

# THE VIRTUES AND VICES OF TECHNOLOGY IN THE CLASSROOM

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To my daughter Aria.

*It was only when I first looked into your eyes that I figured out what I wanted, and  
was always meant, to be when I grew up: A father.*

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## *Summary*

Technology is increasingly becoming an important part of the classroom experience for young students. Not only are so many technologies being used today – like tablets, smart phones, computer games, etc. – but there is significant funding for the design and implementation of new technologies provided by governments and philanthropic organizations. Just how this will change childhood education is not yet properly understood. Such significant changes in an important part of human development (especially moral development) demand ethical analysis and evaluation. With this in mind, the research question I set out to answer is:

*How is technology in the classroom positively and/or negatively affecting the moral character development of those being educated and how should technology be designed and implemented into the classroom to achieve effective moral character development in an educational context?*

To answer this research question we must first understand the goals that education aims to achieve. Current methods of evaluation in educational settings are dependent on standardized test scores which merely measure the ability to transfer information to children – a small part of what education should be about. In this thesis I argue that the value of education cannot be reduced to standardized test scores but is in part comprised by its cultivation of moral character traits within children. Philosophers dating back to Aristotle have conceived of education as including this important component. Aristotelian thought and contemporary literature on a virtue ethical conception of education are used to argue for moral character development to be included as a goal of modern education.

How are we able to cultivate moral character traits within children? Using an Aristotelian conception of moral development, I argue that the negative emotions such as shame and envy are an important part of moral development. This opposes some of the goals of contemporary educational models (like Emotional Intelligence and Positive Psychology) which aim to focus only on individual's strengths and positive emotions – and use technology extensively. The moral emotions which are important for advancement from one moral stage to the next are brought about by habituation and role models. Habituation gives children changes to act in moral situations and to feel shame when they lie, cheat, steal, etc. Role models serve to inspire envy in children who

do not possess the character traits they see as good (as seen in the role model). Habituation and role models must be a part of contemporary education, and technology used in an educational setting must take this into account.

The next step in answering my research question is to come to an understanding of how technologies relate to moral character traits. Specifically, what is the relationship between technologies and the development and expression of the virtues? I turn to various theories within the philosophy of technology (Hubert Dreyfus, Charles Ess, Philip Brey) to develop a language to describe this relationship. Technologies can either have a tendency to constrain or promote the cultivation and/or expression of virtues. The factors influencing this tendency are the values within the technology itself, the context the technology is placed in, and the values which the context is supposed to promote.

Using this language, I develop a framework for virtue ethical analyses of technology. First, we must understand the values important to the relevant context. Then we assess the values and disvalues embedded into a technology. Finally, we compare the values in the technology with the values important in the context to see if important values are being constrained or promoted, or left out entirely.

This framework is then used to evaluate a particular conception of education – heavily reliant on technology - in the Netherlands: the ‘Steve Jobs’ schools. It is determined that the way in which technology is used in this particular instance significantly constrains important values for the moral development of children. It takes away many situations in which students could face situations in which moral choice is necessary (habituation) and it does not allow for the teacher to be the role model he/she needs to be for successful moral development to occur.

Finally, I offer recommendations to educators, policy-makers, technology designers, parents, and children themselves regarding the design and implementation of technology intended for the classroom. First, I recommend a clear scope when designing and implementing technology in the classroom. Second, technologies implemented in the classroom should not solely be aimed at keeping kids inside of their comfort zone. Instead, we should recognize the importance of boredom, irritation, and fear for cultivating important moral character traits like patience,

temperance, and courage. Finally, technology implemented into the classroom should allow the teacher to fulfill their role as a role model for their students. Role models are an important part of childhood development, and the goal of technology should not be to render the teacher unnecessary. Further research, using the design and values literature, should help to translate these abstract recommendations into concrete design and implementation requirements.







# Chapter I

## Introduction

“What if, instead of seeing school the way we’ve known it, we saw it for what our children dreamed it might be: a big, delicious video game?” asks a New York Times article (Corbett, 2010). I can remember playing Super Mario Kart before school started - dreading the idea of sitting in a classroom all day learning math, history, science, etc. I would think: “when was the last time I stayed home sick? Do I have it in me to fake it again? I could stay home all day watching TV and playing games!” There is a trend now to use the latest technologies to entice kids to come to school and provide a more effective and efficient learning experience. Instead of forcing kids to adapt to a traditional classroom setting why do we not adapt the setting for the kids we are trying to teach? The center of that adaptation to kids is technology in the classroom.

Martin Heidegger, the German philosopher, had an interesting theory about technology. He described technology as a manifestation of the current way we view the world. He claimed that we view the natural world as ‘standing reserve’ and that this “puts to nature the unreasonable demand that it supply energy which can be extracted and stored as such” (1977, p. 77). While there have been many critiques to his argumentation (see e.g. Verbeek, 2005), the analogy is still very powerful. His biggest fear was that this thinking would be turned towards humans themselves, and humans would also be considered storehouses of raw material to be used at will.

I believe that the current use of technology in the classroom is a manifestation of our current way of thinking about education. Education, in this view, is equated with test scores – tests

which attempt to measure: how much information students have retained, critical thinking skills, Emotional Intelligence, etc. Technology, then, is a tool to increase the test score which is the object of focus.

It is important to note here that when I use the word ‘education’ I am referring specifically to the education of children. This is education up to and including high school. I am not referring to education that occurs after high school (e.g. college or university). Technology at the university level is a very interesting topic as well, and some work has been done in this area. For literature on computer-mediated higher education see e.g. Hubert Dreyfus (1999; 2001) or Philip Brey (2006).

I chose the education of children specifically because their reduced autonomy and responsibility. Education of children is paternalistic – meaning that children are forced to do something for their own good (which can be against their will) – by its nature, and we, as parents, educators, technology designers, and policy makers assume responsibility for the what, how, and when of education for our children (and the paternalistic features of it). This puts the responsibility on us to ensure that technology is designed and implemented in a responsible way – a way that realizes the values important in education (see Chapter II).

## **I.1 The Rise of Technology in the Classroom**

The use of technology in the classroom is growing fast thanks to a flood of money offered by both governments and giant philanthropic organizations. The US Government has created a public-private organization called “Digital Promise” (Duncan & Hastings, 2011) while the European Commission has made funding for technology in the classroom part of their digital agenda (Kroes, 2011). The Bill and Melinda Gates Foundation announced in 2011 that it will be providing more than \$20 Million in grants for educational technologies. Technology in the classroom ranges from online lessons (Sweeny, 2012), tablets and other gadgets in the classroom (Hamdan, 2012), and the gamification<sup>1</sup> of learning (Silver, 2012). Governments and school administrators see a possibility to improve education by letting students learn at their own pace, teaching new skills needed in the modern world, and capturing the engagement and attention of

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<sup>1</sup> Gamification refers to the application of game mechanics, dynamics, and frameworks to promote desired behavior (Lee & Hammer, 2011).

students - something which has become increasingly difficult (Richtel, 2011). The result is that the educational technology industry has become an estimated \$2.2 billion industry in the United States alone (Gabriel & Richtel, 2011).

A change this significant in a field as universally important as education will affect society in many ways - both anticipated and unanticipated. Most importantly, the children who will take part in this global experiment will get the brunt of both the benefits and costs. Even the widely touted benefits which all of this technology in the classroom is supposed to bring has very little empirical data to back it up (Richtel, 2011). The metric which people are assessing technologies in the classroom is test scores. People want to know whether these technologies improve students' test scores (Gabriel & Richtel, 2011; Richtel, 2011); however, test scores are only a very small part of what education traditionally is supposed to deliver. The philosophy of education from John Dewey (1909, 1942), to J.S. Mill (1867), to Randall Curren (2006) focuses not solely on the transfer of information, but also on "civic" and "character" education. If we are to properly analyze and evaluate the use of technologies in the classroom we must look at all aspects of what education is supposed to do for our society and our children - not merely narrowly focus on students test scores.

## **I.2 Technology and Moral Character**

My interest lies in the relationship between the use of technology in the classroom and moral character development. Following a neo-Aristotelian conception of public education, I want, with this thesis, to understand how technology in the classroom is affecting the "moral" character education of students - moral character being fundamental to students' future roles as citizens, parents, friends, etc.

To get an understanding of this relationship I ask: How is technology in the classroom positively and/or negatively affecting the moral character development of those being educated and how should technology be designed and implemented into the classroom to achieve effective moral character development in an educational context?

This is not a simple question to answer, and to get to an answer requires answering a few other questions. We must get an understanding of what role education should play in moral character

development, and how technologies enhance and diminish the virtues which education should be responsible for cultivating. All of this requires an exploration into more fundamental concepts like what the aims of education are, and what moral character education means with regard to public education. The answers to these questions will hopefully lead us to an answer to how technologies should be developed and implemented into the classroom in a way which cultivates the virtuous moral character traits which education should be responsible for developing.

Below is a snapshot of the current situation regarding technology in the classroom. I use the term ‘snapshot’ because I offer a rather limited view of what is going on - but it serves as evidence of the importance of this topic. A philosophical and ethical analysis of technology in the classroom is important while practices are still being developed.

### **I.3 Technology in the Classroom**

“Technology in the classroom” could refer to many things. I would prefer to use the phrase the way that it is used in contemporary discourse regarding education. This, then, refers simply to the practice of incorporating contemporary technologies into the classroom experience. This covers gadgets, software, and a host of technological practices - for example, social networking. Below is an overview of the ways that technology is being incorporated into the classroom. This is by no means exhaustive, but it should give - by way of examples - a good picture of what technology in the classroom looks like today.

#### **I.3.1 Video Games and Gamification in the Classroom**

Using video games to educate at first glance will probably cause a lot of hesitation. I know that my parents were explicitly trying to get me to stop playing video games so that I could focus on school. The idea that both could happen at the same time would have been counter-intuitive to both my parents and me. It is the most explicit attempt to make school, and education, “fun”.

Using games to educate is not entirely new. Under the umbrella term “edutainment” there have been attempts to use video games for learning since the early nineties. Some people might even remember titles like “Reader Rabbit” and “The Oregon Trail”. Widespread criticism about the benefits of edutainment has caused a rethinking of how this might work (Okan, 2003). Arising

from this are a host of games for education and the use of game mechanics to engage students in learning. This is shown in its most extreme form by the experimental school Quest 2 Learn.

### *Quest 2 Learn*

Quest 2 Learn is a school in New York City (started in 2009) whose curriculum has been designed from the ground up by game designers - most notably by Katie Salen. The mission of the school is to use game and system design thinking to fundamentally change the way students learn. Grades are replaced by “levels” and “badges”. A lesson is a “quest”. The general idea is fairly simple - we know that kids today are engaged by video games. They play them for hours trying to get to the next level and learn a lot (about the game) during game play. Salen’s idea is to get students to spend their hours playing games that are designed to teach them the skills and knowledge that traditional schools seem to be teaching so poorly (according to standardized test scores). The goal is not only to teach what traditional schools are supposed to teach, but to also teach new skills which are becoming increasingly important in contemporary society. These skills include game design, computer science, and robotics.

The general idea is that kids are different today. Rather than fighting against it, Quest 2 Learn encourages it. Kids like games, and they are good at playing them. If schools accept this, then there won't be as many students claiming “school is boring”. The ideal will be to have games completely replace homework and testing. Eventually, the fact that a student has completed a game will be proof enough of sufficient knowledge in a given subject (Corbett, 2010).

### *Less Extreme Examples*

Most schools are not like Quest 2 Learn, and have instead focused on incorporating software and games into the existing curriculum. Educational technology companies have been trying to convince individual schools and school districts of the value of their products. For example, Cognitive Tutor, developed by Carnegie Learning, is able to “analyze their weaknesses and serves up new items until they grasp the skill and are allowed to move on” (Gabriel & Richtel, 2011).

Proponents of such software argue that software is better able to adjust to individual students needs compared to a teacher. Although the results of using such software have not been

promising, educational software designers claim that they are using the results of studies to improve their programs in a way that will work faster than teachers trying to adapt. There is also evidence to suggest that while learning outcomes may not be improving, student engagement certainly is (Annetta et al., 2009). Since engagement is one of the most talked about obstacles to student learning (Collins & Halverson, 2009; Ertmer & Ottenbreit-Leftwich, 2010), this is considered an achievement.

### **I.3.2 Tablets, Smart Phones, and Laptops! Oh, My!**

Gadgets in classrooms are no longer simply being banned as a distraction. There are now millions of dollars being poured into providing students with these devices to support their learning. Again the problem that these devices have been brought in to solve is the problem of student engagement. If students are using these devices at home and are engaged by them, then instead of coming up with other ways of engaging them, schools and teachers can just use what has already captured students' attention.

These gadgets are the medium for an entirely new school experience. Tablets, smart phones, and laptops are not only being used for educational games and software, but also to replace old methods of completing assignments and communicating with teachers and fellow students. They are used for participation via social networking (see below), and as a medium for learning management software like Blackboard and Moodle.

Countries, regions, and school districts are all raising and spending a lot of money to get students these devices (Fox, 2012; Hamdan, 2012; Hu, 2011). Some schools are trying to develop a policy for BYOD (bring your own device) (Topsfield, 2012). A BYOD policy would allow students to bring and use their own smart phones, tablets, and laptops to support their education. Either way, devices and gadgets are becoming a big part of the educational experience for students today.

#### *'Steve Jobs' Schools*

For example, the so-called 'Steve Jobs' schools being developed by Onderwijs voor een Nieuw Tijd (Education for a New Era) in the Netherlands is an extreme example of using iPads as the focal point of children's education. These schools are using the iPads to break down the



constraints of time and space by allowing kids to come and go to school as they please. They can learn via the iPad at home or on vacation – at their own pace and in their own way. Teachers are to be thought of as coaches guiding children along their own educational path (Onderwijs voor een nieuw Tijd, 2013a).

This example will be explained and evaluated in detail in chapter V. This example has been chosen for further analysis because it presents us with the logical conclusion of the technological way of thinking about education. The temptation to create schools like this will be strong both among parents and educators. Before this happens, I would like to make sure we have properly thought things through.

### **I.3.3 Please Answer in the Form of a Tweet**

Social media is another technology being used to facilitate student learning. Recognizing that not all students are comfortable raising their hands and contributing out loud, some schools and teachers are promoting the use of social media to allow another medium for student engagement and participation.

#### *Class Discussion Made Easy*

A New York Times article (Gabriel, 2011) discusses how an English class in Iowa is using Twitter for class discussions. One student claims that speaking out loud is not something she is prepared to do; however, tweeting is an easier way to express how she feels. This strikes at the heart of why teachers are looking to social media as a tool for education - increased participation. Social media overcomes a barrier that is present in traditional participation. The passive participation offered by social media allows everyone - not just those who are brave - to contribute to a discussion.

The use of Twitter and Facebook in the classroom has led to classroom specific social media to be created to foster discussion. Google Moderator, and Hot Seat are two such platforms which allow questions to be posted and voted on so that the most popular questions get more attention. The view of proponents of social media in the classroom is that without social media, many voices and thoughts would be left unsaid and would therefore not get any response.

The impact of social media on learning is difficult to measure, and studies are just now being conducted. One such study does suggest that participation is enhanced, and learning attitudes are improved by social media (Yaros, 2011). However, social media in the classroom is still in its infancy and we do not know how it will be used in the classroom in the future - we only know that it will be used.

#### **I.4 Questions of Value**

The benefits of this technology are hotly debated. There are many who feel that the promises made by technology for education have been around for a long time - without results. Michael Hiltzik, writing the LA Times (2012), quotes Thomas Edison talking about 'moving pictures' making books in schools 'obsolete'. Others have disputed the value of technology in raising test scores - something frequently used to market educational technologies (Gabriel & Richtel, 2011; Richtel, 2011). I will not attempt to evaluate the quality of these popular critiques of technology in the classroom. A lot of the debate about technology in the classroom - as this thesis will show - is caused by differing views on what education is, and how we can evaluate how 'good' an education has been.

In chapter two we will get a sense of what exactly the value of education is, which will allow us to move forward in our analysis of the value of technology in the classroom.

#### **I.5 Problem Statement**

In the 21st century, technological solutions are increasingly looked to for addressing society's problems. Philosophers of technology, in response, are critiquing these technological solutions offered and evaluating them according to their relation to the good life. Technology used in educational settings is one such example. Technology in the classroom attempts to solve the vast educational problems facing our society. Economic concerns are primary; however, the difficulty with engaging children, and lack of quality teachers are also concerns which are being addressed by the use of technology in the classroom. How these technologies will affect the moral character development of the students now, and in the long run remains unanswered. I propose, therefore, to ask: *how is technology in the classroom positively and/or negatively affecting the moral character*

*development of those being educated and how should technology be designed and implemented into the classroom to achieve effective moral character development in an educational context?*

In order to answer this question we must both understand what role (public) education has in the development of morality and character, and, how technology mediates the development of character and morality. Therefore the following main sub-questions are asked: *what role should education play in moral character development?* (Chapter II and III) and *how do technologies enhance and diminish the virtues which education should be responsible for cultivating?* (Chapter IV). The former question can be broken into two questions: *what is the value of education?* (Chapter II) and *what does moral character education mean with regard to public education?* (Chapter III).

These questions lead to a final question: *what recommendations can we make to educators and technology designers to effectively design and implement technologies for the classroom which cultivates (or does not diminish the cultivation) of virtuous character traits within children?* (Chapter V).

The goals in addressing these questions are threefold: (1) to make explicit and clarify the aim(s) of education (2) to make explicit and clarify moral character education - both what it means and how it can be achieved, and (3) explore technology's role in mediating the development and expression of virtues.

## **I.6 Conclusion**

The above overview of the current state of technology in the classroom is by no means comprehensive. I am simply trying to illustrate some of the ways people are incorporating technology into the classroom. A premise of this thesis is that these practices will grow more widespread, as well as new ways of using technology in the classroom. This thesis will tease out the implicit goals and premises that are embedded into these practices and put them into the context of the philosophy of education and the philosophy of technology.

The philosophy of education will give us some stable ground from which we can evaluate the implicit and explicit goals for using technology in the classroom. The philosophy of technology will allow us to move beyond the narrow definition of technology used by both proponents and opponents of technology in education which views technology as a mere 'tool'. Quest 2 Learn views video games as "powerful tools for intellectual exploration" (Corbett, 2010) and teachers

see technology as “useful educational tool” (Richtel, 2012). Opponents merely try to point out that technology is a bad tool by saying it does not positively affect student test scores (Gabriel & Richtel, 2011; Richtel, 2011, 2012). The goal of this thesis is to move beyond this by broadening the narrow definitions of ‘education’ and ‘technology’ used in the current debate.

This broadening will give us a better idea of what the *value* of education really is. This will show how short our current methods of evaluating education (via test scores) are, and, therefore, our current evaluation of technologies used in the classroom. If we start from a solid and comprehensive notion of the value of education, then we will be better equipped to evaluate and to build technologies used in the classroom.

#### **I.6.4 Summary of Thesis**

**Chapter II:** The Value of Education - With this chapter I establish, through philosophers of education (e.g. Aristotle (1998), John Dewey (1942), Randall Curren (2006), Amy Gutmann (2007), etc.) , what the goals and aims of education are. I present and defend an argument that character (or moral) education should be a part of education. Educational technologists tend to focus on a particular clear end (e.g. test scores) and consider technology as a ‘better’ means to that end (Selwyn, 2010, p. 68). This leaves out a large part of what many consider to be a part of education, like the cultivation of civic, social, and moral virtues (D. Carr, 1996a, 2005a; Curren, 2006; Kristjánsson, 2006; Noddings, 2005).

**Chapter III:** Educating for Moral Character - This chapter will discuss how character education looks if we take a virtue-ethical approach. The work of Kristjan Kristjánsson (2006, 2007), Howard Curzer (2002a), David Carr (1996a, 2005a), and Randell Curren (2006) will be important for developing a virtue-ethical approach to character development. Using these authors I hope to illuminate how the cultivation of virtues (i.e. moral development) in students might work. This chapter will make a distinction between the intellectual virtues and the moral virtues. The important virtues to be considered will be the moral virtues - which, taken broadly, includes civic and social virtues (e.g. patience, temperance, truthfulness, friendliness, etc.) (Aristotle et al., 1998). The argument in this chapter will argue that these virtues are important for students in their future as citizens, friends, fathers, mothers, etc.

**Chapter IV:** Technology and the Virtues - How does technology affect the development of moral virtue? Shannon Vallor's work on technologies such as social networking and virtues (Vallor, 2010) (2010) will be my starting point. The ethical implications and issues brought up by Philip Brey (2006) and Hubert Dreyfus (1999, 2008; 2001) regarding computer-mediated learning and online education will help analyze the ethical aspects of other technologies in the classroom. The general framework from which I will draw from will be the embedded values approach - originally developed for informational technologies (Nissenbaum, 1998). I will argue that technologies have a significant impact in not only the cultivation of our virtues, but the expression of those virtues. It is not merely a moral subject alone which has a virtue or does not have it; rather, it is the combination of a subject and the technologies being used which results in a virtue or not. Understanding the how technologies constrain and enhance the cultivation of virtues (by understanding the embedded values within those technologies) will provide the language we need to describe how technologies affect the cultivation of virtues.

**Chapter V:** Evaluating Technology in the classroom - Given what we have learned about character education and technology in the previous two chapters, the thesis now turns to answer the main question. If character education is essential to education, then how is technology in the classroom helping/hurting the characters of those being educated? To help us find out, I will evaluate the 'Steve Jobs' schools described above. From this analysis, recommendations are made regarding the design and implementation of technologies for the classroom. The recommendations are threefold: (i) create a defined and limited scope for technology to be used in the classroom, (ii) ensure that technologies are not merely leaving kids inside their comfort zone, and (iii) ensuring that teachers are able to effectively execute their role as a role model for students.



# Chapter II

## The Value of Education

*Neither is it clear whether education is more concerned with intellectual or with moral virtue. The existing practice is perplexing; no one knows on what principle we should proceed- should the useful in life, or should virtue, or should the higher knowledge, be the aim of our training? - Aristotle*

### II.1 Introduction

Why do we send our kids to school? In many countries the answer might be as simple as that the state requires it; however, then the question becomes why states require it. In order to properly evaluate how technology in the classroom is affecting the education of our children, we must have an answer to this question.

This question does not come with a nicely packaged answer. There will always be some disagreement; however, here I want to find some common ground in different theories of education, and elaborate on a model of which coincides with the ancient theories of Aristotle. Once we have a general answer to what the value of education is, we can look at the current explicit and implicit aims of education and evaluate whether the value that education is supposed to embody is actually being realized in current education practices.

Knowing the value of education is important for both evaluating technologies which are already in the classroom and for developers who wish to make new software or new technologies which will be used in the classroom. Right now, technologies in the classroom are judged solely on their ability to increase test scores (Gabriel & Richtel, 2011; Gabriel, 2011). This is only a valid

way of evaluating technologies used in the classroom if test scores accurately capture the value of education. We will see below that using test scores alone leaves out many important factors necessary if we are to educate the ‘whole’ child in a way which realizes the true value of education.

## **II.2 Education and Value**

When we do something – almost anything – we are doing it as a means to something else. Why do we do our homework? So we can get good grades and get into a good university. Why do we go to a good university? So we can make money. Why do we make money? So we can support a specific lifestyle – hopefully a lifestyle which will make you happy. This line of question usually stops with happiness. Happiness, therefore, has *intrinsic* value. Everything else has *instrumental* value. Intrinsic value is ascribed to something which is valuable in itself, as opposed to something which is valuable as a means to another value – instrumental value.

This ‘instrumental’ value of education can be taken to the extreme in Utilitarian conceptions of education (see below); however, there are views that consider education to be more valuable than a mere means to an end. To explore this further, we will look at a Utilitarian conception of education and try to understand why there is an intuition that there is something wrong with this (provided the reader sees anything wrong).

### **II.2.1 A Crucial Role in the Efficient System of Society**

Adam Smith in the *Wealth of Nations* (2001) bemoans educating youth in subjects which have no utility in society. He cites learning Latin in particular as an unfortunate waste of time and money. In his view, education should be judged by the utility it will provide society or the individual. In some ways, everyone uses an argument of utility when discussing the importance of education. I could argue that learning Latin is important for understanding modern languages because it gives you a fundamental understanding of where modern words come from. Even more abstractly, one could argue that learning any language exercises the brain and allows for better cognitive reasoning in other areas. This is the argument given by Thorndike and Woodworth (1901) where they claim that learning one set of skills or functions affects (positively) a student’s ability to perform on another set of skills or functions.



These are both arguments for the utility of learning Latin; however, there is a difference in degree. For Adam Smith, the utility lies entirely in its monetary value. Will learning Latin contribute to the economy or your personal wealth? No? Then it is not important. Adam Smith also seems to find the utility in education to be derived from its ability to generate wealth for a nation, not necessarily an individual. He might think that well-being for individuals is entirely derived from the economic well-being of the nation in which an individual resides; however, when we notice that there is clearly differing levels of well-being for individuals within a nation, this premise becomes absurd. Furthermore, one could argue that Smith puts the well-being of nation above the well-being of individuals – leading to scenarios in which the well-being of individuals is sacrificed for the well-being of the nation. This would move us a step beyond paternalism (forcing an individual to do something perceived to be for their own good) towards coercion or manipulation.

To take an extreme example of an argument for education as utility we can envision a mere means to a specific function which will contribute to society. Schools, books, teachers, etc. are only important as necessary tools to teach the relevant information and skills to students. If someone invented a way of simply downloading the information to our brain (like Trinity in the film “The Matrix” who needs to learn how to fly a helicopter so someone just uploads it to her brain - and within seconds she has the necessary skills (Wachowski & Wachowski, 1999)) we could do away with all of those superfluous schools and teachers.

Paul Standish attributes the current state of education - in which efficiency and utility are of the utmost importance - to the influence of information technology saying “with the rise of notions of efficiency and effectiveness, with the importing of quality control from industrial practice, with the mantras of standards and excellence, there has been a stifling of serious debate about the nature and purposes of education” (2007, p. 226). He is claiming that instead of knowing what the nature and purposes of education are and then trying to achieve them, information technology is shaping what those nature and purposes are. We are focusing on what can be accomplished by the technology.

All of this confusion is a result of a simplification of the concept of value. Not only is wealth incorrectly equated with happiness, but education as having only instrumental value seems to fall short of how important we intuitively think it is. This intuition can be elaborated by using a further distinction regarding value. This results in two distinctions of value: *final* vs. *instrumental*, and *intrinsic* vs. *extrinsic* (van de Poel, 2009).

## II.2.2 Conceptualizing Value

Final value is what we formally described as intrinsic value. Happiness has final value because it is valuable in and of itself. This is opposed to instrumental value which, like money, is a mere means to some other final value.

Intrinsic value is value due to the object in question's properties. A painting, for example, is valuable because of its form and composition. The value of the painting is within the painting itself, regardless of where it is. Kristine Korsgaard describes the value of a painting as having "inherent" value because it is the object of an "intrinsically good experience" (1983, p. 172). She claims that this is still a form of instrumental value as it is only valuable in its contribution to a good end. This is an interesting point, but it confirms the idea that to talk of a painting as only having 'instrumental' value misses its real value. In my opinion, "inherent" value relates to an object's extrinsic relations, and not its intrinsic properties. I describe extrinsic value below.

Extrinsic value is value derived due to the relations of the object in question. Solar panels are a good example of something having extrinsic value. Solar panels are only valuable when the sun is out and they can provide electricity to a group of people. While a painting is valuable in both Seattle and Los Angeles, a solar panel is more valuable in Los Angeles because it gets a lot more sun (Seattle is known for its rainy overcast weather). If we are discussing a final value such as sustainability, then we could say that solar panels have extrinsic instrumental value in that they realize the value of sustainability in the weather conditions of Los Angeles. The value is instrumental as not final because there are other ways (e.g. wind power) to sustainably produce energy. Using the notion of "inherent" value given by Korsgaard, we can say that extrinsic value is when an object is the focus of an intrinsically good experience. The object itself does not have properties which are intrinsically good, but their extrinsic relations to intrinsically good experiences give the object value.

So what category does education fall into? Adam Smith's version of education would be extrinsic and instrumentally valuable. This is the weakest type of value of the four possible types of value possible from the above distinctions. My hypothesis is that education is more valuable than that. There are either intrinsic features of education which makes up part of its value, or education is linked. If this is the case, then we cannot simply replace education with something that downloads information to your brain. It is not simply a replaceable means to an end, but a necessary means to an end.

### **II.2.3 Educating the “Whole” Child**

So what is it that education has to offer above the transfer of information into children's brains? For starters, there are social and moral skills that are acquired during the education process. This was most certainly recognized by the National Education Association (NEA) in the United States in 1918 where the principles of secondary education included citizenship, worthy use of leisure, and ethical character (National Education Association of the United States, 1918). Nell Noddings points out that the current priorities within education as outlined by the No Child Left Behind act signed by former US president George W. Bush focuses solely on *one* of the principles that the NEA proposed in 1918: command of the fundamental processes (2005). This would be leaving out so much of what makes a child “whole”. Let us explore the principles found in the NEA's report which are left out of current education policy – principles which only education can achieve.

#### *Citizenship*

“Educational authorities must teach children those virtues that are conditions of the lives of free people, which include tolerance, justice, and reciprocity, without which democratic societies, and therefore freedom, cannot flourish.” Amy Gutmann makes this intuitive claim in her work on education (Gutmann, 2007). Where else will children learn these important moral character traits? If parents are the sole educators for their kids then they will grow up with the same prejudices and ignorance as them. Gutmann says that for parental education to be justified it must be partial (Gutmann, 2007, p. 405). It is then the responsibility of schools to teach these democratic virtues which are so important for democratic society.

No matter how many rules, regulations, and welfare programs are created, a western liberal state cannot function without cooperation from its citizens. Having citizens who do their part to protect the environment (e.g. conserving water, recycling), and keeping a healthy diet and exercising are important for the environment and the state's healthcare system (Kymlicka & Norman, 1994). This part of education is known as "democratic education". It includes other concepts such as the ability to: be critical of and challenge authority, to choose among different conceptions of the good life, and to be social and tolerant (Dewey, 1909, 1942).

To be sure, having democratic virtues taught in education is not universally accepted as an aim of education. There are some who feel that this can be done in other ways, or that the promotion of democratic virtues can challenge the authority of parents and churches which to some (e.g. the Amish) is outside the scope of education (Kymlicka & Norman, 1994). These claims seem rather weak though. Even hardcore liberals have to respect the idea that their children may choose a different conception of the good life. In order to have the 'freedom' to make such a choice, a capacity to do so would need to be instilled. Otherwise, an unwarranted constraint would be placed on people. For example, an Amish child who is kept out of public education and therefore does not know about other conceptions of how to live does not have the capacity to choose between those conceptions. The Amish have a solution to this problem called *Rumspringa* where adolescent Amish experience the world denied to them for one year in order to allow them to *choose* the conception of the good life presented by the Amish (Hurst & McConnell, 2010).

The NEA of today still holds the cultivation of democratic character traits as an important part of education. Their mission includes the idea that "public education provides individuals with the skills to be involved, informed, and engaged in our representative democracy".<sup>2</sup> This sounds a little weaker than what Gutmann talks about above; however, it shows that this principle still exists as an aim of education.

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<sup>2</sup> See the NEA's website: <http://www.nea.org/home/19583.htm>

### *Worthy Use of Leisure*

It sounds funny that the NEA would include among its principles of education the concept “worthy use of leisure”. At first glance it might seem that leisure is simply what one does for fun. How can we say that some forms of leisure are more worthy of others? Answering this question treads on being too paternalistic. I will instead suggest that we at least have our own value judgments with regard to a worthy use of our own leisure time. For example, I think that watching reality TV is less worthy having a friend over for dinner, and that playing angry birds on your smart phone is less worthy than playing a musical instrument. As an expectant parent I have a desire that when my daughter grows up she will use her leisure time to read books, play sports, and travel the world instead of watching TV and playing games on her smart phone. Not everyone will agree with my value judgments; however, we all, at times, use our leisure time for what we consider to be ‘unworthy’ activities – myself included. The point is that there is sometimes a difficulty in using our leisure time for what we consider to be worthy activities.

I am not going to explore or come up with a way to determine the worth of various leisure activities; however, various virtues can be instilled in children through education which might facilitate the “worthy use of leisure”. Even if we do not lay out what the worth of leisure activities are, we can say that we would like our children to be able to choose these activities for themselves and then actually use their leisure time for these activities. This is easier said than done. All of us have wasted time on the internet or watched TV instead of doing something which we feel to be more worthwhile - whether that means reading a book, playing an instrument, or going for a run.

We can then interpret the principle “worthy use of leisure” to be having the self-motivation to use your leisure time to do the things that you think are worthy. This gets us out of the position of being too paternalistic; yet, it still provides us with a worthy aim for which education can achieve. Not only can education provide students with a range of leisure activities to choose from, but education can also instill in students the character traits that will allow them to succeed in actually using their time for those things.

### *Ethical Character*

This principle is rather broad, and could be considered to include the above if we take ethics to be about how one should live one's life. However, while the principle of citizenship focuses on grand ideas like justice and equality, and the principle of worthy use of leisure can be considered a personal trait, ethical character involves your relationship with the world around you. You are honest, benevolent, and tolerant of/to someone (generally someone other than yourself).

Traditional education forces us to interact with those unlike ourselves. At school there will be girls and boys, blacks and whites, rich and poor. The unique upbringings of this diverse crowd mean that you will experience other's opinions which may be opposed to your own and you will have to 'find your way' to fit into this micro society which the school represents. These interactions which happen at school allow children, through 'habituation' (to be discussed in the next chapter), to practice being ethical (or virtuous), and to feel the shame of not being ethical (e.g. the shame of stealing something from someone else).

Traditional education also presents children with role models whom they can emulate. Teachers can serve as one such role model – through whose actions – children can learn what 'good' character traits are and can then strive to achieve the embodiment of those virtues (Kristjánsson, 2006). David Carr also shows us how the teaching of literature can present us with other important role models (D. Carr, 2005b). He claims that the great authors (e.g. Charles Dickens, Jane Austen, William Thackeray, etc.) are precisely concerned with moral behavior and actions. Their skill in designing moral situations and showing how different characters behave through those situations gives children ample opportunity to reflect, judge, and to aspire for themselves to achieve certain character traits that they find desirable while reading these stories.

#### **II.2.4 The Softer Side of Education**

The great thing about the principle "command of the fundamental processes" is that we can test to see whether the aim has been achieved. If we consider the times tables as a fundamental process then we can give students a test which will tell us whether they have command of this or not. Knowing whether they are prepared to use their leisure time for "worthy" activities is incredibly difficult to measure. Knowing whether someone has "ethical" character is equally

difficult to measure. These principles are soft principles - as opposed to the “hard” principle of command of the fundamental processes.

The focus on “hard” impacts over “soft” impacts can be seen in areas outside of education. “Hard” impacts are those factual, objective concerns like safety and sustainability – which are often talked about in terms of ‘risk’. “Soft” impacts are those subjective, emotional concerns like well-being and autonomy – often talked about in terms of ‘ethics’ (Swierstra & te Molder, 2012, p. 1052). Soft concerns – like privacy on social networking sites, or a “sense of achievement” when taking diet or cognitive enhancement pills – are difficult to quantify and are therefore often ignored. Hard impacts naturally lend themselves to quantifiability. In fact, some have made quantifiability the distinction between hard and soft impacts (see e.g. Swierstra & te Molder, 2012).

While I do not think that current policy has intentionally ignored the soft principles which intuitively seem so important, I do think that they have been forgotten. While the NEA does still hold the promotion of democratic virtues as part of its mission, the current legislative policy seems only concerned with standardized testing which can only measure “command of the fundamental processes”. The No Child Left Behind act - established under George W. Bush's administration - enshrines test scores as the sole measurement of how students, teachers, and schools are doing. School funding is tied to these scores - and teachers jobs may depend on it (Cawelti, 2006). This narrow focus has been thought to have caused widespread cheating in order to raise test scores - by both administrators and teachers (Wolfgang, 2011).

Although cheating is a concern, to focus on that would again fall into the trap of being solely concerned with “hard” impacts. The purpose of this chapter is to bring our attention to the “soft” principles which education should be aiming at. But why should we care about what the NEA said in 1918? Maybe you, the reader, disagrees with the idea that ethical character and a worthy use of leisure are important principles for education. While I hope that in my above characterization of those principles the worth of them is evident; however, I could use some help from philosophers who have discussed education - both past and present.

### *A Brief Overview of Educational Thought*

While Socrates used the dialectic method as an attempt to arrive at better conceptions of the fundamental concepts (e.g. justice, love, etc.) - always proving to whomever he was talking to that they were in fact ignorant about these concepts, Plato, in the Republic, thought education was a steering of one's desires away from misguided false happiness to "true" happiness (Reeve, 2006):

*He who has received this true education of the inner being will most shrewdly perceive omissions or faults in art and nature, and with a true taste, while he praises and rejoices over and receives into his soul the good, and becomes noble and good, he will justly blame and hate the bad, now in the days of his youth, even before he is able to know the reason why; and when reason comes he will recognize and salute the friend with whom his education has made him long familiar. (Plato, 2012 Book III - Glaucon)*

This passage speaks to instilling into children - through education - a lot more than "command of the fundamental processes". Educating the inner-being to love the good and hate the bad is educating for ethical character, and pursuing a worthy use of leisure. Plato believed that knowledge was mere recollection (Plato & Woods, 1949), and that a 'true' education was much more than knowledge acquisition.

Aristotle, to be sure, said a lot about education. He spends much time in the Nicomachean Ethics explaining how education through habituation is necessary for "noble joy and noble hatred" (Aristotle et al. 1998 Book X.9). Echoing Plato he says we "ought to have been brought up in a particular way from our very youth, as Plato says, so as both to delight in and to be pained by the things that we ought; for this is the right education."

This quote, again, does not even refer to anything resembling "command of the fundamental processes". The really important aims for education, according to Aristotle, are the ethics and character of our students. This may seem obvious to those familiar with Aristotle's philosophy. The purpose of human life is eudaimonia - or flourishing - and the way to flourish is to have all of the virtues (character traits which are considered "good" Aristotle et al. 1998, Book II.6) - both moral and intellectual. The virtues include things like honesty and temperance which are about the ethical character of individuals. Aristotle would most certainly agree that ethical character, citizenship, and worthy use of leisure are important principles for a public education system.



It is clear that I prefer a virtue ethical approach to education, and Aristotle and Plato are both in this camp. From here, let us look at other philosophers who are not so inclined. J.S. Mill's utilitarian philosophy, for example, is the implied theoretical justification for contemporary education policy; however, he viewed moral character development as an aim of education. Mill, thought to be reacting against his own extremely rationalistic education, highlighted the importance of affective development in education (Schmitter et al., 2007, p. 87). Mill, talking about universities in his inaugural address said: "A university is not a place of professional education. Universities are not intended to teach the knowledge required to fit men for some special mode of gaining their livelihood. Their object is not to make skillful lawyers, or physicians, or engineers, but capable and cultivated human beings" (Mill, 1867, p. 5).

Mill correctly recognizes that the value of education does not lie in the 'command of the fundamental processes' but in the cultivation of ethical character and democratic citizenship. The ultimate liberty is having the capacity and personal character to both choose a conception of the good life, and achieve it. The constraining and paternalistic characteristics of moral character education are therefore necessary for liberty in the long run.

This sentiment is echoed by liberal democratic philosopher Amy Gutmann (1980, 2007) who claims that children should be able to have the conscious ability to reflect on their own lives as well as the society in which they live which gives them personal freedom - which would include the capacity to use their leisure time for worthy pursuits. They should also be able to understand the social implications of their decisions as well as how society impacts their personal lives (Gutmann, 2007, p. 404).

Making a case for educating for citizenship (or democratic virtues) she says: "Educational authorities must teach children those virtues that are conditions of the lives of free people, which include tolerance, justice, and reciprocity, without which democratic societies, and therefore freedom, cannot flourish" (2007). She wants children to be able to evaluate the values which are important for a democratic society in order for society to grow and adapt to the times.

Martha Nussbaum's capabilities approach - in which she gives a list of capabilities that everyone should have in order to be able to live a flourishing life (see e.g. Nussbaum 2011) - offers us an argument which highlights this relationship between education and freedom. The capabilities

approach focuses on the development of capabilities (e.g. play, health, and emotions) which are necessary for any conception of the good life. This articulates the thoughts of the above philosophers. There seems to be some ‘objective’ requirements which must be fulfilled if we are to have the freedom to subjectively choose our conception of the good life and then achieve it. Education can fulfill some of those requirements.

Nussbaum worries that in today’s education where there is a focus on science and technology over the arts and humanities we will bring about a bunch of smart engineers with no empathetic imagination (Nussbaum, 2006) – which would be devastating to moral character development (Kristjánsson, 2007). We should, therefore, not ignore the capabilities important for human flourishing and be cautious when we drastically change something as fundamental as education.

The above philosophers see the value of education as being derived from its relation to the highest end (i.e. human flourishing or the ‘good life’). In this way, we can still

From these philosophers we can derive three important concepts which serve as the aims of education: (1) cultivating virtues which will allow individuals to achieve a flourishing life, (2) cultivating virtues in individuals which will allow democratic society to flourish, and (3) cultivating the ethical and moral virtues in individuals which will allow for them to exist in society. In this view, “command of the fundamental processes” takes a backseat and is only important for the achievement of the aims listed above. Contemporary educational policy seems to see this in reverse.

### **II.3 The Value of Education**

From the above, we can conclude that education is as much about character building by cultivating good citizenship, a worthy use of leisure, and ethical character as it is about knowledge acquisition. In an age where information is cheap, it is tempting to focus our attention on improving knowledge acquisition in order to improve test scores. The problem is that this leaves out the important aim of character building which is where education finds its real value.

### II.3.1 The Vice of Education

Falling into this trap of focusing on knowledge acquisition and improvement of test scores, we find ourselves adapting our aims and goals for education to a technological way of being. We can measure true and false and multiple choice tests using a computer – and compare those results with results from around the country and around the world. In doing this, we reduce education to mere transfer of knowledge, instead of building technologies which conform to our aims and goals for education. Ethical character may not ever be able to be measured, but that does not mean that it is not important, and it does not mean that technology cannot aid in our mission to achieve it.

If we forget this, and focus solely on knowledge acquisition, we run the risk of not only ignoring moral character development, but we create a situation where we are negatively affecting it. This is evident in current attempts to make education “fun”. If education is fun, then children will be engaged, and will learn more, which will raise test scores, which will get schools more money. But children’s desires are frequently at odds with what is good for them: “pleasure is not an end” (Aristotle et al., 1998, Book VII (11)). We are not born with the character traits necessary to exist in today’s society; these character traits are acquired through education. If children had it their way, they would be eating chocolate all day long and watching TV while playing angry birds on their tablets, not waiting patiently, listening attentively, and learning the tough skills necessary in today’s society.

A justification commonly used for forcing kids to go to school “against their will” is that they do not yet have the reason and capability to decide what is good for them - school is supposed to cultivate that (Nussbaum, 2011). In the next chapter I will discuss why pain and boredom just as important as pleasure and excitement when it comes to achieving the goals of education.

This problem lies in our view of education as having merely instrumental value. In this way, education is just a means to better test scores, graduation rates, jobs, etc. If we could find an easier way to increase test scores in which teachers and schools would go away, then we would do away with teachers and schools. The reason this sounds bad (to me at least) is that the value of education is more than a means to better test scores.

The real value of education lies in its being fundamentally important for the final value of happiness and human flourishing. Education has extrinsic final value (see above) in that it is there for the purpose of cultivating moral human beings – in the forms of citizens, friends, parents, and employees. In an Aristotelian sense, education is the only means by which the realization of this final value can take place – which is why education has extrinsic *final* value instead of extrinsic *instrumental* value. There are, to be sure, different means by which education could take place, but education itself is irreplaceable. Below is a closer look at what makes up this extrinsic final value of education.

## II.4 The Virtues of Education

The virtue of education, if we look to Aristotle for advice, is that it provides children with the virtues necessary for a flourishing life. We are not born with moral character. During the course of our childhood, we are trained through habituation to act in a proper way (Aristotle et al., 1998; Curzer, 2002b; Kristjánsson, 2007). This is driven by emotions like shame and empathy (see next chapter for more on this). The flourishing life is a life in which you have all of the virtues and you know how to exercise them when the time comes.

Educating for these virtues (next chapter) is not very clear. Some of these virtues are achieved as a mere side effect of being in situations where you are forced to practice them. You cannot learn how to be patient by looking up the word in the dictionary. You have to practice being patient - a practice that happens often in a traditional school setting. We have to sit and listen patiently to the teacher, wait for lunch and recess to play, etc. The current trend of getting rid of these traditional practices in schools must not be taken lightly.

The fear is that if we narrowly focus on things like test scores, then we will have really smart kids with no social, moral, or intellectual virtues. Not only do these virtues are necessary for a flourishing life - they are necessary for being a citizen in a western democracy, for being an employee at a company, for being a parent, etc.

While we are revolutionizing the education system through technology, we cannot forget the importance of these broader aims of education – aims which give education its value. They are

much more difficult to achieve and much more difficult to know if we have achieved them. That does not diminish their importance within education.

#### **II.4.1 Conclusion**

This value of education described above is Aristotelian in nature. Just as for Aristotle, I have described the purpose of being human as *eudaimonia* – or human flourishing. Everything that we do should be in service to this ultimate goal. If we more crudely define *eudaimonia* as happiness instead of flourishing then most of us can agree that we try to do everything in service to our happiness. We always strive to be happy. Education, then, is an attempt to provide students the tools (i.e. virtues, capacities) to choose a conceptions of the good life and then achieve it.

The alternative is to focus on what is obviously and measurably beneficial. Focusing on test scores which will help students get into a better school which might lead to a better job with more money is one such measurably beneficial goal. The implicit hope is that this will allow them to lead a happier life; however, happiness seems to be much more complicated than simply being correlated to wealth (Park et al., 2004). This view of education as merely instrumental is dangerous – not only because it leaves out other important goals, but because it makes education replaceable as a means to the current narrow ends.

The views of the above philosophers also all show a strong feeling that the inner character of individuals needs to be cultivated - an Aristotelian premise. While there are heated debates about how to achieve these aims of education (D. Carr, 1996a; Curren, 2006; Goleman, 1998a; Kristjánsson, 2007) - and how paternalistic education is allowed to be (Curren, 2006; Gutmann, 1980, 2007) - the conflict about the general aims of education seems to be between contemporary societies and philosophical thought. Much like the debate about climate change in which there is agreement within academia and heated debate in popular discourse, the leaving out of moral character education is a concept which seems to exist only in popular discourse.

There is a crisis in education. We have become so narrowly focused on test scores, that we are forgetting the broader importance of education. Some teachers, under the pressure of raising test scores or possibly being fired, are doing whatever it takes to increase those scores. This can be seen by the recent scandals involving test scores. For example, in the Atlanta public school

system the superintendent chose seven teachers who “sat in a locked windowless room every afternoon during the week of state testing, raising students’ scores by erasing wrong answers and making them right” (Winerip, 2013). This reminds me of the 2007 financial crisis when CEOs did whatever they could to raise profits - even though some of them knew that what they were doing was going to lead to a disaster.

The lack of clear aims for education leads us to focus on the one aim that we can clearly measure. The No Child Left Behind act, and Obama’s strive for the top initiative enshrine test scores as the sole indicator of how teachers and schools are doing. Unfortunately, this leaves out the ethical character development, social, and citizenship components which have always been a part of educational theory.

When Nel Noddings claims that we must educate the ‘whole’ child, she is touching on the idea that there is more to a child than the information he/she holds. We can think of these things as capacities (as Martha Nussbaum does) or we can think of them as classic Aristotelian virtues. Either way, there is much more that we hope our children come out of school with than mere information. We hope that they are responsible, honest, have a sense of justice and fairness, and have the social skills necessary for succeeding in today’s society.

In this way, education embodies extrinsic final value – or, to use Korsgaard’s words, it has ‘inherent’ value. Education’s fundamental relationship to the human flourishing – by cultivating the virtues necessary to such flourishing – gives it more than mere instrumental value. This value, though, is dependent on external factors, and must be executed in a way which realizes this value – therefore, the value is extrinsic – and it is the focus of an intrinsically good experience (education) and therefore has what Korsgaard calls ‘inherent’ value. First and foremost, the *telos* of education must be correctly understood if we are to implement education in a way which realizes this value.

If we are to develop and use technologies in the classroom, we must take this into account. Knowing this, we can evaluate how technologies in the classroom are impacting not only the knowledge acquisition of students, but their moral character development as well. In the next chapter we will look at what the development and cultivation of moral character looks like in the realm of public education. In order to understand how technology fits into the classroom, we

need a proper picture of a classroom (and school) which could realize the value of education laid out in this chapter.





## Chapter III

# Educating for Moral Character

*Not everything that can be counted counts, and not everything that counts can be counted.  
(Cameron, 1963, p. 13)*

### **III.1 Introduction**

We have seen from our last chapter that education is more than just numbers and test scores. However, now that we understand a major goal which education *should* have – moral character development – we must look deeper into what this goal is and means. To do so I begin by discussing current theories which intend to incorporate moral character development into education and why they are problematic. Following this, I will give an alternative view in which virtue ethics plays the starring role. Here I will describe what virtue ethics is in terms of what virtues are and how virtues are cultivated through practice and emulation. With this information it is then possible to study the relationship between the development of the virtues in a classroom environment and the technologies being used in that environment.

To be sure, educating for moral character development is not simply ignored by contemporary thinkers. On the contrary, there is much literature on how we can achieve this goal. There are theories such as Emotional Intelligence (Goleman, 1998b, 2005; Mayer & Salovey, 1995) and positive psychology (see e.g. Seligman, Ernst, Gillham, Reivich, & Linkins, 2009) which are being actively tested (sometimes in conjunction with technology) in school systems around the world. I hope to show in this chapter that these theories continue down the consequential

rabbit-hole where moral character traits, happiness, and well-being are reduced to mere numbers – masking the complexity of these notions and therefore leaving out many important features.

From here, I look to virtue ethics for an alternative solution. I do not turn to virtue ethics arbitrarily. Recent literature has given substantial insights – based on Aristotle’s ethics – which explicate ways in which we can provide the environment which will cultivate within individuals the moral character traits which were found to be necessary in the previous chapter (D. Carr, 1996b, 2005c; Curzer, 2002b; Kristjánsson, 2006, 2007). The benefits of a virtue ethical theory are that it leaves intact the complex nature of these moral character traits – and their relationship to happiness and well-being.

Finally, this chapter will look into the negative aspects of using such an approach for moral character development within education. Leaving intact the complexity of notions such as moral character traits, happiness, and well-being also makes evaluating how effective such education complex. We are in a Catch-22: if we reduce the complexity we miss important features but we can easily measure how we are doing – if we keep the complexity then we keep all of the important features of these notions, however, we complicate our ability to measure how we are doing.

### **III.2 Measuring Morality**

The theories of positive psychology and Emotional Intelligence have exploded into the practice of education. Turning moral concepts into scientifically measurable figures – if it were possible – would be extremely useful for educators, policy-makers, and technological designers. We could measure morality (and morally significant concepts) before we tried a new way of educating (or a new technological device) and then measure morality afterwards. Voila! We know whether we have done well or not. It will be as simple as measuring the temperature before you turn on the heater, and afterwards to check whether the heater is working or not.

Even with relatively simple school subjects, however, things are not this simple. Reading comprehension serves as a simple example which illustrates the Catch-22 described above. While writing essays serves as a good way for educators to get an understanding of how their students understood the text – which allows for new and innovative interpretations which could

demonstrate a high level of comprehension – we run into the issue of subjectivity in which different teachers could give different scores, and therefore the data is not useful on a grand scale. Alternatively, we can reduce comprehension to standardized multiple choice questions which would eliminate any novel interpretations but would allow for a standard score which would be commensurable with other scores. Even if we ignore the complexity issue, there are a wide variety of tests for reading comprehension which seem to measure different things depending on a number of variables (Keenan, Betjemann, & Olson, 2008).

While we could analyze the intricacies of the debate regarding which kind of testing is best to evaluate complex concepts, the foundations upon which these theories (EI and positive psychology) rest are problematic – at least in their application to education. Below, we will see that they fall into the same consequentialist standardized testing trap which is made explicit in the policies outlined in the previous chapter.

### **III.2.1 Emotional Intelligence: An Oxymoron**

Emotions are supposed to be the opposite of rationality and intelligence, right? Daniel Goleman and his contemporaries would have you believe the opposite. John D. Mayer defines emotional intelligence as “the capacity to process emotional information accurately and efficiently, including that information relevant to the recognition, construction, and regulation of emotion in oneself and others” (Mayer & Salovey, 1995). I am unused to hearing the words “efficient” and “accurate” when it comes to human emotion. Emotions are generally thought of as barriers to efficient and accurate thought.

According to theorists like Goleman and Mayer, though, I am wrong. We can, in fact, separate emotional responses into categories and rank and evaluate them. When we think of emotional intelligence as an oxymoron it is because we are focusing solely on the non-conscious adaptive emotions like the fear and happiness of an infant (Mayer & Salovey, 1995). Not only can we talk about intelligence in relation to our emotions, but we can measure our emotional intelligence. They further claim that emotional intelligence is linked to better outcomes when aspects of the theory are used in the classroom.

They cite facts and statistics from reports and journal articles which back up their claim. Can we in fact improve emotional intelligence? Yes – and there is a study which suggests that education based on emotional intelligence (e.g. Social Emotional Learning – SEL) improves this intelligence (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Does this improve school outcomes? Yes – and there is a study which shows that test scores and graduations go up when SEL is used in schools (Zins, Bloodworth, Weissberg, & Walberg, 2007). They further cite a study suggesting that 59% of US schools have diverted resources to this type of learning – showing that this type of learning is important.

Altogether, the above looks to be a powerful argument for the implementation of SEL in schools. The problem is that these studies, and Goleman and Mayer, narrowly focus on what they can measure, and then equate that with the aims of education. For example, the Catalano et al. (2004) study above equates a ‘better attitude’ with a fewer amount of disciplinary events. This could be the result of many things – from students becoming better about not getting caught, to teachers not formally disciplining students as much. It may not say anything about the attitude of the students.

This reminds me of Playboy magazine’s ranking of party schools in the United States. I went to Chico State University, California – where we held the number one ranking for a long time, until Arizona State University beat us. Of course, when we came in second, everyone wanted to know how the schools were ranked (when we were number 1 we did not care). We found out that the schools were ranked based on police arrests and drunk driving stops. It just so happens that the year Arizona State beat us, the police there enacted new zero tolerance policies which raised the number of arrests and police incidents. This, of course, could have happened without any corresponding rise in the amount or the quality of the partying going on at Arizona State University.

Many of the results used by the EI community stem from subjective question and answer surveys given to students. When we read these claims together (the surveys, the test scores, attitudes) it looks quite impressive; however, when we take each of these claims on their own, and scrutinize the data, we see that they are contestable at best. When we look at surveys by themselves, we can see that the subjective nature of them does not really tell us much that is

useful. Using disciplinary incidents to judge attitudes is weak for the reasons described above. And their ultimate metric of test scores has already been shown to be a narrow and debatable evaluative tool.

So far I have attacked the claims that EI is effective – in its measurement, and in its outcomes for students. There are also theorists who point to EI’s faulty foundations as a theory of ‘good’ emotion – in other words, its connection of emotion and morality. Kristján Kristjánsson (2007, Chapter 6) shows that EI (specifically Goleman’s EI) relies on emotional self-control and the resolution of emotional conflicts. This suggests that the ultimately emotionally intelligent person as being one in a state of *tranquility*. Kristjánsson first claims that as opposed to what Goleman says, this is entirely at odds with Aristotle’s virtue ethics in that the virtuous person would be driven by moral considerations rather than therapeutic emotional resolution (2007, p. 93).

What Kristjánsson is pointing out is that for Aristotle the right thing to do might cause us emotional pain – and therefore being a good person is sometimes painful. This is what Howard J. Curzer (2002b) calls Aristotle’s painful path to virtue. Kristjánsson claims that according the model of EI which SEL is based on, psychopaths could be considered emotionally intelligent because they are easily able to regulate their emotions and achieve a state of tranquility (2007, p. 94). We must therefore look to an alternative approach if we are to develop moral beings – and Kristjánsson advises us to look to Aristotle for such an approach.

### **III.2.2 The Negatives of Positive Psychology**

The two main goals of positive psychology in education, according to its founding father Martin Seligman, is to identify students’ signature strengths and to increase the expression and use of these strengths (2009, pp. 301–302). It is hoped that by doing this, we will increase the amount of “flow” that students experience – which, according to them, leads to increased happiness and well-being.

“Flow” is a word coined by Mihály Csíkszentmihályi who describes flow as “the sense of effortless action one feels in moments that stand out as the best in their lives” (1998, p. 29). Flow is that sweet spot of talent meeting difficulty. Classic examples include a musician playing a difficult piece or a person playing a difficult level in a video game. In both cases, the individual

has to employ their full skill and talent to do what they are doing. Being in a state of flow is more commonly referred to as “being in the zone”.

If we promote student’s strengths, which allows them to achieve states of flow, then they will be overall happier people and therefore do better in school and in life. My objection to this is twofold: (1) concentrating on students’ strengths over their weaknesses leaves them unprepared for the world, and (2) achieving moral character traits is often an unhappy and painful experience, not a happy one.

I have a few strengths, and many weaknesses. One of my weaknesses is my ability to speak up in front of a group. When I want to speak up my heart starts to race and I know that my nervousness will make my voice sound off. Oftentimes I do not build up enough courage in time to raise my hand and say what I want to say. This, though, would deny me the capability of being able to speak up for myself in a variety of situations later on in life.

Weaknesses may signify deficiencies in my capabilities and character traits. Overcoming these weaknesses is painful, and will require direction from educators and parents. In the next section we will see how achieving virtue is dependent on negative emotions like shame and distress. If we focus only on the positive emotions when educating our students, we are denying them the chance to morally mature.

### **III.3 An Alternative Approach: Virtue Ethics**

The revival of virtue ethics has been in response to dissatisfaction with modern, rationalist approaches to ethics; namely, Kantian and consequentialist approaches. Although the above approaches (Emotional Intelligence and Positive Psychology) sometimes identify with Aristotelian virtue ethics, they are still framed in the idea that an action or policy is good if and only if the consequences (test scores, emotional intelligence, etc.) are raised. Their means are all in order to achieve a measurable end – if an alternative means comes around which will better achieve that end, then that means should be taken up.

As opposed to Kantian ethics, which talks about ‘ought’, ‘obligations’, and ‘rights’ (i.e. *deontic* notions), virtue ethics talks about that which is admirable or excellent (i.e. *aretaic* notions). For deontologists (Kantians) an action is good if and only if it conforms to a rational principle or

obligation. Should one steal? “No!” says a deontologist, because it would be against the categorical imperative, or would violated the commandment that “thou shalt not steal”. Should one steal? “It depends...” says a virtue ethicist, because there are probably situations in which a virtuous person would steal something (e.g. Jean Valjean stealing a loaf of bread for his sister’s family).

Virtue ethics takes moral character to be an end in and of itself. While Aristotle does claim that the overall end is human flourishing or *eudaimonia*, that end is abstract and immeasurable. What constitutes that end is the achieving of all of the virtues. In terms of action, an action is good if and only if the virtuous person would do that action in those circumstances. This makes for a much more nuanced and complex form of moral development. It also highlights morality as being central, rather than secondary, to human well-being.

### **III.3.1 Virtues**

Virtues are those complex character traits which contribute to human flourishing or *eudaimonia*. These traits go “all the way down” to the core of the possessor’s being. We do say someone has the trait of honesty because they committed one act of honesty. We say they are honest because they have, through time, demonstrated that honesty is part of who they are. Virtues are complex and include your “desires, emotions and emotional reactions, perceptions, attitudes, interests, and expectations” (Hursthouse, 2009, p. 101).

I particularly like the definition of virtue offered by Charles Ess, who says: “‘Virtue’ (arête – ‘excellence’) refers to the qualities or capacities (e.g., patience, perseverance – indeed, reason itself) seen to contribute to our living the good life in its broadest sense, i.e., a life of individual well-being (eudaimonia or ‘happiness’) in harmony with the larger community” (2010a, p. 107). This definition offers us, as individuals, to decide what these qualities or capacities (virtues) are. The key boundaries being that they contribute to our well-being and our harmony with the larger community.

While an appeal to intuition is tempting here; there is a risk that an astute reader will wonder whether the definition could justify horrible things (e.g. human sacrifice in tribal communities who might see that as good for their well-being and a harmonizing event). This, in a nutshell, is

the charge of relativism leveled against virtue ethics by many Consequentialist and Deontologist philosophers.

### **The Non-Relativity of Virtues**

How can virtues be non-relative? Could a society simply claim that courage, or honesty does not contribute to their harmony or well-being? Who am I to claim otherwise? A good example might be the Wall Street culture where dishonesty, greed, and uncourageous behavior seem to help them to succeed. Bankers at Goldman Sachs actually bet against securities they were selling to their clients - making it clear that they lied to clients in order for their bets to have a greater payoff. However, it is important to point out that the argument used by the bankers at Goldman Sachs is a deontological one. What I mean by this, is that the bankers at Goldman Sachs claim that what they did was ok because they did not break any rules – implying that the ‘right’ thing to do is an action which is in accordance with the rules. They did not try to say that dishonesty was a virtue – there was just no rule against being dishonest (Morgenson & Story, 2009).

Martha Nussbaum gives us good argument for non-relative virtues (M. C. Nussbaum, 1988). She claims that the problem of relativism in virtue ethics is a product of contemporary versions that go astray from Aristotle’s theory. Contemporary virtue ethics (by authors such as Alisdair McIntyre and Philippa Foot) results in relativism, she says, because the only criteria for the goodness of virtues are “local ones, internal to the traditions and practices of each local society or group that asks itself questions about the good” (1988, p. 243). Nussbaum is quick to point out, though, that Aristotle himself criticized practices within his own society on the grounds that they did not support some virtue or were contrary to human flourishing. She reads Aristotle as having an objective account of the human good or human flourishing. This, she says, allows for a non-relative view of virtue ethics (1988, p. 243).

Here, though, we run into the problem of deciding whether or not we agree with Aristotle. Just because he thought it, does not make it true. Nussbaum argues that the virtues that Aristotle came up with are related to spheres of human existence which “figures in more or less any human life” (1988, p. 244). For example, courage relates to the sphere of fearing death. Every human fears death and must be virtuous regarding this sphere by being courageous. The expression of this virtue may be different from society to society, but fearing death is universal -



we, as humans, must make choices about this sphere of human existence. There are choices that will be good, and choices that will be bad.

This deals a blow to those who say that relativism is implied by virtue ethics. Although there may be no word for “courage” in a given language, there surely is a fear of death - and therefore corresponding choices regarding that sphere of human existence. Although there will be disagreement surrounding what a good or bad choice is regarding this sphere of human existence, they will be arguing about the specification of a specific virtue - something which falls within the realm of virtue ethics.

To illustrate this more clearly, we can also use the virtue that in English we call ‘temperance’. This virtue corresponds to the sphere of life having to do with bodily appetites and desires. There is no human being who does not have bodily appetites and desires. Temperance is merely the word which describes a ‘good’ way of being with regard to this sphere of human existence. Societies may differ in how this ‘good’ is expressed, but the virtue of temperance exists for everyone. This makes the virtues universal, and their expression relative and open to debate.

### *Criteria of Virtue*

Using Charles Ess’s definition of virtue above we can extract two criteria that are necessary for describing a personality trait as a virtue: (1) contribution to personal well-being, and (2) harmony with the larger community.

Having all the virtues, to Aristotle, was necessary for achieving eudaimonia, or human flourishing. Aristotle viewed this flourishing as the telos (i.e. the end goal) of being human. Being a courageous, honest, and benevolent person will allow one to flourish, whereas a cowardly, lying, and mean person will languish and lead an unhappy life. It is what we are implying when we ask CEO’s of banks which lead to the economic collapse in 2008 who are also taking in millions worth of bonuses “how do you sleep at night?” We believe that they will be punished for their bad character in the long run. They are punished in that they lack the character traits necessary for ‘real’ happiness, or ‘real’ personal relationships which are necessary for ‘real’ happiness.

There are of course arguments about why specific virtues lead to personal well-being; however, I am simply making this a criterion for being a virtue. I am not arguing that “honesty” contributes to well-being. I am arguing that if honesty does not contribute to well-being – or what Aristotle calls the *telos* of human existence, then it is not a virtue.

Well-being, in virtue ethics, is sometimes called ‘flourishing’ or ‘happiness’ and is translated from the Greek *eudaimonia* used by Aristotle to describe the *telos* of human beings. Well-being, then, is the ultimate goal of human beings, for which we strive for.

We can think of well-being, and its relationship to the virtues as the virtues being pre-requisites for the experience of ‘true’ well-being. In the same way that I cannot enjoy playing a game of basketball, or taking a walk in the park while being hungry, thirsty, and in bad health, I cannot experience true well-being if I am not virtuous (without patience, benevolence, honesty, etc.).

So far I have merely described the pre-requisites of well-being without saying exactly what it is. Opposed to utilitarians and positive psychologists, virtue ethicists claim that well-being is neither a subjective or objective measurement (positive psychologists) nor a measure of the utility of the actions that one performs (utilitarians); rather, well-being is a sort of freedom – a freedom which comes from having the character traits necessary for being a good person. Having the social, academic, and civic virtues allows you to thrive in those areas, but does not force you to be a politician, or a social butterfly. It is this version of well-being which drove Martha Nussbaum and Amartya Sen to develop their famous capabilities approach (Nussbaum, 2011; Nussbaum & Sen, 1993).

We cannot, however, simply increase our well being without regard to the community at large. The virtues also must bring us into greater harmony with the larger community. We can think of this requirement as a safeguard against possible misinterpretations of well-being. Someone could think that dishonesty would be a virtue because it allows them to get ahead in their job or allows them to impress their friends. This, in my opinion would undermine your well-being because this lack of honesty would hurt your ability to form deep social relationships, would come back to haunt you in your work, and make you a pariah in society.

Some, though, could possibly find a character trait which increases their well-being but does not put them into greater harmony with the larger community. Ess, therefore, adds this as a requirement. I like this requirement especially when it comes to the topic at hand. We are dealing with children who are better at satisfying their own personal desires (hunger, entertainment, etc.) and are unlikely to understand the long term consequences of their behavior. This ‘other-regarding’ requirement helps to ensure we only select character traits really are virtues.

This complexity of what a virtue is makes virtues difficult to cultivate. There is no shortcut, and for the time being we cannot measure to what extent we have a virtue. Just how, then, do we go about including this complex concept into education? The next section, using insights from Aristotle’s ancient theory gives us some starting points from which we can proceed.

### **III.3.2 Aristotelian Moral Development**

Howard Curzer is explicit about Aristotelian stages of moral development. For him, the first stage is what Aristotle calls the *hoi polloi* or “the many”. The many are composed of children who have potential for virtue but have no components of the virtuous person (they are uneducated) and also adults who never moved on from this stage. The many do not feel bad for doing the wrong thing because they do not know that what they did was wrong.

The second stage, according to Curzer, is what Aristotle calls *eleutherios* or the “generous minded”. This group of people has a conception of the good life and wants to achieve it; however, they do not know how to distinguish what a virtue is, or how to express that virtue in a concrete situation.

The third stage consists of the “incontinent”. This stage is characterized by the knowledge of which act is virtuous, and the desire to perform the virtuous act, but failing to perform that act consistently due to other desires trumping the desire to act virtuously.

The fourth stage, and debatably the last, is the “continent”. These are like the “incontinent” but they have the self-control to perform the virtuous act. The final stage - the fully virtuous - is more of an ideal than something that is actually achieved.

Most important for my thesis, though, is how to move from one of the beginning stages (i.e. “the many” or the “generous-minded”) to the “incontinent” or the “continent”.

### III.3.3 Cultivation of the Virtues

Aristotle placed great emphasis on the cultivation and practice of virtues. He felt that the practice of acting in a certain way gives us our characteristics. In Aristotle's words:

*Thus, in one word, states of character arise out of like activities. This is why the activities we exhibit must be of a certain kind; it is because the states of character correspond to the differences between these. It makes no small difference, then, whether we form habits of one kind or of another from our very youth; it makes a very great difference, or rather all the difference (Aristotle et al., 1998, para. II.1).*

It is this concept of virtue ethics that can be used in the classroom to promote moral character development. To form ‘good’ habits as children we must participate in activities which allow for practice of those habits. This is what Aristotle called *ethismos* or ‘habituation’.

#### *Habituation*

Habituation is the most important Aristotelian concept when it comes to cultivating the moral virtues. It is in recognition of the intuition that we cannot acquire moral character traits by reading about them, or being told about them. In the same way that we cannot read about riding a bike and then be experts at riding one, we cannot read about being patient and then be patient people. It is through practice – and habituation – that we acquire ability.

Habituation in education also serves to balance bad habits formed outside of the classroom. For example, the ‘only child’ who is used to being the center of attention and not having to share with anyone at home will be forced into many situations where he/she is not the center of attention and has to share with others when they find themselves in the classroom. This speaks to the fear that without public education of some sort the prejudices and bad habits of parents will be simply passed on to their children (Gutmann, 2007).

There is some debate about whether habituation really does work. Jan Steutel and Ben Spieker (1997) point out that getting children to habitually commit charitable acts does not guarantee (or has not been empirically tested) that the necessary affective dispositions will also be instilled – a

requirement for true virtue. Their solution is to focus not on increasing a deficiency in a sentimental disposition or feeling (as in charity) but to focus on reigning in an excess of a sentimental disposition or feeling. Children, for example, may have an excess of anxiety when it comes to speaking up in class, or have an excess of boredom when having to listen to a lesson. The habituation of the practices of speaking up in class, or having to sit and listen to lessons, Steutel and Spieker say, will,

*“by getting used to regulating immoderate sense-desires or inhibiting inordinate appetites, the frequency, intensity, or persistence of such desires and appetites may become less excessive or more appropriate, which may be seen as an important step in acquiring the virtue of temperance. Or by getting used to dangerous situations or threatening circumstances, we may become less frightened and therefore more courageous”* (1997, p. 543).

For example, habitually practicing patient actions is reigning in an excess of impetuosity, boredom, and irritation.

However, what about situations which we cannot simply be habituated into – moral situations which we hope to never come across, but must be ready when they do? For example, how do we prepare children for dealing with situations where doing the right thing may hurt friends or family? We cannot put children into that position a bunch of times in order to habituate them. We can, however, through the use of role models show them how others have handled such situations.

### *Role Models*

Role models are invaluable for the cultivation of virtues within people. Kristján Kristjánsson describes four ways in which role models are important: (1) they cause us distress when we recognize a virtue in them which we do not ourselves possess; (2) they motivate us to acquire those virtues without taking them away from the role model; (3) they force upon us true self-understanding and self-persuasion and direct us to worthy and attainable goals for ourselves; and (4) “a striving of goods which are ‘appropriate attributes of the good’” (2006, p. 44).

The key connection here is the connection between role models and the emotions important for the development of virtue. When, as a student, we have something to contribute to a class discussion but do not possess the courage to raise our hands we feel distressed by the fact that others do possess the courage to raise their hand. Furthermore, we look up to the teacher’s

ability to speak in front of the class so effortlessly and wish to have the same ability. This feeling of distress signals a recognition of the good and a desire to act in that way – two important features for graduating to the Curzer’s third stage of moral development: the incontinent, or those who know what the good way to be is but are unable to achieve it due to other forces or desires trumping the good action.

Through role models, we trigger an emotional state within the student which spurs emulation (Kristjánsson, 2006, p. 47). Whether it is the fair-mindedness of the teacher, the courage of Martin Luther King Jr., or the patience of Winnie the Pooh, role models can bring about a desire to emulate the virtuous character traits of those role models.

David Carr calls for all teachers to be moral exemplars to their students (D. Carr, 2005c). He claims that teachers do not need virtues *in addition* to the technical capacity to teach a subject; rather, teachers need the virtues in order to teach *anything*. In a nod to Plato, Carr tells us that virtuous teachers will recognize different students needing to be treated in different ways. The student who lacks confidence might need praise for average work, while the over-confident student might need to be taught a little humility.

The point Carr makes is that a teacher is the primary role model through which students gain virtuous knowledge. We can foreshadow that technology used in the classroom will have to allow for teachers to continue to be virtuous role models. For example, online education at an early level would obliterate this important component of education and therefore should not be used. When we solely focus on test scores and measurable outcomes though, it seems that a teacher could be replaced by some sort of technology.

### *Full Virtue*

Miles Burnyeat talks about three categories of value which the fully virtuous person must achieve:

*“Pursuit of pleasure is an inborn part of our animal nature; concern for the noble depends on a good upbringing; while the good, here specified as the advantageous, is the object of mature reflection.” (Burnyeat, 1980, p. 84)*

The point is to try and harmonize the three categories above. We cannot control the inborn part of children’s animal nature. Mature reflection will happen much later on in life. What we can do,

though is give a good upbringing. One that includes moral character habituation and good role models who will guide children to be concerned for the noble. It is this that education should and must focus on.

### **III.3.4 Criticisms of Virtue Ethics**

Although I am unable to properly defend virtue ethics from the attacks brought by situationists and moral psychologists, I must present their argument and why it fails in order to justify using a virtue ethical framework for moral character education. John M. Doris makes a seemingly damning argument against virtue ethics by saying that empirical evidence suggests “trait attribution is often surprisingly inefficacious in predicting behavior in particular novel situations, because differing behavioral outcomes often seem a function of situational variation more than individual disposition” (Doris, 1998). Doris’s argument claims that because what appear to be insignificant variations in situations affect an individual’s moral behavior, then Aristotle’s theory of robust character traits equating to virtues is too demanding or impossible for us to achieve. Therefore virtue ethics does not work as an ethical theory.

If true, then the whole idea of cultivating moral character traits through education would not work. It would be much better to control moral behavior by changing variable in the environment. The ‘choice-architecture’ which serves as the foundation for NUDGE theory is an example of this being put into practice (Thaler & Sunstein, 2009). In NUDGE choices are organized such that there is a higher change of users behaving and choosing in the desired way. Using known psychological biases – like leaving the default option – we can, without restricting the freedom to choose otherwise, influence the behavior of individuals in a desired way. Other theories which try to influence behavior by controlling individuals’ environment include techno-regulation (Brownsword, 2005, 2008; Leenes, 2011; Yeung, 2011) and gamification (Lee & Hammer, 2011).

There are a range of ethical concerns brought by the use of these theories and behavior regulating tools (P. Brey, 2006; Brownsword, 2005; Yeung, 2011, 2012); however, the important concern for our purposes is whether or not it is true that robust character traits do not exist, and therefore diverting our attention to the resources described above is warranted. If this is not true, then we should not ignore the development of moral character traits in individuals.

The first problem I have with the situationists' argument above is the response that "the experimental evidence shows only that most people are not genuinely virtuous. That does not mean that there is a problem with the normative ideal of virtue ethics. It just means that being genuinely virtuous is a rare and difficult achievement" (Merritt, 2000). I do not think it comes as a shock that many people do not have robust virtues. The ideally virtuous person is something we all aspire to be. We may want to be a more virtuous driver; however, we are not all there yet. Virtues need to be cultivated, which is where gamification might be able to help.

The second problem with Doris and the situationists' argument is that the empirical studies used are flawed. Diana Fleming describes the problem as follows:

*The experimental method is designed to detect the variables that cause change in particular situations, not to detect behavioral consistency over extended periods of time. Trait measures predict trends in behavior over time; they do not claim to predict behavior in every single relevant situation (Fleming, 2006, p. 38).*

This suggests that the attack against virtue ethics brought by the situationists is a straw-man. Fleming is saying that even with a robust character trait, there might be differences in behavior in different situations. There is no reason to suggest that the word robust implies one hundred percent consistency.

The last problem with the situationists' argument is that even if we accept that the empirical data they suggest poses an irrevocable problem for virtue ethics we cannot accept that an individual's behavior is solely dependent on situational factors. An individual's behavior does depend on situational factors; however, an individual's behavior is also dependent on character traits. Going back to the virtuous driver example given earlier in this section, does it not make sense that an individual will be a more virtuous driver in a wider variety of situational contexts if they have a better understanding of how to be a virtuous driver, and a stronger inner drive to be one? I do not see how you can take away character traits from the explanation of an individual's behavior the way the situationists would like to.<sup>3</sup>

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<sup>3</sup> See (Merritt, 2000), and especially (Fleming, 2006) for a thorough analysis of this debate.



### III.3.5 Virtues and Education

If virtues are important to cultivate in education, and we now have some idea of how to cultivate those virtues in students, just what virtues should we be cultivating? Everyone from Aristotle to Benjamin Franklin has a list of virtues. For the purposes of this thesis, which will outline how technology can be incorporated into the classroom in a way which will not leave out the cultivation of virtue, I will use a few virtues for illustrative purposes. These virtues are important for human flourishing, and have great potential to be cultivated in the classroom. I expect that *the* list of virtues important in a public education setting will be debated for a long time. This thesis, however, is not attempting to come up with such a list; rather, once a virtue is known to be included on such a list, the insights of this thesis can be put to use in order to properly implement technology which can enhance or at least not diminish the cultivation of that virtue.

The virtues I intend to use to illustrate this process are: courage, patience, and honesty (see Chapter IV). These virtues are moral and can be considered social and civic virtues – those virtues that will not only contribute to an individual’s flourishing, but will contribute to the overall functioning of society – an important aim if the public is funding such an endeavor.

It is important to note that while we typically think of people in terms of being patient or not patient, honest or not honest, courageous or cowardly, there can also be too much of these three character traits. Aristotle holds that the virtues are means between two extremes. One who is courageous is neither brash (risking herself all the time without thinking) nor cowardly. When thought of this way, cultivating these virtues is not only about promoting a character trait, but by reigning in extremes of character traits. In fact, cultivating patience can be seen as reigning in the trait of quickness to irritation, or a ‘jumpy’ disposition.

### III.4 Conclusion

In this chapter I have shown that current approaches to include moral character development in education are problematic. They are problematic because they conform to the current paradigm of measurement and test scores as tools to evaluate effectiveness. This over-reliance on measurement causes us to define our values in terms of measurable qualities. A better attitude can hardly be

equated with lower incidences of disciplinary incidents at school any more than happiness can be equated with high GDP.

Morality, and the character traits which make it up, are extremely complex. It is difficult to measure a character trait such as ‘patience’ - although some have tried (see e.g. Bettinger & Slonim, 2007). Making the cultivation of patience an explicit goal will be difficult if school administrators cannot show that patience has been improved within their students. While I would argue that this sort of proof is unrelated to the value of an aim or goal, knowing that such an aim or a goal is valuable serves as a call for researchers to get a better understanding of how to test for such traits. Before such testing will be made possible, a clear understanding of what needs to be tested for has to be achieved. This thesis is part of this understanding.

This chapter has shown that we can put students in a position to practice patience, and to recognize it as being morally desirable. Through recent literature based on the work of Aristotle’s ethics, we have seen that role models and habituation are two tools through which people can morally mature. Habituation, especially, allows people to be put into situations where they must exercise their moral judgment. Getting it wrong serves to painfully progress individuals – through emotions like empathy – to the next level of moral development. Learning to be patient cannot be made fun, but must be paternalistically forced on to those being educated. This conforms to the very idea of public education: that there are certain things which children will not learn on their own and therefore must be taught to them through schooling.

From here, a list of virtues was used for illustrative purposes which should be cultivated within education: patience, courage, and honesty. I focused on virtues which could easily be ignored in the paradigm of measurement and test scores. I also explicitly focused on the ‘moral’ virtues – as opposed to the ‘intellectual’ virtues which are also important in education. It is these moral virtues which I suspect could be forgotten as we plunge into incorporating technology into the classroom – especially if they are developed with the goal of raising test scores – and judged on their ability to do this.

In this chapter, we also saw that acknowledging the complexity of the cultivation of moral character traits means that we end up spending time and resources on activities which cannot be

proven by measurement to have an impact. This is surely a problem for school administrators and policy-makers; however, ignoring this fact and solely focusing on measurable outcomes is untenable.

My hope is that acknowledging this complexity and difficulty will highlight the valuable contribution brought about by public school teachers and public schools in general. In a time where information is freely available online, we must focus concrete attention to the real added-value that public education brings: moral character development.



# Chapter IV

## Technology and the Virtues

### IV.1 Introduction

A younger version of myself - when the iPhone was first gaining in popularity - nicknamed people with iPhones “iPhoneyes”. My claim was that people with an iPhone were feigning attention and were therefore being disingenuous during social interactions. This nickname I created to air my annoyance at people with smart phones who could not stop checking them stumbled across the idea that technology changes how people express their character traits. A person who was once normally attentive might be rendered oblivious because their smart phone with its buzzing, beeping, and flashing demand a good part of their attention.

Until now, we have discussed what the purpose of education is (chapter II), and what goes into achieving that purpose (chapter III). Before we dive into evaluating how technology affects the achievement of these educational goals, we must understand how technology relates to moral character traits, or *virtues*.

As shown above, a smart phone can change the way a moral character trait is expressed. By promoting the efficiency of communication (by allowing you to communicate with many people at once), smart phones may constrain the value of attentiveness. Contrarily, a smart phone could promote the value of punctuality by being connected to your personal calendar and buzzing you in time to leave for your appointments. Technologies will promote certain values and constrain others.

With this chapter I will do three things: (1) show what a virtue is and why it is important to us, (2) give an overview of theories which relate technology to values, and (3) argue that technology decenters our ability to cultivate and express the virtues important in our civic, social, and academic lives.

## **IV.2 The Virtues and Vices of Technology**

To think correctly about technology's interaction with society it helps to think about the story of Goldilocks and the three little bears (Brett, 1990). She enters the house of the three bears and is hungry. She sees three bowls of porridge and tastes the first one - which is way too hot. The second one she tastes is too cold. Of course, the third one is "just right". When reading about how technology impacts our lives, we frequently find this same pattern. The first articles you come across will feature technology as an excellent tool to achieve what you want - too instrumentalist. The next articles you read will be damning critiques about technology taking over our lives and destroying society - too determinist. When you dig deeper into the philosophy of technology, you will find more balanced theories - theories that will claim they are "just right".

### **IV.2.1 Technology as a Tool**

The idea that technology is simply a tool for us to use as we like is frequently found in advertisements and in the popular media. We can think of old advertisements for microwaves saying that they make cooking easier and faster. More recently, Apple's "there's an app for that" advertising campaign tries to tell us that everything in our lives can be helped by an app on your smart phone. The implication in these advertisements is that technology is there for us to use to make our lives better.

To take an example most can relate to, there is no doubt that the microwave has made it faster and easier to have a meal; however, this has had drastic impacts on the family. Without a microwave, we relied on someone preparing a meal for the rest of the family - which meant that family members ate at the same time. Microwaves made it possible for individuals to cook personal frozen meals in minutes - making it unnecessary to eat as a family (Verbeek, 2005, pp.

5–6). This is just one example that shows that the relationship between human and technology is not as simple as technology being a mere tool.

#### **IV.2.2 Technology Controls Us**

Examples like the one above have led some to describe technology as an all-determining entity. Karl Marx, often read as a technological determinist, famously wrote that “The windmill gives you society with the feudal lord: the steam-mill, society with the industrial capitalist” (Marx, 2008, p. 119). He is saying that technology drives the society we live in – that once the steam mill was invented we were sure to have a capitalist society. This interpretation of Marx is widely disputed (see e.g. MacKenzie, 1984), but it nevertheless is a good illustration of this type of view of technology.

This view can also widely be seen in popular media. Books like “The Dumbest Generation” (Bauerlein, 2008), “You Are Not A Gadget: A Manifesto” (Lanier, 2010), and “The Shallows: What the Internet is Doing to our Brains” (N. Carr, 2010) all see technology as an overpowering force making our lives worse. Referring to the Internet, Lanier writes: “it’s as if you kneel to plant a seed of a tree and it grows so fast that it swallows your whole village before you can even rise to your knees” (2010, p. 8). Bauerlein writes:

*Instead of opening adolescents and young adults to worldly realities, acquainting them with the global village, inducting them into the course of civilization, or at least the knowledge economy, digital communications have opened them up to one another--which is to say, have enclosed them in a parochial cosmos of youth matters and concerns (2008, p. 136).*

Bauerlein is saying that contemporary technology is determining the concerns of today’s youth; namely, trivial ones that ignore deep interaction, engagement, and communication.

#### **IV.2.3 Just Right**

Theories that lie in between these two extremes acknowledge that technologies play a role in our moral decision making without completely determining it. Theories that fit into this category include mediation theory (Verbeek, 2005, 2011)<sup>4</sup> and the embedded values approach (Friedman & Nissenbaum, 1994; Nissenbaum, 1998, 2001). Theories like these give us the language to

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<sup>4</sup> Although Verbeek may be extreme regarding the moral *agency* of technology (see e.g. Peterson & Spahn, 2011).

describe the interaction between technology and society (or individuals). From here, others have argued for specific values that should be a part of our lives (e.g. patience, risk-taking), which are being constrained by technology and its focus on other values (e.g. efficiency, anonymity) (H. Dreyfus, 2001; Vallor, 2010). These theories and critiques provide good insights from which I will draw from to analyze technologies in the classroom in the next chapter.

For our purposes, we will take a closer look at the embedded values approach in order to understand how technologies interact with society. Using this language, we can ask ourselves two things: how do contemporary technologies constrain or enhance the development and expression of the virtues? (2) What virtues are uniquely important in this technological era?

#### **IV.2.4 Values Embedded into Technology**

Helen Nissenbaum and Batya Friedman looked into computer systems to determine what kind of biases were inside. What they found was that the assumptions of designers and computer programmers led to values and biases being embedded into the systems.

Whether we want them or not, values are embedded into technology. There are pre-existing biases which are embedded into technologies which are based on current social institutions and practices. There are technical biases which arise from technological constraints and considerations. Finally, there are emergent biases which arise due to the context in which technologies are placed in. The embedded values approach makes these values explicit in order to start thinking about these values when we are designing technology (Friedman & Nissenbaum, 1994; Nissenbaum, 2001).

A key point in this approach is that the biases and values embedded into technologies are frequently not intended or a part of their objective functions. To use Langdon Winner's famous example of low lying bridges in New York we can see how this works. His article "Do Artifacts Have Politics?" (1980) describes how bridges designed by Robert Moses in New York prevented a specific population (African Americans) from getting to the beach. The bridges were abnormally low, preventing buses from reaching the beach. White people had money to buy cars which could go underneath the bridges, but African Americans did not have their own cars and



relied on buses which could not pass. Whether or not this was intended by Robert Moses or not, there was a value and bias embedded into the technology.

In an article which criticizes Winner's view of why Moses built the bridges, Bernward Joerges (1999) points out that now the bridges have the opposite effect - allowing poor people with cars through, while preventing huge luxury buses and SUV's through. This helps to point out the emergent values and biases embedded into technologies. Some of the biases and values embedded into the bridges are emergent ones: they emerge out of the context that the bridges are placed in.

Philip Brey further clarifies the embedded values approach which helps us to discuss and understand the way technologies interact with values. He points out that technological artifacts will have a *tendency* to realize certain values, and insofar as the value can be said to be 'embedded' it just means that the technological artifact will realize particular valued consequences in the "central uses of the object" (Philip Brey, 2000, 2009). He also chooses the words "promote" and "harm" for what technology's relation to values (e.g. "technology promotes the value of efficiency"). In this thesis I will echo this idea and use the words "promote" and "constrain" as I like to talk about both values and disvalues. Talking about "harming" disvalues would be a difficult concept to understand.

This point about emergent values and biases makes it even more important to analyze new uses of technological devices – like when technologies are placed in new contexts (e.g. the classroom). This is because putting technologies into new contexts can change the likelihood of values and disvalues being realized.

#### *Values Based Critiques of Technology*

Hubert Dreyfus, Charles Ess, and Shannon Vallor provide good examples of critiquing technology based on values. Their critiques follow a pattern. First, there are certain values pointed out which they argue are necessary for humans (in terms of ethics or the good life). Then, they describe a technology which has values which conflict with the values they argued were so important.

Dreyfus argues that commitment and risk are important values for humans. He cites studies that show that unless we, as individuals, have a stake in the matter at hand, we will not develop the skills we need. In order to have a stake in something, we must be committed to a task, and be risking something by that commitment.

Charles Ess argues that in order to be able to properly choose a conception of the good life - a choice which is necessary in order to effectively participate in, and justify, liberal democratic society - we must focus on the values of privacy, self-reflection, and self-representation.

Shannon Vallor, in her critique of social networking, focuses exclusively on the value of friendship. Using Aristotle's argument for *eudaimonia*, she claims that friendship plays a "central and necessary" role in one's own good life. Friends support one another in a pursuit of the good, as well as the pursuit of what is the good.

### *Technology's Values*

From here, Dreyfus, Vallor and Ess show that the values or virtues within the technology are at odds with the values that they argued were important above. Dreyfus shows us that the values of the internet are anonymity and efficiency. Anonymity directly conflicts with his values of commitment and risk shown above. When you post something anonymously on the internet, there is no risk to yourself for what you have said.

Dreyfus notes: "like a simulator, the internet captures everything but the risk" (2001, p. 19), referring to the similarity between online and offline interactions. And it is risk, he notes, which fosters deep social links between people. Risk promotes trust between people. The ease with which we can do things (sans risk) on the internet keeps every possibility open, "producing a self that has no defining content or continuity" (2001, p. 17). We can understand this when we look at people on facebook who have a thousand friends. If we define one's self in terms of one's relationships (as Confucianists do (Ess, 2010a, 2010b)) then how are we to define such a person? There is no way - they have not taken the risk of choosing anything specific.

Charles Ess discusses the "secondary orality" fostered by the internet. Secondary orality refers to the concept developed by Walter Ong (2003) in which Ong contrasts the primary orality of pre-modern cultures to the secondary orality we have now. Primary orality is pre-literate, relying

solely on the spoken word. Secondary orality, first characterized by literacy and print - but now by radio, television, and the internet - takes literacy as a given and therefore the orality of our society is mediated by our literacy - by books, radio, television, and the internet.

Charles Ess sees modern information systems as diving deep into secondary orality which he says prevents us from being the private, reflective, selves necessary for participation and justification of democratic society. He restricts these criticisms to the “new” secondary orality of television and the internet, not print media. He seems to worry that new information technologies “abandon the skills of literacy and print” (2010a, p. 106). To Charles Ess, the internet fosters a loss of privacy that is absolutely necessary to the reflective self: “this private space allows us to freely reflect, express, and revise our thoughts and sensibilities – as part and parcel of a correlative freedom to make the foundational choices that define our conception of the good life” (2010a, p. 108).

#### *Remarks/Analysis*

Out of these analyses of technology, a sample list of virtues which relate to certain contemporary technologies. This list, derived from the authors above, is by no means comprehensive. I am sure that the reader will disagree with some of the virtues on the list. I invite that disagreement and the argument that goes with it. An important part of evaluating technologies used in contemporary society will be a vigorous debate about which virtues or character traits are important to cultivate in a given context. We could be talking about virtues important for life in general, or virtues that are important for a specific role or profession. Then the discussion turns to how the technologies we are trying to evaluate constrain or enhance the expression and cultivation of those virtues.

The values that we will focus on are the grand values which childhood education should have: citizenship and friendship. These values correspond to the aims of education discussed in chapter 1. Western democracies have universal state funded education in part because there is a recognized need for an educated citizenry for the proper functioning of society. On a personal level, our existence as social animals requires us to have friendship in order to flourish (or be truly happy).

Citizenship and friendship are two grand values which have many parts. Dreyfus and Ess argue for the importance of smaller values which are important for one of the two grand values above. To come up with virtues, we must translate the smaller values taken to be important (e.g. commitment, risk, privacy, etc.) into virtues which require those values. Below I derive courage and practical wisdom from Hubert Dreyfus and Charles Ess respectively. Shannon Vallor does the heavy lifting for me by deriving the virtues of patience and honesty from the grand value of friendship.

#### COURAGE

Dreyfus talks about the values of commitment and risk. As noted above, he finds those values important in contemporary society. Commitment and risk, however, are not character traits or virtues. They are important values for cultivating a specific virtue: courage. It takes courage to make commitments that carry a risk. Although courage brings up images of soldiers in battle, there are much more relevant examples for regular people. It takes courage to find a life partner. You must risk rejection, and you face a lifelong commitment. It takes courage to stand up for what you believe in - a move that risks losing friends and alienating you from a group of people. How could technology affect the development and expression of this virtue? Let's take two examples of technologies that severely constrain the development of the virtue of courage:

1. The Facebook App "Bang with Friends" - This new Facebook application allows users to select the friends that they would like to sleep with. If two users select each other then they are notified and the two of them can set up the where and the when (Broughton, 2013). Surely, if anything takes courage, it is putting a move on someone that you are attracted to. If you were anything like me, then the raging debate in your head about how to ask someone out is debilitating. Once you work up the courage to do this - provided you don't get rejected - you still have to work up the courage to make a move which you hope will lead to an intimate encounter. It is a lot of work - work not fit for a coward. This application takes away all that was courageous about the build up and act of sleeping with someone. Despite the possible increased risk of teenage sex, pregnancy, and STD's we can see that this application inhibits one of the practices in life which cultivated the virtue of courage.

2. Military Drones - The use of military drones has been shown to be ethically problematic in part because of the moral disengagement it encourages. Going to war, and killing the enemy, used to entail a certain amount of risk and moral awareness (Sharkey, 2011, 2012). In short, it took courage to do what war requires of you. Drones have stripped the need for that courage, changing the face of war as we know it. The counter argument is that saving lives is more important than the use of courage on the battlefield. This is a consequentialist argument in that it argues that the consequences of using drones are better than the consequences of not using drones. In this case, the consequences are measured based on numbers of lives lost. The consequences, however, are hotly debated – both in terms of lives lost, and in terms of well-being for the population living where drone strikes occur (“US drones ‘traumatise Pakistanis,’” 2012). There is also the argument that by getting rid of the courage required to take lives during war, a major barrier to war has been torn down – which may cause more warfare (Singer, 2010).

#### PRACTICAL WISDOM

Charles Ess reflects on the sense of self which he argues is important for liberal democracies. The smeared out self (a self smeared out among the infinite connections and representations offered by the internet) fostered by information technologies is antagonistic to the reflective self needed for effective participation and justification of democracies. Self-reflection and self-representation, fostered by the value of privacy are needed for the virtue of practical wisdom. Practical wisdom allows us to make plans for our lives and future conduct (M. C. Nussbaum, 1988, p. 246). Self-reflection is necessary for us to properly choose a conception of the good for ourselves which helps to plan our conduct in various contexts and situations. Below are two examples of technologies which constrain or enhance this virtue.

1. Facebook - With Facebook we are, in a sense, chronicling our lives. We announce to our friends what we have done, what we are going to do, and share websites, videos and pictures. In *Alone Together* by Sherry Turkle (2011, p. 270), the idea of chronicling your life on Facebook creates “generic” journal entries, written for everyone and no one.

2. Personal Journal - A simple notepad and a pen or pencil could suffice for writing a journal. This, however is a much different way of chronicling your life. You are doing this for yourself - and for your eyes only. The nature of writing a personal journal promotes self-reflection. This, in

turn, allows for better self-representation. I do not want this example to be seen as promoting some pre-technological artifact over technological artifacts. You could, for instance, write a journal online (e.g. using something like 750words.com or emailing journal entries to yourself); however, the many distractions found on a computer make self-reflection difficult (Turkle, 2011, p. 162).

#### PATIENCE

Shannon Vallor relates the virtue of patience to the grand value of friendship. For friendship, she says, the communicative virtues are of the utmost importance. Patience is one such virtue. Patience allows you to listen to a friend's story without interrupting. These interactions, over time, foster a “deeper mutual understanding, greater and more lasting commitments, and a feeling on the part of others that you are willing to connect with them on their terms and not just yours” (Vallor, 2010, p. 165).

For Vallor, it is face-to-face communication which fosters this virtue. The physical presence of the interaction prevents you from “tuning out” the way you could on the internet.

1. Social Networking - Vallor describes social networking as constraining our cultivation and practice of the virtue of patience - negatively impacting the value of friendship. The gaze of a person forces us to focus and be patient while they are talking. Reading a status update, or a blog entry has no such force. We can skim, or just stop reading without any social repercussion because the “other” is not watching us. It is this ability which make social networking so enticing to many (Vallor, 2010, p. 166).

2. Video Chat - The now ubiquitous ability to video chat (via Google, Skype, or Apple's FaceTime) is, perhaps, a technological medium which fosters the virtue of patience. While I could keep up with my friends and family in the United States (I now live in the Netherlands) via email and social networking, I find video chat to be a much closer representation to face-to-face communication. The “other” can see whether I am listening or not (if someone is reading something else on their screen it is extremely obvious). I am forced to be patient, and wait until the other is finished with what they have to say. This is a clear example of a technology which has enhanced our ability to cultivate and practice a virtue.

## HONESTY

Another “communicative” virtue which Vallor discusses is honesty. She describes honesty as “putting one’s authentic self in play” through words and deeds. This, Vallor says, comes with a certain amount of risk - risk of looking weird, or having one’s self rejected. She further looks to Aristotle regarding this virtue by reminding us that virtues are in between two extreme vices. Honesty, therefore, is different from “reckless” candor - which would negatively impact social relationships. Honesty is not just the opposite of lying, but the ability to be “truthful ‘at the right times, in the right way, to the right persons, and to the right degree’” (Vallor, 2010, p. 166).

1. Social Networking - Once again, Vallor is quite critical of social networking and talks about it constraining our ability to be honest. The many social networking sites promote several identities - not just one. She is also worried about the vice of reckless candor which seems to be promoted on sites like Facebook (does everyone really need to know that you are feeling depressed today?). There is also the risk of promoting the vice of boastfulness - another constraining vice which prevents meaningful relationships. There are, however, instances of social networking allowing for the honest expression of one’s self where it might not have occurred before. She speaks of social networks targeted at marginalized communities like gays and lesbians. These social networks might allow one to express their authentic self more readily than in their physical community.

### IV.2.5 The Creation of Virtue

We have seen that one cannot simply expect character traits to be cultivated and expressed without regard to technology and context. Technology and context play an important role in the cultivation and expression of virtues. Technology will serve to promote or constrain virtues depending on the context.

As a football fan, it is difficult for me to sit in a pub with a friend and not be completely distracted if there is a TV with football on in the background. This is not to say that TVs are preventing the virtues of temperance, or focus and therefore I should not have TVs in my life. However, in that context TVs prevent me from being the person I would like to be. Another way to say this is that technology does not *determine* whether virtues are cultivated or expressed. Technology does, however, have a significant impact.

This impact is difficult to talk about on a general level. The dispositions of an individual, the values important to a specific context, and the values embedded into the technology all serve as complex variables in the equation which determines whether a particular virtue is expressed or cultivated. Below I outline how one might go about understanding how a particular technology will affect specific virtues in specific contexts.

### **IV.3 Virtue Ethical Evaluations of Technology**

Above, I have shown how virtue ethics has been used to evaluate some specific technologies. From this, I will now give a more broad view of the language and steps one can take in order to understand how any technology relates to the virtues. This will set us up for the concluding chapter in which I will evaluate specific implementations of technology into the classroom.

First, we must understand the personal character traits (moral virtues) which are required and/or to be developed in the context within which the technology will be used. Second, we must understand the values embedded into the technology – or which values and disvalues the technology promotes. Finally, we must compare those two sets of values to understand whether technology constrains the important values and virtues, promotes them, or has no effect. Technology will not always have an effect on the values which are important in a specific context. A tablet in the classroom is very different from a tablet being used by delivery men for tracking packages.

#### **IV.3.1 Contextual Values**

In any given context there are important values involved. In a factory, precision and efficiency are important values. In golf, patience and accuracy are important values. For our purposes, we are looking for specific values. Values associated with personal moral character traits or *virtues*. What kind of person will be ‘good’ in this context? That should be the question that we ask when we want to understand which virtues are important.

In society we are thrust into a variety of contexts and the roles associated with those contexts. When you get married, you now must excel in a new kind of role. The role of husband or wife requires personal characteristics such as patience, empathy, spontaneity. In this new role, your



blackberry which has you constantly tied to your work may prove to constrain those values important for this role. This shows that a particular technology is not good or bad at an object level; rather, the technology is good or bad given a certain context and relation with its user.

### **IV.3.2 Technological Values**

What are the values which the technology either promotes or constrains? A smart phone, for example, can constrain the value of focus. The constant beeping, buzzing, messaging and the sheer number of applications promotes multi-tasking, and can disengage you from your physical location. That may sound like I am talking about smart phones as an inherently bad technology; however, it depends on the context (as discussed above). A golfer, who needs focus, probably should not bring their smart phone with them to the golf course. A traveler waiting for their plane, train, or bus does not require focus, and the distractive nature of the smart phone may allow for a quicker passage of time.

This points to the idea that technology will have the tendency to constrain or promote certain values. We need only look to the values important in a given context. In certain contexts, the tendency to constrain certain values may not be important at all. This is important for our evaluation of particular technologies.

### **IV.3.3 Evaluation**

The recognition of the values important for the specific context, as well as the awareness of the values being promoted and constrained by a particular technology allow us to evaluate the use of a technology in a given context. If we see that the technology has a tendency to constrain important values for a given context (e.g. the smart phone constraining the value of 'focus' in the golfer) then this technology may be a 'bad' thing in that context. Alternatively, if the technology promotes the very values which are important for a context (e.g. a spreadsheet program promoting efficiency and accuracy in an office setting) then that technology may be a 'good' thing in that context.

Finally, we must understand how the use of a technology in a given contexts relates to the other contexts. Sometimes, a context which is used for evaluation is too narrow to properly understand the effect that the technology has. For example, if we only look at the context of

math class to evaluate the use of a tablet we might see that the tablet promotes the values of a good math student (hypothetically). However, if every individual class came to the same conclusion regarding their own subject, then the school as a whole would miss important values related to the context of education.

#### **IV.4 Conclusion**

This analysis of technology's relation to virtues points us to an understanding that we cannot ignore the impact of technology when it comes to our moral development and expression of virtues. One may think that they are an extremely patient person; however, if one ignores the impact of a technology on the practice and expression of that virtue, then that virtue may not be expressed in the way it would have without the technology.

This idea is not novel - the idea that context is important in virtue ethics goes back to Aristotle's grand virtue of practical wisdom. We must have the practical wisdom to understand when, how, where, to whom, etc., to exercise a virtue. Contextual factors decide how to rank the virtues for a specific situation. If technology, however, is changing the domains of our existence (friendship, citizenship, etc.) then without an understanding of how a certain technology is constraining or enhancing the virtues, we will not have the practical wisdom to use technology in a way that promotes our well-being and brings us into greater harmony with the world around us.

This effect that technology has on the virtues has a 'decentering' effect. What I mean by this is that they are not found entirely within us. We cannot only look within ourselves to properly cultivate and express the virtues, but must look to the technological artifacts which surround us because of their important role in the cultivation and expression of the virtues.

In virtue of having this knowledge regarding technology's impact on the cultivation and expression of virtues, we have the capability of controlling this impact. We can use technologies in a context where they will not constrain important virtues. We can pick technologies to be a part of our lives which actually enhance our cultivation and expression of important virtues. When it comes to children, we can ensure that the use of technology does not significantly constrain the cultivation of virtuous character traits which education is responsible for.

# Chapter V

## Evaluating Technology in the Classroom

### V.1 Introduction

In this thesis, we have sought to come up with a way to evaluate technologies used in the classroom. We started out in the introduction by understanding what kinds of technologies are being used in the classroom and how they are being used. In that chapter I also showed that the technologies being used in the classroom today are just the tip of the iceberg – new technologies are being created and implemented every day. Current funding for putting technologies in the classroom (or using technology to replace the classroom) is enormous and promises to completely change the way children are educated.

In chapter one I argued that education is about more than a transfer of information into children's brains. Education includes building moral character – especially the social, civic, and academic virtues that are necessary for their flourishing and future well-being. Not only can we say that this goal is important for the children themselves (because they will have the character traits they need to be happy in their future lives), but to cultivate these character traits is also important for the society providing this education.

When we rely solely on test scores and what is measurable this moral character development is lost. This fails the children being educated in that they lose out on the tools (virtues, character traits) which will aid them in their choice of a conception of the good life, and fulfilling that

conceptions. This also fails society because we need courageous, benevolent, patient people to keep society strong. Simply teaching someone what is right and wrong is not enough. We can teach someone that discriminating against black people is wrong; however, we also need that person to have the righteous indignation and courage (like Martin Luther King Jr.) to do something about discrimination in their society.

In chapter two we shed some light on what moral character education looks like. I argued against current popular theories such as positive psychology and emotional intelligence because they conform to the same dogma of measurement that got us to ignore moral character education in the first place. They conceive well-being and happiness as equaling what it is that they can measure. I have argued that this is a misconception of happiness and well being and it misses out on key features which cannot be measured.

Instead, I argued that we can look to Aristotelian virtue ethics as a guide for how moral education can proceed in our schools. I showed how we can derive different stages of moral development from Aristotle's ethics and how habituation and role models – in combination with the moral emotions like shame, empathy, and envy – can help guide children to the next levels of moral development.

In the last chapter, we explored the relationship between technology and the virtues. Using the language of the embedded values approach (Philip Brey, 2009; Nissenbaum, 2001; van de Poel, 2009), and looking to examples of evaluating technology based on values or virtues (Ess, 2010a, 2010c; Vallor, 2010) we can now talk about technologies in terms of their tendency to promote or constrain certain values or disvalues.

Given this, we can now look to specific technologies in the classroom and examine their tendencies to promote or constrain certain values and disvalues. Then we can compare those values and disvalues to the moral educational values which, according to chapter two, should be a part of education. These evaluations will tell us a much different story compared to evaluations based solely on the raising and lowering of test scores.

### **V.1.1 The Case Study**

The following case provides us with an example of the incorporation of technology into the classroom. Below is a brief overview of the case to be evaluated in the chapter. We will evaluate this case using what we have learned in previous chapters (what the value of education is, how it can be achieved, and how technology relates to those aims). This evaluation will help us to come up with recommendations for the design and implementation of technologies into the classroom.

#### *‘Steve Jobs’ Schools*

Perhaps the most interesting to date attempt to revolutionize childhood education with technology is taking place in the Netherlands where there is a plan to create so-called ‘Steve Jobs’ schools. These schools will, with the use of technology, drastically change how children are educated. Every child will have an iPad which will be the primary source of their education. Teachers will have the role of a ‘coach’ and will be more responsible for choosing educational ‘apps’ than for teaching in the traditional way. Although there are minimum requirements, children can come and go to school as they please – their attendance can be virtual instead of physical.

The aims and goals of these schools – both implicit and explicit – are an interesting case study for the purposes of this thesis. These ‘Steve Jobs’ schools provide us an example of technology realizing the logical conclusion of the consequentialist view of education: taking the measurable outcomes as a starting point, and building a school to realize them. We will see below, that this leaves out some important aims and values which have been discussed in previous chapters.

### **V.2 Think Different**

‘Think Different’ is of course the motto used by Steve Jobs which arguably propelled the company to its lofty position in society today. The motto is referenced in the manifesto of Onderwijs voor een Nieuw Tijd (Education for a New Era) who will build eleven so-called ‘Steve Jobs’ schools in the Netherlands. Thinking differently, according to this manifesto, means making the iPad the focal point of a child’s education (Onderwijs voor een nieuw Tijd, 2013a). Before we evaluate this

technology-centric educational style, let us get into some of the details of how ‘Steve Jobs’ schools will work.

### **V.2.1 Transcending Time and Space**

One of the major themes that can be found in the documentation regarding these schools is that education is happening everywhere and that parents, communities, and schools share joint responsibility of the development of individual children. O4NT says that the distinction between childcare and education must be destroyed – education must happen at home, on vacation, and at school.

To create an environment which corresponds to this, they have made the iPad a focal point of their education model. Each student will have an iPad and will access coursework and materials through that iPad. This ensures that students can participate in their education from wherever there is a wifi connection. The iPad will be loaded with educational applications, as well as a virtual environment specific to their school. They will use this both at the physical school and at home or wherever they happen to be.

This practice allows parents and children to go on vacation whenever they wish. Their iPads will accompany them and therefore they will have all that they need to not miss a step in their education. Children also do not have to arrive and leave to and from school at specific times. The schedule is extremely flexible, requiring a limited number of ‘core’ hours in which a child must be present at school.

### **V.2.2 Teacher as Coach**

The role of the teacher in O4NT’s style of education is drastically different from the traditional role we are used to. O4NT describes this new role by using the analogy of a ‘coach’. In this role, the teacher “accompanies and encourages the student, points to gaps and helps the student to overcome them” (Onderwijs voor een nieuw Tijd, 2013b, p. 6). In this analogy, the iPad is like a soccer ball – the student engages primarily with the soccer ball and develops his/her talents in a way that he/she finds enjoyable. The teacher, then, is the coach who recognizes the individual talents and interests of the student and points to tools and resources the student can use to

develop his/her talents and interests while ensuring that a core group of important skills are cultivated.

Another important detail is that like the school itself, teachers do not necessarily need to be 'physical'. The teacher can be virtual and come from anywhere in the world. This allows for a more efficient use of teachers – and for teachers to be sick without seriously effecting student progress and development. Their 'Concept Education' document describes the possibility for schools in the Netherlands to use teachers as far away as Canada if need be (Onderwijs voor een nieuw Tijd, 2013b, p. 12).

### **V.2.3 Personalized Learning**

One of the main drivers for O4NT's new style of education is the recognition that students have their own unique strengths and weaknesses when it comes to learning. The multitude of applications offered on an iPad (as well as online materials like Kahn Academy<sup>5</sup>) allow for a variety of learning styles to be accommodated. Some may like the traditional textbook and can read e-textbooks on their iPad. Some may learn better from watching videos, also available on iPad.

This also relates to the speed at which students learn. In a traditional classroom with one teacher and many students, the teacher can only teach at one speed. This speed may be too fast for some and too slow for others. Putting the focus of education on the iPad allows for all speeds to be accommodated.

### **V.2.4 The Values of iPad-Centered Learning**

From the above we can extract the values and disvalues being promoted and constrained by this particular practice. First, and foremost, is the value of efficiency. We can see that value in each one of the points above. Students can learn anywhere, teachers are replaceable and not needed for the traditional hardcore work that they did in the past, and all kinds of different students can learn at their own level and pace.

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<sup>5</sup> See [www.kahnacademy.org](http://www.kahnacademy.org)

The iPad is being deployed in these schools to save money, time, and effort for the education system. The iPad can, in effect, serve as a personal teacher/tutor to every student. Allowing children to learn on the iPad at home and on vacation also shifts the burden of responsibility to parents, and the children themselves. This, ideally, will make education a much more efficient entity – both in its ability to conform to the schedules of teachers, parents, and students as well as its ability to adjust to individual levels and needs – something that would formally have to be done by having a special class for students who were behind or ahead.

### **V.2.5 Evaluating ‘Steve Jobs’ Schools**

I chose this example for two reasons. First, it is perhaps the most extreme manifestation of technology driven thinking when it comes to education – providing us with an interesting subject for evaluation. Second, this example goes to show the importance of this kind of philosophical analysis – showing the deficiencies of their implicit value system.

If we remember back to our discussion of the value of education (chapter II) and how that value can be achieved (chapter III), then it will come as no surprise that these ‘Steve Jobs’ schools do not include many important educational values into their scheme. Potential role models are stripped of most of their worth and duties, and there is no habituation in that the students are not being forced to do things they would not normally do.

Come to school on time (building punctuality)? No, there is no set time to arrive. Leave school at a specific time (building patience)? No, there is no set time to leave. These questions and answers could go on. The ‘have it your way’ attitude of these schools creates an environment where children are getting to learn what they want, how they want, and when they want. This may (but has yet to be in any way proven) boost test scores in the core curriculum, but is not achieving the broader goal of cultivating good people (as future citizens, fathers, mothers, friends, etc.)

This would be like only ensuring that your child had enough calories per day – but allowing them to eat what and when they wanted. At the end of the day, you could say that your child ate the appropriate amount of calories, while missing all of the necessary vitamins and minerals because she just ate candy all day. These schools are ensuring that children get all of the



necessary information without ensuring they are cultivating the important skills and character traits which will be necessary for their well being and their future individual roles.

The presumption is that children already have the practical wisdom to know what they need, and how they need it regarding their education. Reading an entire book may sound daunting to a child, and so they choose to read Wikipedia or play an educational game instead. This is preventing children from building the capabilities to be able to effectively choose for themselves later on.

### *Missing Values*

Patience, courage, and honesty are, under their proposed educational scheme, absent as values. Traditional education had the habitual practice of patience built into it. Listening to a teacher lecture on whatever subject required patience. Instead of playing, you have to listen – you have to conform to someone else’s plan. This plan for these schools is to strip boredom, and irritation from being part of a student’s educational experience.

The cultivation of courage will require students to sometimes do the exact opposite of what they would like to do. Most are not born with good public speaking skills and will therefore have a fear of doing it. Most of us who engage regularly with public speaking know that this fear can be managed with practice – maybe even turning public speaking into an exciting or thrilling event. Blogging, or posting a video of yourself on youtube will not cultivate courage; rather, it may prevent the cultivation of courage or – even worse – reinforce and encourage the cowardice most of us are born with.

Honesty is perhaps not as obviously missing from this educational scheme. However, the digital nature of this school means that what you are doing can be monitored by both parents and teachers at all times. This ensures that you will be caught in your lie regarding your education 100% of the time. A consequentialist would see this as a great solution because the consequence would be that there is no cheating. However, Kantian deontology would disagree by claiming that this effectively removes the choice to lie – and it is the *choice* not to lie which makes a person honest or not (see e.g. Brownsword, 2005). The problem with removing the choice to lie (only possible in an extremely controlled environment) is that when children are thrust into the world

as adults they will be faced with many choices to lie. Without the practice of choosing whether to lie or not as a child, they will not have cultivated the virtue of honesty.

All of this gives children no chance to practice dealing with their boredom or irritation, their desire to lie, stepping out of one's comfort zone, and achieving things beyond their own expectations – as. These schools have, in effect, created a utopia of learning – leaving their students high and dry when it comes to real life, because real life is no utopia. We have to deal with other people's schedules, be patient, stick our neck out, manage our anger and boredom, etc. Part of any school should allow for the practice of these features of life in order to cultivate the valuable character traits we discussed in chapters II, III, and IV.

### **V.3 Recommendations**

Above, I have evaluated a particular use of technology in the classroom. We have seen, with this example, how technology can significantly constrain the moral values which were found to be important in chapter II. Where exactly did they go wrong? What does this tell educators, administrators, policy-makers, and designers of educational technology?

First, this thesis has given them the language to evaluate possible uses of technology in the classroom. Educators and administrators can ask themselves if the proposed technology promotes the values they wish to promote with the technology while not constraining the values important in their broad role as educators. Policy-makers can encourage innovation (by funding) in educational technologies which pay attention to these values, or do not constrain these values. Designers, finally, can take these values into account when they are creating these technologies. They may choose to restrict the scope of the technology in order to not tread or constrain a particular value – or they may choose to try and embed the value into the technology. Either way, these values will be given the respect they deserve.

More concretely, we can discuss three areas which could aid in the development and implementation of technologies in the classroom: (i) restricting the scope of the technology, as well as the scope of its implementation will decrease the constraining effect that technologies have on particular values (and the habituation of practices which will cultivate those values), (ii) creating technologies which encourage children to get out of their comfort zone instead of creating

technologies solely to transmit knowledge in a way that is comfortable and fun for the child, and (iii) creating technologies which recognize the key role that role models (in this case, teachers) play in the moral character development of the child.

### **V.3.1 Scope**

There are, to be sure, a lot of problems with the educational scheme brought about by O4NT's 'Steve Jobs' schools; however, one major source of its problems stems from its scope. Technology, in the form of iPads, effectively penetrates every facet of the child's education. All subjects, and all practices, are done with the iPad. Most of the teaching responsibility is with the iPad. If the iPad were deployed for a unit, or for one class, or for one part of each class, then the habitual practices so necessary for (Aristotelian) moral development would not disappear. The teacher would still have time to effectively be a role model to her developing students.

The recommendation for educators, then, is to either limit the scope of any technology introduced into the classroom, or to think about the values which may be missing in order to ensure that they are still present in the new educational scheme. For example, one might want to build technological capabilities in their students: "today's kids must be able to effectively use technology if they are to succeed in life". We could give every kid a laptop and have them do everything with regard to their education on that laptop (much like the 'Steve Jobs' schools with their iPads), or we could have a class which teaches students the technological skills of programming, web designing, and online researching. This class will need the necessary technologies for effective teaching; however, the scope of these technologies is constrained, allowing for other ways of learning to be cultivated, as well as the moral virtues which are cultivated by many of the non-technological practices of a traditional school.

One more note regarding the necessity of children learning technological skills. Children already have the skills to use a touch screen, download applications, play games, etc., a lot better than their parents, and their teachers. These are the skills that are being asked of them by giving them an iPad to complete their education. The 'real' skills that children need to learn are those of creating, building, editing, and understanding technologies.

### V.3.2 Outside the Comfort Zone

Both methods for the cultivation of moral character within individuals are outside a normal child's comfort zone. Habituation is something that is needed when we have an excess or deficiency in sentimental dispositions towards virtuous action. We are impetuous (impatient) when we are not able to reign in our boredom and irritation. Through habituation, we can correct that imbalance and become more patient. This could even be a measurable outcome as patience has become a testable character trait in the psychology literature (see e.g. Bettinger & Slonim, 2007). Instead of using the measurements of patience to conclude that children have very little and we should therefore provide immediate incentives (as Bettinger & Slonim do), we could instead attempt to increase the level of patience within children through education and measure their levels of improvement.

Role models provide us not only with guidance regarding correct behavior, but can give us moral character traits for which we can aspire. Watching someone whom you look up to deliver a speech without fear, or sticking up for someone being bullied (even if you may have been a part of the bullying) will cause you to envy their courage, and shamed by your lack of benevolence. This is the first step (if we recall from chapter III) of moral development – the recognition that you do not have a character trait which is 'good'.

No one desires to feel envious, or shame. No one wants to be bored, or irritated. We would not download a 'shame' application that made us feel bad for our character flaws. We would not download an application we knew to be boring. These are feelings that we get when we are outside our comfort zones – usually through forced situations. The focus on technology in the classroom so far is to leave children in their comfort zones. Can't speak in front of the class? Just have a class conversation on Twitter instead (see section I.3.3). This may be all inclusive, and generate a huge quantity of comments; however, the quality of education – especially moral character education – is left out.

My recommendation for educators, then, is to ensure that students are not always given what they want, and allowed to learn how they feel they learn best. There must be a space within education to feel negative emotions which will further their moral character development. For educators, this mainly refers to their implementation of technologies for use in the classroom –

and may, with current technologies mean limiting the scope (see above) of the implementation of these technologies.

My recommendation for educational technology designers is to tackle the problem of incorporating ways in their technologies and applications for people to step outside of their comfort zone.

### **V.3.3 Role Model Utilization**

The role of a tutor or role model is important for the moral development of children (see section III.3.3). Children look up to them in order to form desires regarding their own character traits. The desire to be virtuous is the first step towards virtue. Before you know what virtuous action is, role models are there to show you – and then to reward and punish you based on your virtuous or non-virtuous actions. One could claim that it is the parents' job to fill such a role. However, part of the justification for public education lies in its ability to counteract parents passing on the same prejudices that they had to their children (Gutmann, 1980, 2007).

Any scheme for incorporating technology into the classroom must recognize this extremely important role for teachers. The 'Steve Jobs' schools go too far in their reduction of a teacher's role. Their claim that this way of education will allow teachers to be interchangeable and can even be substituted with teachers from far away over video chat (Onderwijs voor een nieuw Tijd, 2013b, p. 12) makes it clear that teachers will not be able to be the role models required by the conception of education argued for in this thesis. This fails children by taking away one of the most important role models they have the opportunity of having in their lives. Furthermore, it significantly constrains the school's ability to cultivate important moral virtues which make up part of the value of education (see chapter Chapter II).

Educators are primarily responsible for ensuring that the teacher remains a significant role model for children. However, technology designers could possibly design their applications and devices such that teachers will still be a significant part of the child's education. Limiting the scope of their devices and applications will probably aid in this.

### V.3.4 Summary

These recommendations are preliminary, and will require further research. They are an attempt to fill the holes found in education with test scores as its main aim, and technology as its means. A further project (perhaps a PhD project!) would attempt to work with designers and educators to translate these abstract recommendations and values into design and implementation requirements.

## V.4 Conclusion

*We are born weak, we need strength; helpless, we need aid; foolish, we need reason. All that we lack at birth, all that we need when we come to man's estate, is the gift of education. (Rousseau, 2009, p. 11)*

The key word in the above quote by Jean-Jacques Rousseau that I have explored in this thesis is 'all'. What does that 'all' entail? It is certainly more than much of the current mode of education. Any attempt to drastically change how education is to be practiced (through technology or any other means) should pay heed to this word, and understand its meaning and all that goes into it.

I started this thesis discussing Heidegger and his notion of technology being a manifestation of our current mode of 'being' in the world. Similarly, I feared that technology in the classroom was a manifestation of our current way of thinking about education. The implicit aim of education seems to be to transfer the most amount of information to the students as possible. This aim is measured by test scores – and tells you whether you are doing good or bad.

Technology is marketed as a means to improve those test scores. Governments and philanthropists are funding these technological solutions, and schools are spending money acquiring them. Since school funding is often tied to these test scores, there is considerable incentive to utilize such technologies.

In chapter Chapter II I discussed in detail what the value of education is, and therefore what aims it should have. Rather than focusing solely on a transfer of information into children's brains, I argued – echoing Noddings (2005) – that we should focus our attention on the 'whole' child. The 'whole' child includes a moral education in which moral character traits are cultivated. Character traits including: patience, perseverance, honesty, etc. These character traits, it was argued, are

necessary for children's future roles as parents, husbands, wives, friends, and citizens. The narrow focus on test scores threatens to leave this valuable part of education out.

This narrow focus is what is behind the backlash against technology in the classroom (see e.g. Bauerlein, 2008; Hiltzik, 2012; Richtel, 2011, 2012). It is not technology, in general, which is bad for education; rather, it is that technology is being developed and implemented with a narrow goal in mind: to improve standardized test scores. In chapter Chapter II I expanded the scope of the goal of education in the hopes that educators and technology designers would design and implement technologies which attempted to realize this expanded goal set.

In chapter Chapter III I outlined how to achieve the goals and realize the value of education discussed in chapter Chapter II. How can we instill moral character traits into children? Aristotelian thought provided us with a different perspective of moral development. The tools offered are habituation and role models. Through habituation, children get the chance to practice virtuous action (whether they understand the 'why' of that action or not) in morally charged situations. Habituation may not work for every character trait, but may especially be beneficial when in order to achieve a virtue, a sentimental disposition needs to be reined in. For example, the disposition to be bored or irritated is reined in in order for children to practice the virtue of patience (Steutel & Speicker, 1997).

Role models provide models for virtuous traits and actions which, in the very least, instills in children the desire to have that character trait or to act in that way as well. This desire is the first step towards achieving virtue: the desire to be a good person. Role models play an integral part in that process and after that desire is achieved they play an important role in guiding them (through encouragement, praise, and punishment) towards virtue.

After getting an understanding of the what, when, and how of this broader understanding of education, we turned to the task of understanding how technology aids/hinders the value of education. In chapter IV I used theories of technology to provide some insight into how technology relates to the cultivation and expression of virtues. The embedded values approach (Philip Brey, 2009; Friedman & Nissenbaum, 1994; Nissenbaum, 2001) proved especially fruitful,

as well as the work of Shannon Vallor (2010), Charles Ess (2010a, 2010b, 2010c), and Hubert Dreyfus (1999, 2008; 2001).

Using the language and analyses created by the above authors, as well as the work up to this point in my thesis I created a framework for analyzing technology's impact on the virtues. First, we must understand the context, and the important values for that context. Second, we must understand the values which the particular technology has embedded into it – as well as its tendency to promote or constrain certain values. Finally, we can compare those values to determine whether the technology promotes, constrains, or ignores the values important for the given context.

Finally, we were able to use this guide for the analysis of a case study: the 'Steve Jobs' schools. We saw that the values of education and the values of this specific technological scheme for education were at odds in significant ways. This analysis led to the recommendations that: (i) the scope of the use of technology in an educational environment must be narrow and explicit, (ii) technology must allow for children to be forced out of their comfort zone in order for the habituation of sentimental dispositions important for virtue to occur, and (iii) technology must not tread on the teacher's important role as a role model.

These abstract recommendations can help both educators and technology designers effectively implement and design technologies into the classroom. A hard task remains, however, in that these abstract recommendations must be translated into concrete design and implementation requirements<sup>6</sup>. This thesis has paved the way for such work to be done. This thesis has made the case that this work *must* be done. Without it, we are depriving children of the necessary character traits to be successful citizens, parents, husbands, wives, and friends – no matter what they get on their standardized tests.

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<sup>6</sup> For literature which explicates how abstract values might be translated into such concrete design requirements see Ibo van de Poel's "Translating Values into Design Requirements" (forthcoming).



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