to learn from them. A good teacher should try to be up to date with digital media developments and have a positive attitude towards them. Finally, a good teacher should also apply social media in the classroom. Just like air and food, it is there at hand and can always be used. Students will find class more interesting even when the subject is boring. [45]

Although one might not completely agree with the statements of Martijn Wijgaards, in order to maintain authority in the classroom, teachers should treat social media in a way that they can be a "role model" for their students. This is exceptionally hard, because by giving an insight in their private lives, teachers will lose part of the distance between themselves and the students. On the other hand, if they do not use social media, they might create an unrealistic view of themselves, because they are not participating in society as society is today. If they, for example, have a private *Facebook* account where students can see pictures of them during a party in the weekend or in their swimsuits, this might undermine their authority for two reasons. In the first place, it puts them on the same level as their students, because suddenly they do not have a professional relationship anymore. Having insight in the private life of one's teacher will diminish the distance between the teacher as a person and the teacher in his or her professional role. In other words, these teachers will lose their *Traditional Authority* as was mentioned earlier. The second reason has to do with showing inappropriate behavior. For example, a teacher who warns about the damage alcohol can cause, while posting pictures on

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[45] M. N. A. Wijngaards, 'Heilige drievuldigheid: docent op social media' *Edublog Martijn Wijngaards,* 13 November 2013 < http://martijnwijngaards.blogspot.nl/2013/11/heilige-drievuldigheid-docent-op-social.html> (06 February 2014).

which they appear drinking, will not be very convincing and inspiring, like an obese doctor telling his patient to go on a diet.

Another important aspect of maintaining one's authority as a teacher in the world of Facebook and Twitter, is recognizing the importance social media has in the life of students. As Hannah Arendt said before: Young children are brought into a continuously changing world and the teacher's authority lies in the fact that he or she takes responsibility for that world. It is as if the teacher represents all adults.[46] However, for a teacher nowadays it is very hard to take responsibility of the modern world in which social media play such an important role. Changes within society are occurring at such a rapid pace, that it becomes very hard for the teacher to keep up. This accelerating pace also means that the gap between generations is getting bigger. While a century ago parents and their children lived lives that where fairly comparable, nowadays brothers and sisters with a difference in age of only a few years, can be seen as an entire different generation. Certainly, the difficulty teachers have to understand the younger generations makes them insecure and it makes it harder to motive their students, for teachers do not know what moves them. Besides not understanding the younger generation, sharing experiences also loses meaning, because teachers and their students live in completely different worlds.

The digital era only became really revolutionary when the computer was linked to the network in 1960s which enlarged its role as a communication tool[47]. Social media is one of its most important outcomes. It has changed the way people communicate with one another. So, if teachers are not able to recognize this meaningful development, they are not able to take responsibility for the world and its changing events and therefore lose their authority. The same can be said about not applying it at all. Whether the teacher likes it or not, digital conversation media are very important communication tools and to handle them properly requires some skills that should be (partially) acquired at school.

2.4 Authority and communication

The basis of any relationship is communication. The way people speak to one another through the internet is different from real-life conversations. Of communication through a

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[46] H. Arendt, *Between past and future: eight exercises in political thought* (New York: The Viking Press, 1961 & 1968) p. 116.

[47] A. van der Weel, *Changing our textual minds,* p. 104.

digital medium, also different forms exist. Although an e-mail is sent by means of a computer, and a message on *Facebook* as well, their form and structure will most likely be completely different. What is meant by this is that, for example, the level of formality, the use of punctuation and the length of phrases will differ. So it is imaginable that differences occurring in communication will be even more distinct when non-digital messages are compared to digital messages. A good example is the comparison between the letter and the e-mail. Although one might have replaced the other, their formats are quite distinct. People are less formal when it comes to online communication. While letters always have at least a salutation and a closing, many e-mails lack one or both of these components. Especially, when they are part of a correspondence going many times backwards and forwards, e-mails sometimes are not longer than one or two phrases. Dr. Andreas Lund argues information and communication technologies are primarily social in their nature. They have the potential to develop a culture, because people who constitute it make technologies serve their own needs and intentions.[48] Probably, because of the fact that e-mails can be sent very quickly, people spend less time writing and designing them as they would for example, do with a letter. So it can be concluded that an e-mail is not some sort of letter, but is a different category on its own. Therefore, an e-mail influences the way people communicate and it contributes to the development of culture.

It is important to understand the way people choose to communicate with one another has a huge influence on society in general. Of course, writing and speaking are a very important part of our culture and identity. In his book *Language and the Internet,* David Crystal argues that the so-called *Netspeak* is different from face-to-face conversation, because of the feedback issues and turn-taking.[49] What he means is that on the Internet, people write messages with a keystroke at the time, but people who read these messages do not receive them with a keystroke at the time. They only receive a message when it is sent. There is no immediate feedback, because the conversation, even in *chatboxes* happens at a certain rhythm at which the conversation partners take turns. This creates all sorts of situations that would never happen in a speech conversation. For example, chatting or sending messages via *Whatsapp* makes it possible to have a conversation about two subjects at the same time. Simply because the feedback is not immediate, one can start a new subject, while the other is

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[48] A. Lund, 'Teachers as agents of change', p. 29.

[49] D. Crystal, *Language and the internet* (Cambridge: Cambridge University Press, 2001) p. 34.

still sending a message about the previous one. These situations are unique to information and communication technologies and create new types of interaction. What is also unique to the digital medium, is that people tend to write as they speak. Therefore, not only the content is important, but also the way things are said matters. Sometimes exaggerating spelling, punctuations, capitals and emoticons are used to achieve this goal.[50]

The importance of understanding how and why communication via the digital medium differs from writing a letter or having a face-to-face conversation lies in the fact that digital textbooks enable students to communicate with their teachers via their own digital platforms. When classroom communication happens via a digital medium, students and teachers will use this medium as they would use any other digital device, like, for example, their phones, laptops or tablets. Sending messages via a digital medium generally means sending informal messages. This association is quickly made and hence students who will use digital devices to send messages to their teachers, will most likely be informal in their writing. Therefore the written communication messages will not be as formal as letters, but they will sound like face-to-face conversations. Some of these digital textbooks already used in The Netherlands offer chat options, but even when these options are not offered, learning via a digital medium still changes the way students communicate with their teacher and with one another. This happens, because the mere presence of something like an *iPad*, that is also used for gaming and recreational online searching, will make the classroom environment less formal. Textbooks, for example, are immediately associated with learning, while computers and also televisions have all sorts of leisure applications.

A good and positive example of this is given by Dr. Andreas Lund in his article 'The multiple contexts of online language teaching'. In the article, he speaks about a classroom of seventeen-year-old Norwegian students who are learning English. One of the students has an immigrant background and does not participate in the face-to-face discussions and conversations, but when the teacher proposes a discussion about relationships in the online environment, this student does have an opinion. She responds in a rather informal way, starting her comment with 'yeah' and using 'u' instead of 'you'. Her participation is mediated and afforded by the faceless and less confronting dimensions of the online classroom. She probably feels more at ease in this environment that is part of her lifeworld. Contributing to

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[50] D. Crystal, *Language and the internet,* p. 34.

the discussion has become possible by moving from an offline to an online mode, or in other words, from a school context to a lifeworld context.[51]

ThiemeMeulenhoff's Schooltas offers an interesting so-called extra possibility in the digital version of their textbooks. It is called a *prikker* in Dutch or a *pricker* in English. They look like digital pushpins and enable students and teachers to make notes in their textbooks by typing in a text. The pushpins can be dragged throughout the textbook's page and can be left in the desired spot. When clicking on them, a note appears. These notes can be private and used individually, but they can also be shared with classmates or other users of *Schooltas* in other classrooms or even other schools. Subsequently, the user can also choose to see all other people's annotations, their classmates' and teacher's annotations or no annotations at all.[52] Although *prickers* should not be seen as a *chatbox,* there is room for communication created in the digital textbook. It is different from writing annotations in one's own paper textbook, as has been done for many centuries,[53] because students and teachers are immediately able to share their thoughts.

In the networked classroom environment, students are no longer just an audience, but they can actually participate. Answers are no longer just to be found with the teacher or with the textbook, but learning is taking place within the network of students, whether the teacher takes part of it or not. As a result, the authority of the teacher diminishes, because he or she no longer needs to be in control in the networked classroom to have the learning experience happening. Children in this classroom learn by communicating with one another without the interference of the teacher. Apparently, in this case, the role of the teacher is changing. He or she is transforming into a coach, like in the *Steve Jobs Schools.* Little is left of the traditional teacher. It again illustrates the loss of *Traditional Authority,* for the teacher is not anymore who he or she once was.

The experiment of the teacher not being in control, like in the networked classroom, already existed before the introduction of digital technologies. In his book *Le maître ignorant: cinq leçons sur l'émancipation intellectuelle,* Jacques Rancière gives the example of the early

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[51] A. Lund, 'The multiple contexts of online language teaching', p. 190.

[52] <http://www.schooltas.net/artikelen/academy/modules/werken-met-prikkers.html> (29 October 2013).

[53] R. Clemens and T. Graham, *Introduction to manuscript studies* (New York/ London: Cornell University Press, 2007) p. 127-128.

nineteenth-century French language teacher Joseph Jacotot. This teacher came to work at the University of Leuven in Belgium where he had to teach French to students who only spoke Dutch, while he did not speak a word of Dutch. Consequently, there was no common language between the teacher and his students and therefore he would not be able to explain any of the grammar or vocabulary. Luckily, at the time there was a version of *Télémaque* available in French as well as in Dutch. Jacotot ordered his students to memorize the first part of the book in French and to repeat the second part of the book in their own words. The experiment worked out much better than expected and the students actually taught themselves French without anyone explaining phrase constructions to them. Jacotot realized that, in order to teach, it is not necessary to have the knowledge and to pass it on to the students.[54] On the one hand, it can be said that this teacher of two-hundred years ago, lost part of his authority, because he no longer held the knowledge and explained it to his students. On the other hand, he was the one who thought of the method. Even though the results of his experiment surprised him, he still was the one who invented it. He must have certainly seen that his students were making progress and he knew what they were doing. Although he was not in control of the knowledge his students were mastering, he was in control of the process, so in that he still held some of his authority.

2.5 Overload of information

Human brains have limited capacity for processing information. The advances in information technology and communication supply us with information at an ever accelerating rate and the limitations of our brains become all the more obvious. Boundaries are defined no longer by technology but by our own biology.[55] The fact that technology is defying our physical limitations, can be exemplified by many aspects of the everyday life. Think, for example, about the number of times a day people are looking at several screens at the same time, trying to multitask, having many conversations simultaneously or not being able to finish a job, because their attention is constantly drawn to their e-mail or cellphone. A good example is the newspaper. When it was exclusively printed on paper, it was perfectly possible to finish

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[54] J. Rancière, *De onwetende meester: vijf lessen over intellectuele emancipatie* (Leuven/ Voorburg: Acco, 2007).

[55] T. Klingberg, *The overflowing brain: information overload and the limits of working memory* (Oxford: Oxford University Press, 2009) p.3.

reading an article without being distracted by the advertisements on the page. Reading an article on the Internet, having its margins packed with animated advertisements that sometimes even include sound, presents a more interesting challenge, that not everyone is able to accomplish.[56] People nowadays have a very short attention span and that is even more true for the online world. That is why newspaper articles published in a digital format are, and have to be, shorter.[57] Also, children's screen time is constantly increasing. Media usage stimulates evermore media usage. As more connections, feeds, streams and channels enter their lives, children assimilate them with accelerating ease. They add a new device or platform, without dropping the other.[58] This result in a world consisting of people who watch television while they are commenting on their favorite television show with their s*martphones* on a social media platform.

The word 'school' comes from the Greek word 'scholè', which means peace and leisure time. Only when we are calm, during the interval between two activities, we will be able to reflect. In the moment we do nothing, a space opens up for thinking and for creativity. Nowadays, children are always surrounded by mobile devices and computers, which do not give them the opportunity to get bored. But it is precisely when we get bored, that the urge to make or create something emerges.[59] So, interestingly enough, the very fact of introducing digital media into the classroom is contrary to the initial idea of what a school was supposed to be.

The introduction of digital textbooks in the classroom causes distractions for the students. When many different kinds of information are combined on a single screen, it disrupts concentration. Digital textbooks are not only filled with text, but also with hyperlinks to other text and to videos or sound recordings. A hyperlink is a reference to data that can be accessed by clicking on it. Clicking on a hyperlink might cause the data to pop up instead of

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[56] T. Klingberg, *The overflowing brain,* p. 5-6.

[57] M. Miller, 'Writing online copy that sells: keeping it short and simple' *Pearson Que,* 23 January 2013 <http://www.quepublishing.com/articles/article.aspx?p=2008723> (12 November 2013).

[58] M. Bauerlein, *The dumbest generation: how the digital age stupefies young Americans and jeopardizes our future [or don't trust anyone under 30]* (New York: Jeremy P. Tarcher/Penguin, 2009) p. 80.

[59] J. J. Hermsen, *Stil de tijd,* p. 20-32.

the original document or it might open a new window. A hypertext is a text with hyperlinks. Its content has been broken up and turned into searchable chunks of information. While in a text, a hyperlink seems to have the same function as an ordinary footnote or citation, the way we deal with it is very different. Links do not just point readers to related or supplemental works; they propel readers towards them. They actually seduce the reader to jump in and out of a series of texts, rather than devoting sustained attention to any one of them. The ease and ready availability of links make it much easier to switch between digital documents, than it ever was with printed ones.[60] The very fact that the physical effort to click on a hyperlink is much smaller than lifting a pile of books, makes it already more tempting to switch from one text to another.

Students who work with digital textbooks and who are constantly linked to the *Internet*, are therefore constantly distracted. It is not necessary anymore to read long texts or to listen to what the teacher has to say in order to get access to the desired content and even if students wanted to listen to the teacher or read a long text, many of them do not have the capability, due to a lack practice. Concentration is something that needs to be trained. So, when children are not used to reading a book or a text for a longer period of time, they will not know how to practice in depth reading. Students, as young as they are in primary school, are able to find almost anything online at a very quick pace. Most users leave a website in ten to twenty seconds after accessing it.[61] When in this kind of environment students have the choice to learn, for example, about the Kalahari Desert from an instructional video, instead of from a long text that can be found in their digital books, it is not strange they choose the video, because it requires less effort to watch than to read. Although this might not be true for all students, most of them will choose the easiest and most comfortable way to acquire knowledge.

In order to understand why and how this has any importance related to the authority of the teacher, one needs to know that the torrent of information that a student is exposed to increases not only the volume of data that he or she is expected to take in, but also the volume

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[60] N. Carr, *The shallows,* p. 89-91.

[61] J. Nielsen, 'How long do users stay on web pages?' *Nielsen Norman Group,* 12 September 2011 <http://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/> (20 November 2013).

they need to shut out.[62] In other words, as was mentioned above, they have to make decisions about what they consider relevant to take in and what not, rather than having their knowledge intake pre-determined by the teacher and by a limited amount of textbooks. In a world where information can be accessed at any moment in time on any sort of digital device, the human interaction might be considered not so crucial anymore. Buzzelli and Johnston say the teacher possesses authority in the sense he or she has the knowledge that students need to acquire.[63] If it is taken into consideration that knowledge is available almost everywhere and in any format, the teacher loses this part of his or her authority.

What is also true is that teachers have to compete with all sorts of media and modalities. There are *YouTube* videos available on almost any thinkable subject, so for children it might be much more interesting to watch these videos in order to acquire their knowledge than to listen to a teacher.

2.6 Authority and data

Many of the examples of authority given above are taking place within the classroom and are related to the direct relationship between teacher and student. However, this is not the only level on which the authority of the teacher is undermined. Not only students and the teacher him or herself determine the amount of authority he or she possesses, but parents, school boards and the government also play an important role in this. When the school board decides to switch from an analogue to a digital school environment, they are indirectly influencing the authority of the teacher, for digital textbooks and modern technologies have all sorts of implications, as discussed before. The same is true for parents who decide to send their children to a school that uses *tablets.*

Although the decisions of parents and school boards have a significant impact on the authority of the teacher by choosing or not choosing for digital media in the classroom, this subject has already been covered previously. This next short section will briefly comment on one of the most important outcomes of digital technologies: how easy it is to generate, access and analyze data. As was discussed in chapter 1.4, technology has made it much easier to collect data and to publish it. It is predicted that the so-called *Big Data* will have great effects

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[62] T. Klingberg, *The overflowing brain,* p. 5.

[63] C. Buzzelli and B. Johnston, 'Authority, power and morality in classroom discourse', p. 875.

on the health and educational sectors in the future.[64] One of its most significant applications within education, will be the collection of students' test results to use them for feedback. Unfortunately, hardly any data is collected on how education works and on how students learn.[65] The collection of these results will make it possible for parents, school boards and the government to precisely see how students are performing. However, the danger lies in the fact that only test results are analyzed, while these do not tell anything about students' other potential qualities or dysfunctions. What is created, is an illusion in which students' performances are considered to be completely measurable. If, for any particular reason, these results do not keep up with the standard, parents, school boards and the government will probably feel like they have to do something about it. Due to the new insights modern technologies offer, many more parties will feel, in some way, responsible for the students' test results. This is not surprising at all, because when we know something is going wrong, it is obvious we want to do something about it.

Finally, the person ultimately responsible for the students' performance, is the teacher. While in the past they would deal with the problem themselves, nowadays they have to answer to parents and school boards. It has become very easy to compare one class' test results with those of another or to compare schools with each other. If one school performs worse than another, this school will have to answer to governmental institutions. If one teacher performs worse than another, he or she will have to answer to the school board. Some figures gain power and control, while others lose power and control. This takes place, because of the increasing amount of data available on the individual performance of students and school's performance. As the government, school boards and parents gain more control, the role and the authority of the teacher is questioned.

Another characteristic of data analysis, is to use the students' results in order to create their learning path. If the computer sees a student has difficulty remembering facts about the Kalahari Desert, but he knows everything about the Amazon Rainforest, the computer will

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[64] V. Mayar-Schönberg and K. Cukier, *Big Data: A Revolution That Will Transform How We Live, Work and Think* (New York: Mifflin Harcourt Publishing Company, 2013).

[65] N. Maes, 'Online Educa Berlijn, keynotes over onderwijs, big data en educatie 3.0' *ICT in Onderwijs en Onderzoek – Hogeschool van Arnhem en Nijmegen,* 07 December 2013 <*http://blog.han.nl/hanicto/online-educa-berlijn-keynotes-over-onderwijs-big-data-en-educatie-3-0*> (20 February 2014).

propose exercises about the desert, in order to refine the students' knowledge of that particular subject. What happens is that the choice of what is done by students in the classroom lies in the hands of a computer and is not the teacher's task anymore. By analyzing the students' answers, a computer program determines what will be the best way of learning for each individual student. The teacher's remaining task is to guide the students in their learning process, instead of determining how they will learn. The teacher consequently loses authority, because he or she does not have the power of decision anymore.

Chapter 3

3.1 The Delphi Panel

It has been a difficult task to find a solid amount of articles, books and other bibliographical sources on the subject of this thesis. Modern classroom technologies and teacher authority are not frequently combined topics. The suspected reason for this, is that it has only been since a few years that classrooms have been equipped on a large scale with modern technologies. Already in the 1990's primary schools in The Netherlands offered computer classes, but these were extra content on the school curriculum, instead of a medium overlapping all curricular content. The impact computers have today, is much bigger than their impact approximately two decades ago, when they were first installed in Dutch primary schools, because they are now connected to the *Internet*. Therefore, studying their impact on the authority of the teacher does make more sense now than it did before. Another reason why the bibliography on this subject is limited is probably because authority is not seen by everyone as a necessary quality of the teacher anymore. Hence, when teacher authority is discussed, the discussion is mostly about whether it is a good or a bad thing, rather than getting to the core of the concept and finding out what causes or creates authority and what authority is. Many schools are switching from a classical way of teaching, where the teacher presents the content of the day's class, to a coaching way of teaching in which the teacher supports the students while they work independently on their *iPads* or other screens.[66] So, while modern technologies are becoming ever more popular, traditional authoritarian teaching is in retreat.

Because of these limitations, it was sometimes necessary to come up with analyzes and conclusions by combining literature and some personal experience. All of this can be

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[66] J. J. Hermsen, 'Een uitweg uit de crisis in het onderwijs', p. 39.

found in the previous chapters. What can be found in this chapter are the results of the simplified version of the Delphi panel, a research method in which experts answer to a set of questions. The answers are analyzed and compared. The most striking findings (generally topics on which most of them agree) can be found in the section 3.3 below.

3.2 Participants

The participants were chosen, because they all represent a different angle by which the subject can be approached. Some of them are professionals, while others are academics. As a result, their input is a combination of personal experience and theoretical knowledge.

The first participant was Maria den Boer. At the age of sixty-one she has decades of experience as a primary school teacher and therefore has seen the changes that occurred in education due to technology. We had a personal meeting at her home on the 4th of December.

Corina Koolen, who is my former teacher of *New Media and Society* at Leiden University, was the second participant of the study. Currently, she is a PhD candidate in Digital Humanities at the Institute of Logic Language and Computation at the University of Amsterdam. We met in her office in the Royal Library in The Hague on the 18th of December.

The third participant was Andreas Lund. He works at the University of Oslo where he is a professor at the Department of Teacher Education and School Research. He obtained his PhD in Didactics (teachers' use of information and communication technologies in English as a second language). Some of the articles written by him that were used in the previous chapters of this thesis, specifically mentioned the influence of ICTs on the authority of the teacher. Because of that, the angle by which Professor Lund approached the subjects, out of all participants, is probably the most direct. Due to the distance between Norway and The Netherlands we maintained an e-mail correspondence in November and December.

Marieke van Osch, the co-founder of *Eduapp*, an Apple distinguished educator and an Apple education mentor, is the fourth participant. *Eduapp* is a website that has as a purpose not only finding educational apps, but also the creation and sharing of teaching ideas around these apps. Besides that, for years Marieke has been helping schools with the introduction of tablets into the classroom. She commented on the statements by e-mail and we maintained a correspondence from November until January.

The last participant is Joke J. Hermsen, a well-known Dutch writer and philosopher. At the moment, she gives workshops and lectures about philosophical and social issues and is working on a new collection of essays. She has also worked as a teacher and calls school her

'second home'. Education has been a returning subject in her works and lately she has drawn attention on a national level because of her *tweets* and article in *De Volkskrant*[67] in which she pleaded for Hannah Arendt schools instead of Steve Jobs schools. We met twice after her lectures on the 12th of December in Groningen and 21th of January in Wassenaar.

3.3 Statements

The experts were presented with five statements each. Below, they will be presented one by one, followed by the opinion of all the participants. The answers of each individual participant can be found in the appendix.

Modern technologies influence the authority of the teacher in the sense that: Common, undirected use of mobile and *iPad* technology by students in class undermines the classroom control a teacher has.

All participants agree with this statement, and they think undirected use of mobile and *iPad* technologies undermines the classroom control a teacher has. All of them think it is crucial children in primary schools receive directions when surfing on the Internet and they should be observed closely as they do so. This is necessary, because these young children will not be able to judge whether certain information is reliable or not. Also, they will be distracted by web pages they consider to be fun, but which are not necessarily of any educational value. So, if children are not guided in their online practices, the teacher's authority will be undermined.

However, there are ways to regain control over the classroom again. This can be done by exercises and testing. In that way, children still search on the *Internet* without restrictions, but they have received instructions. It should not be taken lightly though. Teachers have to go to school for many years in order to master this way of teaching; there need to be thoughts behind the exercises, tests and practices in the classroom. Still, this could be seen as teachers taking the role of a coach and for some, this very fact could mean they lose their authority,

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[67] J. J. Hermsen, 'We willen een Hannah Arendtschool in plaats van een Steve Jobsschool', *De Volkskrant*, 30 June 2013 <http://www.volkskrant.nl/vk/nl/3184/opinie/article/detail/3467821/2013/06/30/We-willen-een-Hannah-Arendtschool-in-plaats-van-een-Steve-Jobsschool.dhtml> (11 February 2014).

because teachers should be standing in front of the classroom, telling stories and leading discussions.

Modern technologies influence the authority of the teacher in the sense that: Increasingly widespread availability of learning software and e-education services undermines the control a teacher has over the content and process of learning.

Not everyone agrees whether widespread availability of learning software and e-education services undermines the control a teacher has over the content and the process of learning. On the one hand, teachers' authority could be undermined when they rely too much on the *Internet* for knowledge and learning materials. The danger of having it all out there could be that teachers do not consider it necessary to master the content themselves. Those who have to look up facts all the time, will not be able to lead a discussion or tell an interesting story and therefore lose their authority. If they use the Internet all the time, students might think they could as well do it themselves. This makes teachers lose their authority.

On the other hand, the enormous number of, for example, educational *Apps*, enable the teacher to choose which learning material he or she uses in class, instead of following a method from a book. This is how classes become more personalized, not only for the teacher, but also for the students, because each of them can have their own learning path. The downside lies in the fact that not all *Apps* are good, while most textbooks have a certain quality standard. So teachers should consider which *Apps* to use and how to use them, otherwise the effect could be contrary and the classroom might become scattered.

Looking at these two different points of view, it can be concluded that the most important thing for the teacher is to know what he or she is doing. Even in the first case, using e-learning software will not be so bad, if the teacher continues to have the necessary basic knowledge and is still able to tell stories and lead discussions. The first argument is not so much against the use of the software, but more against the influence it will have on the behavior of the teachers: it will make them less clever and even lazier. Therefore, it might be said that, as long as hard work and a lot of knowledge is involved, the easy availability of online learning software can have a positive effect on the authority of the teacher, for he or she gets to choose which materials will be used and what the lesson will look like.

Modern technologies influence the authority of the teacher in the sense that: New technologies bring an abundance of information coming in the form of text, sound, still images and videos. This undermines the control a teacher has over curricular content and order.

The use of other mediums besides the traditional textbook and the teacher standing in front of the classroom can make the learning process more interesting. Using *YouTube* videos to sing along with Christmas songs can be very fun and enhance a class. It is very important though, to make a good selection beforehand of the content that is to be used. It is the role of the teacher to make sure the student does not get drowned in the amount o content.

Some children find it easier to learn from a textbook, while others comprehend things better when they watch a video. The availability of different mediums, makes it possible for every child to learn in their own way. The bad side of the story lies in the fact that the interaction between the different students in the classroom could be lost. If every single one of them has their own tasks and learns in their own way, there will be less or no class discussions. So again, the teacher does not stand in front of the class, but makes selections of online content and coaches each child or each group of children individually.

Modern technologies influence the authority of the teacher in the sense that: Using digital conversation media such as messengers, *Twitter*, *Facebook* or *Skype* in teacher-student interaction undermines the quality and meaning of the teacher-student relationship.

Whether the use of digital conversation media in teacher-student interaction undermines the quality and meaning of their relationship, depends very much on which platform is used. Two of the experts think *Facebook* should not be used, because its style of communicating has already been defined and is very informal. When teachers and students are friends on *Facebook,* the teacher is sending the wrong signal to his or her students and showing them they are on the same informal level. This will cause them to lose their credibility.

When it is decided to use digital conversation media, it might be better to create or use an appropriate platform, where the tone is formal and not too personal. When this is done, these technologies can suspend constraints of time and space. Although communicating through digital media will never replace the real-life face-to-face conversations, it could be

practical, especially when children are at home or when quick practical messages need to be sent. They could change the asymmetrical relationship between students and teachers, because children will hesitate less before asking a question or making a statement. Whether this is a good or a bad thing though, remains to be discussed.

So, in general, the panel is not against the use of digital conversation media and they do not think it necessarily changes the quality and meaning of teacher-student relationships, as long as the wrong platforms, such as *Facebook,* are avoided. These customized platforms can be used as a support of face-to-face communication, but preferably outside the classroom and mostly for the solving of practical issues.

Modern technologies influence the authority of the teacher in the sense that: The fast-changing nature of digital media technologies makes teachers vulnerable to being found lacking in expertise by more confident student users.

There is, of course, a difference regarding the level of expertise a teacher has when it comes to dealing with fast-changing digital media technologies. If it is allowed to generalize a little, basically younger teachers find it easier than older ones and male-teachers know more than their female colleagues, but nearly all of them have to deal with students who know even more. Whether or not this affects their authority in the classroom, depends on how they handle the situation. Some teachers have always been seen by their students as being dull or old-fashioned, not only because they do not know how the computer works, but also because of their clothing or the way they speak, for example. Others will use the moment as an opportunity to have children explaining things to them and turn it into a lesson. This is how the teacher continues to have control over the situation.

Sometimes though, it is very hard on them. Even if they do know how to work with the different digital platforms, they still risk to be corrected by a student when they present an incorrect fact. Nowadays, it is very easy to check whether the teacher is right or not, because all students have immediate access to the *Internet.* Although, it might seem as if students have a lot more knowledge regarding computers and software, this is not always true and teachers should keep that in mind. The main difference lies in the fact that younger people are more willing to experiment and learn by means of trial-and-error. Teachers who are part of the older generation, prefer to learn step-by-step, with the help of a manual. So, while the teacher opens a book, the students start hitting buttons and will have a greater chance of succeeding

more quickly. Therefore, teachers should try to experiment more and not be afraid to do something wrong. Also, they should not fear to ask for the help of students or colleagues. People do understand not everyone grew up in the digital age. Especially when children are as young as in primary school, they will find pride in explaining something to their teachers, instead of criticizing them.

Concluding, whether the authority of the teacher is undermined by their lack of expertise regarding digital media technologies, largely depends on how they deal with them. For now, the fact that not all teachers come with ICT skills is accepted. In the future though, this might become a skill that will be required and keeping up with the fast-changing digital environment will become one of the teacher's tasks. That is why teacher-education should adapt to these newly required proficiencies.

Conclusion

Modern technologies, such as *iPads* and computers, influence the authority of the teacher in Dutch primary schools. A reason for this are the many different side issues of technology.

The first of these issues is the information overload. An enormous amount of information is easily available all over the *Internet* and comes in all kinds of formats. As the bibliographic research points out, this amount is overwhelming. The Delphi Panel believes primary school children need guidance in their search for knowledge and if they do not receive it, chances are they get lost in the huge quantity of information. So, the teacher's new task is to accompany children in their acquisition of information provided by the computer. There is no need for teachers to pass on their knowledge, for they are not the source of knowledge anymore. Therefore, their new role is more one of a coach than one of teacher. In this way, teachers lose their authority in the sense that they do not hold the necessary information the students need to acquire.[68] The almost limitless amount of online information also facilitates the analysis of data. Student's test results are easily available for parents, school boards and the government. This puts a lot of pressure on the teacher to perform. While first they were respected as professionals, because they held a so-called *traditional*

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[68] C. Buzzelli and B. Johnston, 'Authority, power and morality in classroom discourse', p. 875.

authority, nowadays they are controlled by their student's test results and criticized by parents.

From thereon we continue with the next side issue of technology: loss of control. Besides publishing test results, within education, data analysis has another important feature: it can control the learning track of a student. By analyzing the student's exercises, the computer can decide what is best for the student to learn next. More time and effort will be put into a subject that is considered to be more difficult and less into a subject considered easier. Before the introduction of the software that some digital textbooks offer, it would have been the teacher's task to determine the student's learning track. This automatically means that teachers lose control, for they do not have the power to decide what happens in the classroom anymore. A teacher holds authority in the sense that he or she determines what happens in the classroom, so again, this part of their authority is lost. The Delphi Panel thinks teachers should hold on to their control, because young students should not be allowed to surf freely on the *Internet*, where correct and incorrect information come in all sorts of formats. Moreover, the fact that information also comes in the shape of videos represents a threat to the traditional narrative teacher. Although videos can beautifully illustrate facts that need to be learned, they are hardly ever as inspirational as a story-telling teacher can be.

Social Media is one of the most important by products of the *Internet.* A huge percentage of all communication happens online via platforms such as *Facebook, Twitter* and *WhatsApp.* The level of formality, when people have a conversation via one of these platforms, is rather low. Social media platforms are automatically associated with recreation, especially by young children. Therefore, the tone of the conversation has already been set at a very young age, when children have contact with these platforms for the first time. So, conclusively these media do not fit into a professional relationship, such as the one between teacher and student. If teachers refuse to maintain a professional relationship, by becoming *Facebook* friends with their students, for example, they will lose their authority, because they will be seen by their students as being equal. The Delphi Panel thinks communication through a digital medium in the educational environment should only happen when dealing with practical issues, for it can never replace face-to-face communication. Also, when it happens, it should be done through a customized medium, which has a tone adequate to the learning environment.

Another side issue of technology is that it is always advancing at an increasing pace. This makes it very hard to keep up with. Teachers find themselves lacking in expertise, while

students generally find it easier to deal with computers and *iPads*. Parents, school boards and the government expect them to know how to deal with modern technologies, but they cannot live up to the expectations. These teachers lose their authority, because they do not have the knowledge they should have to control the classroom, which makes them insecure. The Delphi Panel believes this is a problem that will only get bigger, if nothing is done about it. For now, people understand not everyone was born in the digital age and has affinity with ICT, especially older teachers will not be judged so harshly, but this will change. Learning how to deal with digital media in the classroom should be an important chapter of teachers' education.

So yes, modern technologies in the classroom represent a serious threat to the authority of the teacher. What should be kept in mind though, is that it threatens the authority of the traditional teacher. The characteristics a teacher nowadays needs in order to be respected by students, parents, school boards and the government, might not be the same in the future, precisely because technology is reshaping the future. However, using Professor Andreas Lund's words: "There is also tremendous potential in professional development that will give us teachers whose authority rests on their insights in navigating these treacherous waters."[69] So, everything depends on what is considered important at the moment by the general public. And when their new role, shaped by the technologies of the digital age, has become clear, teachers might regain their authority.

Appendix

Modern technologies influence the authority of the teacher in the sense that: Common, undirected use of mobile and *iPad* technology by students in class undermines the classroom control a teacher has.

Primary school teacher Maria den Boer thinks it is crucial to tell the students exactly what they have to do or what they should look up on the *Internet*. She has experienced that, when

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[69] From the e-mail correspondence between me and Professor Andreas Lund that took place on 27 November 2013.

she is not there, her students start looking at different websites from the ones indicated by her. A very popular one is *YouTube*. When the students realize their teacher is watching ,they quickly click away from the page. Maria thinks supervision is very important, because students easily get distracted by the temptations the computer has to offer. She also tells about how this sometimes goes wrong with the so-called "computer moms". These moms, who help with computer lessons in classrooms, do not have the same ascendancy as Maria has. Sometimes, this results in children not obeying them. The older the children get, the more they try by themselves. Younger children need more help. If they want to go to a popular Dutch website for playing games *www.spelletjes.nl*, they need help, because they do not know how to spell out the URL.

Corina Koolen believes that the use of mobile and *iPad* technology should be directed, otherwise the hierarchy in the classroom will be lost. She thinks it is very important to teach children how to find information on the *Internet* and not let them freely search for things, especially at a very young age, because they are not yet able to judge the quality of information. Nowadays, even if one finds the same fact on fifteen different websites, it still is no guarantee for the specific fact to be true, since many *Web Pages* make use of copying and pasting, without checking facts first. Another reason why children should be directed in their use of the digital medium is because people who were trained in a more classical way, are better at judging whether certain information is relevant or not.

The fact that the hierarchical relationship between student and teacher disappears represents a problem to Corina Koolen, because it is not without reason that teachers study for many years before they start practicing. Having children look for their own content on the Internet, instead of explaining things to them and instructing them, makes teachers lose their control over the classroom, because they cannot check how much of the information is really absorbed and what exactly they have learned. However, there is a way to regain control again and it can be done by means of exercises and testing. In this way, teachers can see whether children have learned something from their online searches.

Professor Andreas Lund thinks the complexity of learning environments and learning trajectories increases rapidly as a result of the availability of powerful cultural resources. One obvious consequence is that teachers are marginalized or they give up and there are numerous accounts and studies verifying this. The result is that authority becomes undermined and

might even evaporate in a laissez-faire approach to learning activities. However, we also know that preparing teachers through teacher education and in-service training for such complexity is slowly gaining ground. One such effort is to view teachers as designers of learning environments and trajectories and where tasks, available resources, activities and assessment match each other in a coherent whole. It is referred to as "teaching as design". It requires highly qualified teachers with much more than a one-year course in pedagogy and (subject) didactics. At the University of Oslo a 5-year MA course is done by future teachers to prepare themselves.

Marieke van Osch agrees with the statement. She thinks in every classroom where no clear instructions have been given, the teacher has little control. She also believes it is possible to give students very varied instructions, which they can use to work independently with. For an outsider, a classroom filled with students doing different things might look chaotic, but when instructions are given and certain criteria have been established concerning the end result, this situation can cause children to learn a lot. Marieke van Osch is more in favor of this way of learning than doing it step-by-step all together, at the same time. Moreover, for this system to be successful, it demands a very important quality from the teacher: he or she should be able to guide the students, see if they are able to work independently and, where needed, be ready to redirect them.

One of the places where the use of, especially *iPads*, is relatively undirected are Maurice de Hond's *Steve Jobs schools*. Joke Hermsen believes that in these schools, the original role of the teacher is in danger. In her debate with Maurice de Hond and Alfons ten Brummelhuis in Groningen she already clarified that the role of the teacher should not be the role of a coach.[70] She says Maurice de Hond's website O4NT (Onderwijs voor een Nieuwe Tijd) states that, in the future, school buildings will not be necessary anymore. Learning can be done easily online. So this does not only undermine the classroom control of a teacher, it undermines their entire profession. In her view, teaching should happen in a narrative way and teachers should be inspirational and motivational figures who stand in front of the classroom. If they, instead of doing so, only coach their students, they are actually telling them that they should figure it out for themselves, because they, as teachers, do not know much more. Students could

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[70] 'ForumDwarsdiep: iPads of boeken?' in the Groninger Forum. Based on statements made on the 12th of December 2013 during the debate.

appreciate it and see it as a sign of equality, but they will not develop much respect or credit towards their teachers.

Modern technologies influence the authority of the teacher in the sense that: Increasingly widespread availability of learning software and e-education services undermines the control a teacher has over the content and process of learning.

Maria den Boer says the enormous amount of content available on the *Internet* represents a threat for the general knowledge of teachers. Especially the young ones rely on the online content rather than on their own knowledge, and cannot tell stories or lead a discussion. As a result, they do not find it necessary to have the knowledge that is considered basic by older teachers. There are programs and applications for almost everything, so the actual work a teacher has, diminishes. For example, there is no need to manually fill out a list of grades anymore. Maria thinks that this can affect the quality of learning. It might also mean children will think they can find the required knowledge on the *Internet* and not appreciate the teacher's knowledge anymore. As an example she tells about a discussion she has had in class about the Romans. As the discussion advanced, she got to the subject of democracy and taxes. One of the students asked if everyone in The Netherlands had to pays taxes. Maria answered that the king was the only one that did not have to. The students thought this was rather strange and the discussion advanced to the topic of equality. It was a very interesting discussion and Maria is convinced only a teacher with a lot of general knowledge is able to lead a discussion like that. If he or she has to look up if, for example, everyone has to pay taxes, there will be no flow in the discussion and the learning experience will not be that rich.

Corina Koolen does not agree with this statement. She thinks that the widespread availability of learning software and e-education services, such as educational apps, gives teachers the opportunity to choose for themselves which apps to be used. If the use of apps is implemented in a good way by the teacher, it can even increase his or her authority, because of the amount of choice available.

Sometimes, however, the software is implemented in not such a good way, for example, because it is forced upon the teacher by the School Board or because teachers feel obliged to use all of it, simply because it is out there. When this happens, it could have a contrary effect on the authority of the teacher, because his or her class could become scattered

and not follow a line or structure anymore. There is a real risk of the class becoming chaotic instead of rich with content from several sources.

Marieke van Osch thinks a variety of learning materials, made by teachers, app builders, method makers etc., is good and can be used to learn in a more personalized way. The teacher should have a good view on the whole of learning goals and from there on, construct a program for a group of students or one individual student. It could very well be that one source contradicts another, but only one can be right and therefore it should be determined which source is the right one. The teacher could do this together with the students in order to teach them how to do a good source investigation. Nowadays, this is a very important skill to be acquired.

Everyone can build an app, so there are very bad ones too. However, even with a bad app, it is possible to teach a good lesson, by for example, showing the mistakes and pointing them out by means of sources. You cannot give a student an app and expect the learning process to just happen. Questions like: "What are you doing with this learning material and why?" or "What do you learn from it?", should always be asked.

Modern technologies influence the authority of the teacher in the sense that: New technologies bring an abundance of information coming in the form of text, sound, still images and videos. This undermines the control a teacher has over curricular content and order.

Primary school teacher Maria believes children, especially at a very young age, should not be free to search for what they want on the *Internet*. When they occasionally do this, they encounter an overload of information. It is too much to deal with and the teacher completely loses control over what the students are exposed to. Therefore, the teacher has to indicate the websites they are allowed to search on. Maria herself had to experience loss of control over the content in a very confronting way. In December, as a preparation for Christmas, five and six-year-old children were singing along with a *YouTube* video that contained singing kittens. Maria had not watched all the videos beforehand and one of them, in the middle of the clip, started showing porn. Probably, most of the children did not realize what is was, but Maria had to take precautions and warn the school board about the incident. In our meeting, she

emphasized that these incidents can also happen when children are working on their own and, instead of clicking away from it as quick as possible, they could continue watching.

Corina Koolen thinks children are all different and therefore learn in a different way. For some, it is very useful to read a long text, while for others, who are dyslexic, for example, watching a *YouTube* video could be much more effective. This does not mean though, that children should be able to freely choose between any text or video available on the *Internet*. In order to present the children with quality content, it is the teacher's task to make a selection of the sources that students are allowed to use. While doing this, the teacher should be aware of the format in which the information is offered. The danger of all students having their own way of learning is that some of them will watch videos with a headset on, while others are mostly reading and that could be that students lose interaction with the teacher and the rest of the classroom. This is again an argument in favor of the teacher's selection of content, because in this way they will be more easily perceived to interact with others.

Professor Lund states education used to mean relating to a "closed" and controllable universe where the textbook, the tasks, and the teacher formed a unit that was predictable. Within this predictable unit, textbooks used to give the exact information needed to answer pre-determined questions that could be graded. Now, this "closed" universe" is not replaced but expanded by the open universe of limitlessness of often fragmented and sometimes even contradictory information. Making sense of this is impossible for learners without the informed guidance of the teacher. Also, when learners increasingly move from the role of consumers to being producers of content, we are back with the first statement and what is required of teachers and teacher education. Authority can thus be exercised in relational expertise: how to configure and re-configure human and material resources so that learning objects are achieved and learning outcomes can be made visible? So, yes: in a traditional view of the teacher her or his control is undermined. But there is also tremendous potential in professional development that will give us teachers whose authority rests on their insights in navigating these treacherous waters.

In Marieke van Osch's view, it is the role of the teacher to estimate the qualities of the students as well as possible. It should be determined, what the student's learning preferences are and how the teacher can offer his or her classes to have the student learn in the best

possible way. Sometimes a teacher will offer the learning material and the student will be able to find his or her own way in it, but most of the time, this needs to be structured, otherwise, students might drown in the amount of available information. An important task of the teacher is to define a good learning track for a group or sometimes an individual student. They should select materials and leave others out. Marieke van Osch thinks only a very small group of teachers is able to do this correctly, and therefore she gives a lot of workshops on this subject. Most teachers are used to follow a method with a pre-determined order.

The best school is one where the basis consists of structured learning tracks and where the teacher knows how to find and to apply good learning materials. Sometimes the structure is a method. It is inevitable that learning methods continue to exist, but not self-evident anymore.

Joke Hermsen is a proponent of narrative teaching and she believes it is a pity that classical teaching, where the teacher stands in front of the classroom, nowadays is seen as being old-fashioned and authoritarian. It seems as if transferring knowledge by telling stories is outdated and even irresponsible. When the knowledge comes from screens and children are told to look up information on the *Internet*, teachers lose their authority in the sense that they are not the ones who have the knowledge anymore and it puts them on the same level as the students. Also, if they have no chance of standing in front of the classroom, it gets harder for them to become a source of inspiration or motivation. Loose facts found on the *Internet* will seldom be as inspirational as a teacher trying to make his or her students enthusiastic with a story about a certain fact.

Modern technologies influence the authority of the teacher in the sense that: Using digital conversation media such as messengers, *Twitter*, *Facebook* or *Skype* in teacher-student interaction undermines the quality and meaning of the teacher-student relationship.

Maria den Boer does not have a lot of experience using digital conversation media in order to talk to her students. She heard, though, about colleagues who are *Facebook* friends with their students. She does not think it is good to have that kind of relationship, because students are students and not friends. Some students because of these online friendships, will find it difficult to see the difference between a teacher and a friend.

First of all, Corina Koolen states that these media, with the exception of *Facebook,* can be very useful for older students, at a university level, but not for primary school children. Especially the use of messengers in class does not contribute to the learning process. Corina thinks it makes children lazy, because it is much easier to ask a question (to the teacher or to classmates) by means of a digital medium, than doing it face-to-face. When it is so easy to approach the teacher, the result could be that students never think twice or consider anything before they ask a question. The use of messengers or platforms outside the classroom, while doing homework, for example, could be useful, because at those moments they do not have the opportunity to speak face-to-face with their teacher or classmates.

Secondly, and back to the subject of authority, Corina thinks existing social media websites should not be used for the interaction between student and teacher. The tone of a website, such as *Facebook,* has already been set and, in general, the tone is rather informal. If teachers want to maintain their authority, they should not become friends with their students on social media websites. When they do so, they run the risk of being seen as someone who is on the same level, who is their student's friend. Corina believes this affects the teacher's credibility.

Andreas Lund tends to disagree. He says there are many accounts of how such technologies suspend constraints of time and space, including the asymmetrical relationship between learners and teachers. Such technologies rest on dialogical and interactional approaches more than mono-directional ones.

Marieke van Osch does not agree with this statement, but she says digital conversation media can never completely replace personal contact. She is convinced that really getting to know people only happens in real-life conversations. Communicating only through digital means cannot replace this, because a student can pretend to be different in a digital environment. Also, it is very difficult or even impossible to transmit non-verbal communication via digital media. On the positive side, she thinks digital conversation media can support communication. It also makes it easier to get work ready for a group of students. Even sending a message, for example if there is no class the first hour, has become much easier than in the past, when these things had to be verbally communicated or by means of a

telephone tree (the system where students had to call one other to be able to quickly reach everyone).

Modern technologies influence the authority of the teacher in the sense that: The fast-changing nature of digital media technologies makes teachers vulnerable to being found lacking in expertise by more confident student users.

Maria den Boer says that the older the students become, the more they try to trick not only the teacher, but also the "computer moms". They turn out to be very agile in using the computer the way they want. Also, she observes children become more clever when dealing with computers at an increasingly younger age. One of the things they do is checking whether the teacher's statements are true or not. Maria tells about an incident were a teacher said something about Yugoslavia. The students were able to find out for themselves that Yugoslavia did not exist anymore, and corrected the teacher's mistake. Another interesting thing Maria stated was that she thinks younger teachers may probably know better how to deal with the computer, while the older ones tend to have more difficulties. She also believes male teachers deal more easily with technology than their female colleagues.

Corina Koolen thinks many teachers have always had the image of being old-fashioned or dull. When it is not their lack of expertise in ICT's, it is their taste in clothing or in music. Whether this will affect the authority of the teacher, will depend on how he or she deals with their ignorance. Letting students explain how the computer works, can be a fun experience for children. They could be proud having taught their teacher something new. She also thinks this could be more of a problem when dealing with children in High School and University, because they are far more critical than young children.

Corina Koolen's final conclusion reveals that what we see as being quality today, will not necessarily be seen as quality tomorrow. While the older generations still rely on the knowledge of fact, this might not be important at all in the future. So what ICT's will do, is shape the way we see things. For now this could mean that the authority of the teacher is undermined by the availability of content on the *Internet*, but this might change in the future. If directing the students in their search for content is not considered important anymore, it might not affect the authority of the teacher.

Professor Lund thinks this is very true. Teachers are not prepared for twenty-first century skills and the complexity they face. More confident student users are definitely an asset that can be utilized, but it is often seen that this expertise stops at the instrumental level. There is so much more involved, such as different epistemologies and designs, which even the most techno-knowledgeable student will not be able to master. The implication is to completely rethink teacher education. This is currently what they are trying to do at their newly established ProTed center for excellence in teacher education in Norway.

Marieke van Osch agrees with this last statement. Students being so fast using computers, makes teachers insecure. They have to realize though, that students today grow up in a time when getting to understand digital technologies is not something you do with the help of instruction manuals that lead you step-by-step through the process. Many times, you do not even have an instruction manual. Learning how something works, is nowadays done by trial and error. In other words, students have the courage to press the button, while teacher first want to read in a manual they have to press the button before they take the next step. Thus, students do not always know better, but they are quicker when it comes to trying something new.

It is obvious that the lack of knowledge makes teachers insecure, but it is a hard problem to solve. In her workshops, Marieke van Osch tries to underline the fact that these teachers have to try themselves as well and they also need to know it is not a problem to ask someone who has already dived into the subject. It does not matter whether this is a teacher or a student. Students will understand most teachers did not grow up with digital technologies and that it is not so easy for them.

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