Pedagogy of the digitally oppressed:

An analysis of e-learning from a philosophy of technology perspective.

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Master Thesis

MSc Philosophy of Science, Technology and Society

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A little learning is a dangerous thing

Alexander Pope

Diversity is strength. Difference is a teacher. Fear difference, you learn nothing.

Hannah Gadsby

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Summary

In recent years, initiatives aiming at innovating and modernizing education and training have been deployed. Digital technologies are being integrated into educational institutions with the aim of bettering the education of skills needed in the 21st century. Learning through Massive Open Online Courses (MOOCs) is part of the strategy to promote the continuous acquisition of skills. For instance, today's demanded competences of digital literacy and entrepreneurial mindset are taught in MOOCs, which are framed as a neutral tool that is used for connecting students and teachers. The purpose of this thesis is to investigate MOOCs beyond these neutral perspectives. The promises and debate around MOOCs are examined in order to understand how MOOCs shape people's understanding of learning.

The research question guiding the analysis is: What do we learn when we *learn* through educational technologies such as MOOCs? Drawing from concepts of Critical Pedagogy and Philosophy of Technology, the structure of learning through MOOCs is analyzed. The theoretical frameworks of Paulo Freire serve to problematize educational models that equate learning with transferring of information. The aim of education is not just to equip students with the skills and competences to function in a world that treat them as labour force. Education can serve as a vehicle for developing a critical consciousness and social awareness of the active role that people have in transforming their reality. This is what Freire conceptualized as a process of humanization. Education makes us human. However, there are structures in educational models that frame students as objects rather than active subjects. The approach of "banking model education" describes the dynamics of oppressive structures in classrooms. On examining the educational models in MOOCs through a Freirean analysis, oppressive structures are revealed. Therefore, in this thesis it is argued that educational technologies can become new forms of oppression that often are not acknowledged as such, perhaps because they are obscured by technological enthusiasm and innovation narratives discussed in the media

Digital oppression is conceptualized as the technologically-mediated processes where oppressor-oppressed relationships take place. In order to further grasp how digital oppression can occur through educational technologies, the philosophy of technology perspectives of Byung-Chul Han and Nolen Gertz are discussed. These perspectives help to examine the role of MOOCs in shaping people's understanding of learning. Achievement societies and techno-hypnotic effects of technologies illustrate why people might not acknowledge digital oppression. The main conclusion to be drawn from this thesis is that learning cannot be reduced to technological practices. Through MOOCs people do not learn the skills needed for the 21st century. Critical thinking, reflection, and the development of a social and political consciousness cannot be *learned* through MOOCs. MOOC platforms are instrumental in helping prepare students with skills that serve an ideology of market interests. The result of the analysis suggests that oppressive models should not be replicated in educational technologies. There is a need for continuous investigations about educational technologies through approaches that can lead to the development of transformative practices. Critical pedagogy and philosophy of technology invites us to reflect beyond the technological enthusiasm around technologies and reveal new perspectives that allow stakeholders to further reflect, inquire, and govern the learning environments of the future.

Introduction

Technologies are being integrated into educational institutions with the aim to provide better education of the skills needed in the 21st century. Schools and universities have been transitioning towards incorporating digital technologies into the learning experience, e.g. presentation slides software, interactive whiteboards, Learning Management Systems, online courses, etc.

Recently, several initiatives aiming at innovating and modernizing education and training have been deployed in European countries.[1] The *Digital Education Action Plan* which promotes actions for the development of digital competences in education is one such initiative. The action plan describes the need for stimulating, supporting and scaling digital and innovative education practices.[2] Another project known as *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources* has in its agenda the objective of "stimulating high-quality, innovative ways of learning and teaching through new technologies and digital content".[3] This initiative also highlights the role of Open Education Resources (OER) and Massive Open Online Courses (MOOCs) in "allowing all individuals to learn anywhere, anytime, through any device, with the support of anyone".[4]

In 2012, the phenomenon of Massive Open Online Courses (MOOCs) gained popularity as a promising technology to disrupt education. They were described in the media as a "big idea that can revolutionize higher education".[5] As their name implies, MOOCs are digital classrooms where one lecturer or a small group of teachers can virtually reach thousands of people around the world. Students enroll in MOOC platforms to have access to the pre-recorded courses delivered by teachers of top universities. These online courses are regularly structured as a series of video lectures that students follow during a short period, ranging from 4 to 8 weeks. Once enrolled in a course, participants can comment on discussion forums and complete assignments that are self-evaluated or graded by peers. After the completion of a course, participants can get a digital certificate of completion, although it is not valid as official learning credits recognized by universities. Most of the

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[1] European Commission, "Learning and Skills for the Digital Era," EU Science Hub - European Commission, June 10, 2013, https://ec.europa.eu/jrc/en/research-topic/learning-and-skills.

[2] European Commission, "Digital Education Action Plan," January 17, 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0022&from=EN.

[3] European Commission, "Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources [COM(2013) 654 Final]," 2013, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1389115469384&uri=CELEX:52013DC0654.

[4] Íbid.

[5] Laura McKenna, "The Big Idea That Can Revolutionize Higher Education: 'MOOC,'" *The Atlantic*, May 11, 2012, https://www.theatlantic.com/business/archive/2012/05/the-big-idea-that-can-revolutionize-higher-education-mooc/256926/.

courses are free, although some platforms charge a fee for premium subscriptions to obtain a printed certificate and unlimited access to course materials.

MOOCs and educational technologies have been the subject of study over the past few years.[6] Terms such as *Technology Enhanced Learning* and *Digital Pedagogy* which define the relationship between learning and educational technologies are recurring terms in the literature. The open-access and peer-reviewed journal of *Hybrid Pedagogy* refers to Digital Pedagogy as:

> Digital Pedagogy is precisely not about using digital technologies for teaching and, rather, about approaching those tools from a critical pedagogical perspective. So, it is as much about using digital tools thoughtfully as it is about deciding when not to use digital tools, and about paying attention to the impact of digital tools on learning.[7]

The term connotes a nuanced definition of how technology is utilized and understood. According to the methodology described by Digital Pedagogy, an evaluation of the technology is performed before adopting the digital tools for learning, which is followed by a critical analysis of their use. However, the technologies analyzed by the scholars of the Digital Pedagogy discipline remain framed as "tools". In his article "*Critical Digital Pedagogy: A definition*", Jesse Stommel states, "Most digital technology, like social media or collaborative writing platforms or MOOCs, does not have its values coded into it in advance. These are tools merely, good only insofar as they are used".[8]

In this thesis I will thus make a case for the urgent need to understand educational technologies beyond neutral perspectives that overlook the social, political, and economic changes they make, even when they are not used. Analyzing technologies from broader approaches can reveal hidden structures that are often neglected in order to take actions. This is particularly relevant for tackling global issues in contemporary digital societies, for instance, the rise of fake news, digital scams, hacking interventions, data breaches, etc. As observed in the Digital Education Action Plan: "Use of ICTs requires a critical and reflective attitude towards available information and a responsible use of the interactive media".[9] For this reason, I am questioning if technological solutions, such as the digitalization of learning through MOOCs, are helping students to develop the skills needed to tackle today's complex global challenges.

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[6] Aras Bozkurt, Ela Akgün-Özbek, and Olaf Zawacki-Richter, "Trends and Patterns in Massive Open Online Courses: Review and Content Analysis of Research on MOOCs (2008-2015)," *The International Review of Research in Open and Distributed Learning* 18, no. 5 (August 15, 2017), https://doi.org/10.19173/irrodl.v18i5.3080.

[7] Hybrid Pedagogy, "What Is Digital Pedagogy?" *Hybrid Pedagogy*, (n.d.), http://hybridpedagogy.org/digitalpedagogy/.

[8] Jesse Stommel, "Critical Digital Pedagogy: A Definition," *Hybrid Pedagogy*, November 18, 2014, http://hybridpedagogy.org/critical-digital-pedagogy-definition/.

[9] European Commission, "Digital Education Action Plan," January 17, 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0022&from=EN.

Drawing from concepts of Critical Pedagogy and Philosophy of Technology, I will investigate the structure of learning in MOOCs. I will introduce the frameworks of the philosopher of education Paulo Freire, who criticized learning methods based solely on information transfer, which he conceptualized as "banking model" approach. Furthermore, to further grasp how MOOCs shape and create cultural norms about how people think about education, I will discuss the works of Byung-Chul Han and Nolen Gertz, contemporary philosophers of technology. Their theories reveal the dynamics that are often obscured due to technological enthusiasm and innovation discourses. My critical analysis aims to help stakeholders recognize the structures of power that can be found in apparent unproblematic technologies such as MOOCs, and second, to urge for the need to continue investigating educational technologies beyond their assumed neutral roles, which would allow to take actions for the present and the future of education.

Thus, the research question guiding my analysis is:

What do we learn when we *learn* through educational technologies such as MOOCs?

In order to answer this question, the following sub-questions will be investigated in the upcoming chapters:

- What are the promises of learning through MOOCs from the perspectives of MOOC developers and in academic discussions?
- What is the structure of learning through MOOCs from a Critical Pedagogy perspective?
- What is the role of MOOCs in shaping our understanding of learning from a Philosophy of Technology perspective?

My theoretical analysis is divided into three chapters. In the first chapter I describe how digital learning is part of the strategy to promote the development of skills and competences for the digital age. I introduce the case of MOOCs as an initiative to provide quality education virtually to anyone with an internet connection. I present the perspective of MOOC developers and discuss the academic debate from positive, negative, and critical perspectives. In the literature, polarized perspectives lend no attention to enquiry regarding the structure of learning modelled in MOOCs which is relevant to understand the role of educational technologies in shaping the attitude of people about education.

To further investigate this issue, in the second chapter I will introduce the perspective of education from a Critical Pedagogy perspective. The theoretical framework of the philosopher of education Paulo Freire will be used to evaluate the structure of learning in MOOCs. Freire criticized the "banking model" approach practiced in education, wherein learning refers to transfer of information, because these models hinder critical reflection and maintain systemic inequalities. The oppressive nature of banking models in education will be analyzed, and through a Freirean analysis, I will argue that the dynamic of digital oppression can be observed through educational technologies such as MOOCs.

In the third chapter, I will further inquire how digital oppression occurs in contemporary societies. Through a philosophy of technology perspective, I will discuss the role of technologies in preventing or maintaining these oppressive processes. According to the philosopher Byung-Chul Han, efficient forms of exploitation occur when they are seductive. An example is the use of "techno-hypnotic" technologies, those that as the philosopher Nolen Gertz argued, prevent people from understanding the role technologies play in shaping their ideas. I will end the chapter with a discussion of the benefits and drawbacks of emerging initiatives in education, particularly the with regard to the strategies of blended learning and educational institutions with low-tech environments.

Finally, in the concluding section I give a review of my analysis with the discussion of insights and limitations of my investigation. Overall, in my analysis I will address the processes regularly obscured by neutral assumptions about educational technologies. Frameworks from critical pedagogy and philosophy of technology will be referred to for analyzing the concepts of learning, education, and educational technologies. I urge for the need to question educational technologies from diverse perspectives, such as social, psychological, ethical, anthropological, and political, in order to bring to the fore hidden issues. These perspectives in my opinion would enrich the discussions and allow stakeholders in education to reflect, inquire, and take the necessary action.

Chapter I. The promises of digital learning and the case of MOOCs

In this chapter I will describe what are the promises of learning through MOOCs from the perspectives of MOOC developers and as framed in academic discussions. First, I will briefly discuss the initiatives deployed for promoting the development of digital skills and competences through educational technologies. Since many technologies fall under this broad classification, my focus will be specifically on the categories of *technologies for learning* and *technologies for learners.* I will discuss the differences between these categories in order to understand why MOOCs are considered as a promising technology for providing education. I will describe the offer of MOOCs according to Coursera, the largest MOOC platform currently available. Furthermore, I will present the current research on MOOCs and examine the debate around them, aiming to further expand the discussion beyond neutral perspectives on MOOCs.

The need for change: towards developing digital skills and competences

Schools and universities are part of the institutions that give structure to societies. Changes in society contribute to changes in institutions and vice versa. According to Richard Halverson and Annette Smith, education became synonymous with schooling in the 20th century, and schooling can be understood as the institutionalized practice where learning activities are aligned towards a curriculum.[10] The curriculum is a public document that organizes educational content aligned to a cultural perspective in a given society. Ines Dussel stresses that the curriculum is structured by an authority, such as the state, and decisions have to be made on what types of knowledge, values, contents, and skills are prioritized and relegated.[11]

An educational goal in the curriculum is to ensure people are equipped with the skills for competitivity. Education is therefore framed as instrumental: its purpose is to prepare students for the labour market.[12] Aiming to achieve this goal, modern education is aligned towards training students to adequately satisfy social and economic needs. For example, policy-makers in the Netherlands in the 1990s concluded that students needed to become "flexible and adaptive employees".[13] To achieve this, a range of education initiatives were rolled out including competency-based education and self-directed learning approaches.

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[10] Richard Halverson and Annette Smith, "How New Technologies Have (and Have Not) Changed Teaching and Learning in Schools," *Journal of Computing in Teacher Education* Vol. 26, no. 2 (2009): 53, http://dx.doi.org/10.1080/10402454.2009.1078463.

[11] Inés Dussel, "¿Es el curriculum escolar relevante en la cultura digital? Debates y desafíos sobre la autoridad cultural contemporánea," *Education Policy Analysis Archives*, April 28, 2014, 4, https://doi.org/10.14507/epaa.v22n24.2014.

[12] Denis Lawton and Peter Gordon, *A History of Western Educational Ideas* (Woburn Press, 2002).

[13] Helen Jossberger, "Toward Self-Regulated Learning in Vocational Education: Difficulties and Opportunities" (Doctoral Thesis, Open Universiteit, 2011), 8.

With the accelerated integration of technologies in aspects that shape how people live, interact, work, and learn, educational authorities are investing in initiatives for developing the digital skills people will need in an interconnected world. The understanding of education as training prevails, and in new curriculums the goal remains to prepare competent students to join the market force. The emphasis perhaps in the last decades has shifted towards developing so-called "digital intelligence", which is understood as a "set of social, emotional and cognitive abilities that enable individuals to face the challenges and adapt to the demands of digital life".[14] International organizations and institutions such as the World Economic Forum, the Organization for Economic Co-operation and Development, and the European Commission promote the integration of Information and Communication Technologies (ICTs) to "facilitate the wise and responsible use of technology",[15] "foster productivity, growth and well-being",[16] and "meet the challenges and opportunities of education in the digital age".[17] These discourses reflect a concern for preparing citizens for a transition towards increasingly techno-infused environments, thus promoting the development of competences to confront new challenges.

Governments and educational authorities have been formulating the changes needed in the curriculum to develop the skills demanded in the twenty-first century. In the case of Europe, the emphasis has been on educating people for the sake of enabling them to adapt to fast changing technological societies. The European Commission delivered *A new skills agenda for Europe*, where skills such as digital competences, entrepreneurship, critical thinking, and problem solving were identified as increasingly required abilities demanded by employers.[18] Furthermore, educational technologies regarded as an advantage for developing digital competences and skills for engaging learners. With the integration of digital technologies in education, institutions aim to modernize educational practices and realize the potential of technology-enabled learning experiences.

Digital technologies in education is a broad category that I will now further explain and exemplify by distinguishing between the categories of *technologies for learning* and *technologies for learners*. In the upcoming section, I will describe the contrasting characteristics of educational technologies in order to make the reader understand why MOOCs are considered a promising technology for providing education.

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[14] Yuhyun Park, "8 Digital Skills We Must Teach Our Children," World Economic Forum, June 13, 2016, https://www.weforum.org/agenda/2016/06/8-digital-skills-we-must-teach-our-children/.
[15] Íbid.
[16] OECD, "Innovating Education and Educating for Innovation: The Power of Digital Technologies and Skills," *Educational Research and Innovation*, 2016, https://doi.org/10.1787/9789264265097-en.
[17] European Commission, "Digital Education Action Plan," Education and training - European Commission, n.d., https://ec.europa.eu/education/initiatives/european-education-area/digital-education-action-plan_en.
[18] European Commission, "COM(2016) A New Skills Agenda for Europe," June 10, 2016, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0381.

Technologies for learning and technologies for learners

Certainly, technology is the current force driving many societal changes, and education does not escape these dynamics. However, critics are skeptical about the claims of "disruption" in education through technology. For example, Halverson and Smith describe empirical analyses that show how tools are being used to reinforce existing practices of the prevailing schooling organization model, e.g. teachers at the center of instructional practices, focus on delivering specific content, and assessment practices which remain structurally the same.[19] The criticism is that digitalization does not equate to improvement and new challenges emerge, e.g. video lectures can offer distance learning but without discussing the content delivered, the practice remains one-sided. Teachers can make Power Points for supporting their lectures, but that does not guarantee enthusiasm or that students will learn more.

Halverson and Smith distinguish the categories of educational technologies as *technologies for learning* and *technologies for learners*. They identify *technologies for learning* as those purposefully designed for achieving specific goals and guiding users to meet them. They argue that these types of technologies are the ones adopted by schools and universities because they do not entirely "disrupt" the way activities are done, these technologies can be framed as "upgrades" of familiar tools, e.g. Power Point instead of overhead projectors, interactive boards instead of chalk boards, or Learning Management Systems like Blackboard for teacher-student communication and class organization. Halverson and Smith state that *technologies for learning* "focus on organizing resources to produce reliable learning outcomes"[20] and the end goal is to guide learners to desired learning objectives.

Technologies for learners, on the other hand, allow users to establish their learning goals and give them the opportunity to choose how to achieve them. T*echnologies for learners* promote "learner-controlled" activities, therefore, it is stressed that agency is on the users. Examples of *technologies for learners* include individual approaches like voluntarily enrolling to MOOCs, playing informative video games, watching Crash Course video lectures, and participating in other interest-based learning communities. These examples are initiatives that go beyond being an *upgrade* of previous resources used by students and teachers. These are the type of technologies that are described as "disruptive", because they present new ways to learn from sources other than teachers and educational institutions.

Massive Open Online Courses (MOOCs) are an example of a technology that challenged traditional forms of education because its format allowed virtually anyone with an internet connection *free* access to educational resources from prestigious universities. Critics have compared MOOCs as an e-learning initiative following previous distance learning projects. Ingrid Hoofd mentions the case of

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[19] Halverson and Smith, "How New Technologies Have (and Have Not) Changed Teaching and Learning in Schools," 49.

[20] Halverson and Smith, 49.

subscriptions to educational books, written correspondence, and videotapes.[21] However, in contrast to previous forms of distance learning, the MOOC format was framed as transformative because of its potential to bring quality education to disadvantaged groups. In the media, MOOCs were described as a technology conceived to empower learners and democratize education by increasing access without discriminating due to race, gender, or wealth.[22] The MOOC format was not just an upgrade for distance learning, by partnering with universities around the world, MOOC platforms positioned themselves as a solution to provide continuous learning and innovate the way people can acquire new skills.

Technologies for learners: The case of MOOCs

In a report that was published in 2017, the top five MOOC providers were identified as Coursera with 30 million users, edX with 14 million users, XuetangX with 9.3 million users, Udacity with 8 million users, and Future learn with 7.1 million users. People can access more than 9,400 courses offered through these providers from more than 800 universities. In regards to the subjects offered, almost 40% are on Business and Technology (Computer science, programming, data science, entrepreneurship, and management courses), 10.6% of courses cover topics of the Social Sciences, 9.5% in Humanities, 7.2% Health and Medicine and 5.5% Art and Design.[23]

The different motivations for enrolling in MOOCs include obtaining knowledge and skills through self-study, improving chances to find employment, advancing a career, fulfilling a personal challenge, raising the prestige of the university that offer the course, and resolving the curiosity for a topic.[24] MOOCs are an option for people who do not have the means to physically attend school, for example, students who cannot formally enroll in universities due to a diverse range of constraints they might find themselves in, e.g. being a working person with an office job, a retired elder, a person in a country where education is expensive, etc. Therefore, MOOCs present an attractive alternative for people that wanted to continue learning despite the situations they face.

MOOCs are presented as "effective learning through storytelling",[25] the stories are told through "microlectures", where the content of the videos is focused on explaining concepts in less than 6 minutes. Students can choose to participate in the discussion of the learned material by

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[21] Ingrid M. Hoofd, *Higher Education and Technological Acceleration: The Disintegration of University Teaching and Research* (Springer, 2016), 41.

[22] Anant Agarwal, "Online Universities: It's Time for Teachers to Join the Revolution," *The Guardian*, June 15, 2013, sec. Education, http://www.theguardian.com/education/2013/jun/15/university-education-online-mooc.

[23] Dhawal Shah, "A Product at Every Price: A Review of MOOC Stats and Trends in 2017 — Class Central," Class Central's MOOC Report, January 22, 2018, https://www.class-central.com/report/moocs-stats-and-trends-2017/.

[24] Yuan Wang and Ryan Baker, "Content or Platform: Why Do Students Complete MOOCs?" *MERLOT Journal of Online Learning and Teaching* Vol. 11, no. No. 1 (2015): 14.

[25] Future Learn, "Why FutureLearn Is An Effective Way to Learn," Future Learn, accessed May 14, 2018, https://www.futurelearn.com/using-futurelearn/why-it-works.

commenting on the section next to the video watched, or in the forums provided by the platform. To test the knowledge they acquire, students can take quizzes and complete assignments that are graded by other students following the same course.

Coursera, the current leading MOOC provider, was founded in 2012 by Stanford Professors Andrew Ng and Daphne Koller. At the time, Coursera described its services as follows:

> We are a social entrepreneurship company that partners with the top universities in the world to offer courses online for anyone to take, for free. We envision a future where the top universities are educating not only thousands of students, but millions. Our technology enables the best professors to teach tens or hundreds of thousands of students.[26]

Initially they partnered with 4 universities in the United Stated and offered 43 courses.[27] The platform implemented a strategy to grow their course offerings by partnering with more universities. The report of March 2018 shows that Coursera offers more than 2,000 courses in cooperation with more than 150 universities, serving 30 million learners.[28] In its webpage Coursera describes its service as a platform that "provides universal access to the world's best education, partnering with top universities and organizations to offer courses online".[29] The courses continue to be taught by instructors of top ranked education institutions, which are video recorded, so learners can access them anytime. If the course is completed by fulfilling the assessment dynamics of the course, which regularly relies on auto-grading and peer-reviewed assignments, the platform will provide an electronic course certificate. Although the courses on the platform are "online and open to everyone", printed certificates of completion can be obtained if the learners pay between $29 to $99 USD, else they will just get the electronic certificate.

Being a for-profit initiative, Coursera diversified its business and now offers specializations and corporate training services. Specializations are a set of courses curated to learn about a specific topic which follows the same structure of watching lectures and complete assignments.[30] The trial period for specializations is a week, following which a monthly fee needs to be paid for access. Similarly,

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[26] Colin Beard and John P. Wilson, *Experiential Learning: A Handbook for Education, Training and Coaching* (Kogan Page Publishers, 2013).
[27] Andrea Iskandar, "Coursera's Business Level Strategy" (Doctoral Thesis, South China University of Technology, 2016), https://doi.org/10.13140/RG.2.1.2902.8088.
[28] Coursera, "About," Coursera Blog, (n.d.), https://blog.coursera.org/about/. Figures according to their website accessed on March 2018.
[29] Íbid.
[30] Coursera, "Methods and Statistics in Social Sciences," Coursera, (n.d.), https://www.coursera.org/specializations/social-science., for example, the specialization "Methods and statistics in social sciences" will include five courses "Quantitative methods", "Qualitative research methods", "Basic statistics", "Inferential statistics", and a "Final research project".

corporate training is a business service that provides a collection of courses depending on the organizations' needs. In 2017, more than 500 companies signed up for Coursera for Business.[31]

The case of Coursera is an example of an apparent neutral technology that connects students with teachers to support the cause of empowering people through open education. However, I will now discuss nuanced perspectives and research on MOOCs to provide a broader perspective beyond the techno enthusiasm around them.

Polarized perspectives on MOOCs

The phenomenon of MOOCs has been researched extensively since their introduction in 2008. On August 2017, a review of the research on MOOCs from 2008-2015 was published. Aras Bozkurt, Ela Akgün-Özbek, and Olaf Zawacki-Richter analyzed 362 articles that researched MOOCs focusing on the content and discourse analysis of the publications. Their findings reveal that most research (56.4%) took a neutral standpoint towards MOOCs, highlighting that they are neither good or bad but just another tool in the market available for autodidacts. Positive analyses in the literature (27.1%) perceived MOOCs as a promising innovation, in contrast to negative perspectives (1.1%) which perceived MOOCs as a hype. The researchers also identified the rise of critical accounts (15.5%) which provided careful judgements about MOOCs.[32] Based on their insights, researchers suggested avenues for policy making in regards to making MOOC platforms more transparent for research. MOOC providers, according to Bozkurt et al., could open the data in an anonymized way in order to allow for possibilities of conducting more empirical research.

In the academic debate mentioned above, proponents highlighted positive aspects of MOOCs include offering learners the opportunities to collaborate beyond borders, meaning that people can virtually connect and exchange their perspectives despite where they live. These exchange of ideas and world-views would enrich the learning process because students can have the opportunity to interact with other learners globally. Students can also self-study the content at their own pace and choose a combination that best suits their needs.[33] Forums and comment sections in MOOCs are described as the place where learners can engage in discussions. However, a study documented that from all registered students less than 5% posted in the forums.[34] The study also remarked upon the

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[31] Dhawal Shah, "A Product at Every Price: A Review of MOOC Stats and Trends in 2017 — Class Central," Class Central's MOOC Report, January 22, 2018, https://www.class-central.com/report/moocs-stats-and-trends-2017/

[32] Aras Bozkurt, Ela Akgün-Özbek, and Olaf Zawacki-Richter, "Trends and Patterns in Massive Open Online Courses: Review and Content Analysis of Research on MOOCs (2008-2015)," *The International Review of Research in Open and Distributed Learning* 18, no. 5 (August 15, 2017), 128.

[33] Adrian Norman, "The Who, Why and What of MOOCs," *Rhetoric and Reality: Critical Perspectives on Educational Technology. Proceedings Ascilite Dunedin*, 2014, 717–21.

[34] Jane Manning, "How Widely Used Are MOOC Forums? A First Look.," *Stanford | Teaching Commons*, July 18, 2013, https://teachingcommons.stanford.edu/teaching-talk/how-widely-used-are-mooc-forums-first-look.

difference between learners that enroll out of curiosity but didn't complete the course and learners who completed the course satisfactorily. Considering only the group of participants that completed the course, an average of 21% were found to interact in the forums.[35] Although MOOC providers highlight the community aspect that can be built through commenting in forums, researchers documented that it is a small percentage of learners who actively participate in the forum discussions.

Critical accounts on MOOCs highlight the privileged backgrounds of MOOCs' participants. Studies concluded that most students learning through MOOCs already have a higher education and that they are familiar with the instructional design and language of instruction.[36] In addition, a study analyzing the Coursera student population concluded that the average user tends to be young, male, employed, and from a developed country.[37] Moreover, research has documented how participants enrolled in MOOCs are regularly employed in industries including ICT, education, business, and management.[38] These observations have raised criticisms with regard to the potential of MOOCs increasing inequalities rather than empowering less privileged groups.

Furthermore, thousands of participants enroll in MOOCs, but the completion rates are low. A study analyzed quantitative and qualitative information of several MOOC platforms, concluding that the completion rate for most courses is below 13%.[39] Lack of time, course difficulty, lack of support, and motivation reduction throughout the course are some of the reasons mentioned for dropping out. Yuan Wang and Ryan Barker have argued that not completing a course might not be a sign of lack of success for many students, since choosing what to learn is part of the structure of MOOCs and people can choose to follow just a subset of the content or the entire course.[40]

These nuanced perspectives challenge the overly optimistic discourse on MOOCs, which are regularly described as an educative resource with beneficial aspects for people who cannot access higher education, but research on the other hand reveals that the students taking MOOCs come already from privileged backgrounds, which supplement their education and are intrinsically motivated by curiosity and the possibility of advancing their career opportunities. As a result of the issues raised concerning the low completion rate, low usage of forums, and students dropping out the

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[35] Íbid.

[36] Karmijn van de Oudeweetering and Orhan Agirdag, "MOOCs as Accelerators of Social Mobility? A Systematic Review," *Journal of Educational Technology & Society* Vol 21., no. 1 (January 2018): 1–11.

[37] Gayle Christensen et al., "The MOOC Phenomenon: Who Takes Massive Open Online Courses and Why?" *Social Science Research Network* (Rochester, NY, November 6, 2013) https://papers.ssrn.com/abstract=2350964.

[38] van de Oudeweetering and Agirdag, "MOOCs as Accelerators of Social Mobility? A Systematic Review."

[39] Daniel F. O. Onah, Jane Sinclair, and Russell Boyatt, "Dropout Rates of Massive Open Online Courses : Behavioural Patterns," in *EDULEARN14 Proceedings*, ed. L. Gómez Chova, A. López Martínez, and I. Candel Torres (6th International Conference on Education and New Learning Technologies, Barcelona, Spain: IATED Academy, 2014), 5825–34, http://wrap.warwick.ac.uk/65543/.

[40] Yuan Wang and Ryan Baker, "Content or Platform: Why Do Students Complete MOOCs?" *MERLOT Journal of Online Learning and Teaching* Vol. 11, no. No. 1 (2015).

courses, MOOC providers are developing solutions to increase engagement and improve MOOCs. An example is the initiative of Coursera offering live "office hours" where volunteer students with experience in the course help other learners through interacting in video chats.[41]

Current criticisms, as mentioned above, are not however moving the discussion beyond the cycle of raising issues and fixing them. Stakeholders promoting the use of MOOCs for learning new skills and competences identify MOOCs as novel platforms that provide access to quality education. I am interested in investigating this assumption. In the next chapter I will further analyze MOOCs by closely examining the process of learning digitally.

Conclusion

At the beginning of this chapter, I discussed the efforts of diverse stakeholders to promote digital competences and the integration of technology in education. I described the instrumental understanding of education as a training process: the aim is to equip students with the competence and skills demanded by employers in increasingly digital and knowledge-based societies. MOOCs are part of the strategy to promote the continuous learning and acquisition of skills, for instance today's demanded competences of digital literacy and entrepreneurial mindset are taught in MOOCs. I examined the promises and debate around MOOCs which frame them as a neutral tool that is used for connecting students and teachers. However, the discussions around MOOCs do not lend attention to the structures of learning and the role of these technologies in shaping how people understand education. I am interested in further investigating these overlooked aspects. In the next chapter I will introduce the perspective of education from a critical pedagogy approach which provides a framework to evaluate how students learn in MOOCs. Furthermore, I will contest the neutral perspective, arguing that MOOCs are not only platforms for promoting learning, they shape how people think about what education is.

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[41] Duke University, "Coursera Pilots On-Demand Student Engagement Features," *Duke Online*, May 18, 2015, https://online.duke.edu/coursera-pilots-on-demand-student-engagement-features-4/.

Chapter II. Education from a critical pedagogy approach: Freire's framework and digital oppression

In the previous chapter I described the promises of MOOCs and the criticism raised in research studies. Examples included the low rates of completion and the low participation of students in forums. MOOC providers are addressing these criticisms and developing solutions to improve the learning experience.[42] However, current criticisms on MOOCs are not moving the discussion beyond the cycle of raising issues and providers fixing these issues. Less attention has been given to inquiring the process of learning through digital courses. MOOCs are a learning solution based on a specific model of learning, and this model is rarely questioned. This is where philosophy is helpful to examine and enrich definitions taken for granted. Hence, in this case I will analyze what is "learning" drawing from philosophical concepts of Critical Pedagogy in order to understand the process of digital learning through MOOCS.

In this chapter I will introduce Paulo Freire's philosophy of education. His theoretical analysis will serve as a framework to evaluate learning structures embedded in MOOCs. First, I will describe Freire's account of oppression in order to understand how he observed oppressive dynamics in education, and why he considered education as ethical and political. Freire criticized "banking model" approaches in education because they maintain an oppressor-oppressed relationship. There are aspects in MOOCs that mirror the oppressive structures that Freire criticized. Therefore, I will argue that digital oppression can occur through technological means. I will elaborate on who are the digitally oppressed, how does this oppression occur, and what it the role of the participating actors in maintaining or preventing these new forms of oppression.

My analysis does not aim to help create better MOOCs, but first, to recognize the structures of oppression that remain hidden from public view, and second, to argue for the need to investigate how educational technologies are not just mere tools that people can use to supplement their education, but as that which can shape how people think, and consequently, learn. If people equate learning with absorbing information, then there emerges a potential dangerous scenario where education may be reduced to a technological practice no matter if it is through digital learning, a robot teacher, or a voice assistant.

Background on Freire's work
Paulo Freire is known for his work as an educator and for his contributions to the discipline of "Critical Pedagogy", which has its roots in the tradition of Critical Theory.[43] Central to the discussions of critical

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[42] Íbid.

[43] His work has been considered eclectic because his philosophy is influenced by a mix of different schools of thought such as Marxism, Existentialism, Phenomenology, Postmodernism, and Critical Theory. See Roberts 2008.

theorists like Max Horkheimer, Theodor Adorno, Herbert Marcuse, and Walter Benjamin was the investigation of the relationships between individuals and their socio-cultural contexts. They were interested in understanding how existing structures emerged and reproduced culturally, and how such situations hindered the freedom of individuals.[44] Critical Theory applied to education focuses on challenging the instrumentalist understandings that consider people as means, e.g. framing people as "consumers" or "workers". Instead, a focus on self-reflection and development of individuals is proposed in Critical Theory.

Freire lived in the northeast part of Brazil in a politically unstable context during the 1930s. The aftermath of colonization and slavery resulted in extremely low rates of literacy in the country. In 1962 there were 25 million people living in the northeastern region of Brazil, where an estimated 15 million were illiterate.[45] Freire began a literacy movement where he worked with marginalized and poor people in the northeastern region of Brazil. He saw education as an empowerment force for people to develop a consciousness of freedom and recognize authoritarian tendencies. In 1964, a military coup overthrew the administration of President Joao Goulart, and a military dictatorship was established. The authoritarian regime found Freire's teaching methods subversive for which he was imprisoned.[46] After his release, he was exiled in Chile where he continued his work with Chilean peasants. Freire observed that people did not feel free although they were no longer enslaved, and they knew how to read and write.[47] For him it was important to make them realize they were human beings, able to create culture and history, active subjects and not objects for the service of authoritarian regimes. He developed these insights in his influential work *Pedagogy of the Oppressed*, published in 1970 both in English and Spanish. After 15 years of exile, he came back to Brazil in 1979, he joined the Worker's Party, and became the Minister of Education for the city of Sao Paulo in 1988.

Revising Freire's philosophy of education is relevant for today's context of transitioning to new educational models that demand going beyond transferring information, which has prevailed as a dominant structure in education. This can be seen in the methods of educational institutions that stress students should master information and procedures. However, as observed in the initiatives I referred to in the first chapter of this thesis, new models of education need to foster critical thinking and reflective skills in students which would help them to address contemporary global issues. In Freire's

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[44] Nigel Blake and Jan Masschelein, "Critical Theory and Critical Pedagogy," in *The Blackwell Guide to the Philosophy of Education* (Wiley-Blackwell, 2007), 39, https://doi.org/10.1002/9780470996294.ch3. For example, in *Dialectic of Enlightenment*, Horkheimer and Adorno theorized the spread of cultural content through technology (film, radio, and magazines at the time of their analysis), and analyzed how what they called a mass culture of "sameness" shaped people's lives by making people passive intellectually and politically.
[45] Kim Díaz, "Paulo Freire" *Internet Encyclopedia of Philosophy*, (n.d.), https://www.iep.utm.edu/freire/. Accessed 15 Apr 2018.
[46] Íbid
[47] Íbid

view, education is not just about teaching methods and skills but "a process of becoming more fully human through critical, dialogical praxis".[48] Education is therefore a transformative practice that consists of acts of cognition and not just transfer of information. Self-reflection and critical agency are competencies that help students become participative individuals and not simply think of themselves as "consumers" or "workers".

Freire's main concepts in *Pedagogy of the Oppressed*

Oppression

In the introduction of *Pedagogy of the Oppressed*, Donaldo Macedo, who co-wrote publications with Freire, was asked about why he and Paulo wrote with "Marxist jargon", which put off many readers. He replied that Freire aimed to denounce structures of oppression that cannot be revealed if he would have use euphemisms like "disenfranchised" or "disadvantaged" because the terms do not serve to identify and challenge their counterpart. "If you have an oppressed, you must have an oppressor",[49] writes Macedo. Freire's theoretical framework denounced the many forms of oppression that people face due to race, class, gender, culture, language, and ethnicity. He argued that people are conditioned by these factors but not determined. He writes:

> I must intervene in teaching the peasants that their hunger is socially constructed and
> work with them to help identify those responsible for this social construction, which
> is, in my view, a crime against humanity.[50]

The political ideology of neoliberalism has a significant role in establishing oppressive dynamics. This is why Freire criticized neoliberalism and its influence in perpetuating inequalities. Jathan Sadowski explains neoliberalism as an ideology that arranges the political and social dynamics aligning everything to market values: institutions, universities and public services, and wherein people emulate market structures. Individuals think themselves as entrepreneurs and governments as corporations.[51] Furthermore, George Monbiot refers to neoliberalism as an ideology that operates namelessly: "It redefines citizens as consumers, whose democratic choices are best exercised by buying and selling, a process that rewards merit and punishes inefficiency".[52] Neoliberalism is an immobilizing ideology because people are forced to see the world under the market demands as inevitable. It maintains

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[48] Peter Roberts, "Teaching as an Ethical and Political Process: A Freirean Perspective," in *Nga Kaupapa Here: Connections and Contradictions in Education*, ed. Carpenter, Vicki et al. (Australia: Cengage Learning, 2008), 100.

[49] Paulo Freire, *Pedagogy of the Oppressed*, trans. Myra Bergman Ramos, 30th anniversary ed (New York: Continuum, 2000), 22.

[50] Freire, 20.

[51] Jathan Sadowski, "Selling Smartness: Visions and Politics of the Smart City" (Doctoral Thesis, Arizona State University, 2016), http://oatd.org/oatd/record?record=oai%5C%3Aarizonastate%5C%3A40245.

[52] George Monbiot, "Neoliberalism – the Ideology at the Root of All Our Problems," *The Guardian*, April 15, 2016, sec. Books, http://www.theguardian.com/books/2016/apr/15/neoliberalism-ideology-problem-george-monbiot.

inequalities because there is the insistence that 'the market' is what regulates the social order and that this situation cannot be changed.

In neoliberalism, 'the free market' creates a competition that dictates what everyone deserves, and people internalize their positions in society. These dynamics have been documented in social studies where class and ideology are found as barriers for reducing inequalities.[53] The rich think they are wealthy because they worked to achieve their position, but they do not acknowledge the structures that privileges them, like the culture they were born, the education they received, the class they belong to, their race, etc. The poor think they are poor because they do not work enough, and they cannot do anything to change the circumstances that keep them in that position. To impose these views of the world as unchangeable is what Freire found oppressive because it undermines people's agency. Freire described persons as historical beings, meaning that people can transform their reality and act upon the world because the future is not decided. The world is not aligned towards the interests of the market as the neoliberalist ideology frames. Therefore, more equal and just systems are possible, but people need to be able to recognize these oppressive structures in order to transform them. Hence, education can serve as vehicle for reflection and social transformation.

Oppressor-oppressed relationships

Freire's analysis reveals how oppressor-oppressed relationships are constituted in social structures. Following a neoliberal dynamic, the oppressors conceive the world from a perspective of possession: those who oppress see themselves as "human beings" and others as "things", objects of domination, including "[t]he earth, property, production, the creations of people, people themselves".[54] The oppressors consider that what they have is a product of their effort and hard work, and if others do not have the same then it is because they are lazy or do not work hard enough. The oppressors will not give up their position because they do not recognize themselves as exploiting people or the earth. They do not consider themselves as being in a privileged position. Moreover, they regard situations in which their position is threatened to bean oppression of their rights. It is therefore not in the interest of the oppressors to intervene in changing such exploiting situations. Oppressive structures can only be surmounted by the oppressed and, in doing so, free themselves and free their oppressors.[55]

The oppressed see themselves through the role of the oppressor. In their struggle for liberation, the oppressed find themselves in the dilemma of becoming an oppressor or staying oppressed. People lose their humanity when they render other human beings powerless. The

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[53] Rosa Rodriguez-Bailon et al., "Social Class and Ideologies of Inequality: How They Uphold Unequal Societies," *Journal of Social Issues* 73, no. 1 (March 1, 2017): 99–116, https://doi.org/10.1111/josi.12206.
[54] Freire, 58.
[55] Freire, 56.

contradiction in which the oppressed are found will be reconciled when the oppressed do not consider themselves as either oppressed or oppressors, but as a person in the process of liberation, always in the process of becoming human. Peter Roberts explains Freire's process of humanization not as an abstraction, we humanize ourselves in everyday life through the decisions we make and the actions we take, and we oppress others when we obstruct their pursuit of humanization.[56] These dynamics are also found in social structures, including education.

Oppressor-oppressed relationships are found in classrooms because a hierarchy of power is present, the teacher is at the center and is the one who own valuable knowledge, while students are passive receivers of the information provided by the teacher. In this scenario, education is not a process of inquiry but a mechanical act of repeating what the teacher says. Dialogue is of particular importance to explore alternatives towards a more just and democratic world. Educational institutions are places where dialogical practices can be promoted and where students and teachers can investigate together the world they live in. It is through conversation that ideas can be exchanged, challenged, or transformed. However, dialogue and co-construction of knowledge are not pedagogical approaches widely implemented in education, instead, a hierarchical structure is found in classrooms.

Examples of these hierarchical modes of teaching have been criticized in the research of Carrie Mott. As a Geography teacher in higher education, Mott argues that academic institutions normalize particular ways of being and interactions between teachers and students. In these dynamics, the teacher is framed as an authority and students as passive subjects receiving knowledge.[57] Having a background in Montessori education, Mott sought to decenter her role as an authority in the classroom and develop meaningful interactions with students in order to promote better discussions and class participation. Mott encouraged teachers to teach outside restrictive paradigms and oppressive models that view students as passive subjects. This is similar to the 'banking model' approach that Freire problematized as a hierarchical structure in education, it hinders the possibility for humanization which involves learning to perceive social and political contradictions to take action against oppressive dynamics in society.

Banking model of education
Freire criticizes what he calls "the narrative character" of education, a dynamic where the teachers as owners of information "fill" the students with their narrations and the students memorize the concepts they are told to "learn".

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[56] Peter Roberts, "Teaching as an Ethical and Political Process: A Freirean Perspective," in *Nga Kaupapa Here: Connections and Contradictions in Education*, ed. Carpenter, Vicki et al. (Australia: Cengage Learning, 2008).
[57] Carrie Mott et al., "Making Space for Critical Pedagogy in the Neoliberal University: Struggles and Possibilities," *ACME: An International Journal for Critical Geographies* 14, no. 4 (December 22, 2015): 1260–82.

Four times four is sixteen; the capital of Pará is Belém". The student records, memorizes, and repeats these phrases without perceiving what four times four really means, or realizing the true significance of "capital" in the affirmation "the capital of Pará is Belém", that is, what Belém means for Pará and what Pará means for Brazil.[58]

Education is therefore reduced to the transfer of information, an act of depositing. This is what Freire conceptualizes as "the banking model" where teachers make the deposits and students receive and store the deposits. The problematic aspect that Freire challenges is that students adapt to a world view that is imposed on them. Students and teachers are involved in an oppressor-oppressed relationship that undermine their creative power and development of critical consciousness and with this any possibility of social transformation.

The approach of "banking education" creates a divide between teacher and students, where the former is the "owner" of the content. The aim is to train and indoctrinate because students consider themselves as objects that do not know, and the teachers give them the answer they need to know to function in a society driven by a market economy. The model starts from a hierarchical structure where the experience of learning is dominated by one person, the teacher, and the students internalize this model as an educative model.

In contrast to 'banking model education', Freire describes a problem-posing approach where teachers and students work together in co-constructing knowledge. The relationship between teacher and students is not hierarchical because both the teacher and students learn from each other. The role of the teacher is to guide the students, not to impose her views on them. Problem-posing education or pedagogy of liberation focus on what Freire calls "conscientization". Dale and Hyslop-Margison describe conscientization as the process where awareness of the context is analyzed to understand how it shapes identity.[59] In other words, conscientization allows self-reflection and the possibility to see the world not as unchangeable, but to perceive it critically and participate in its transformation.

If teacher and student see themselves as equals, they can learn from each other. This relationship opens the possibility for dialogue where they can exchange their different experiences and inspire each other. Freire stressed that it was through a dialogical process that students and teachers engage in an exchange of ideas and construct knowledge together by avoiding the imposition of one's views on the other and encouraging critical thought and inquiry.

The structure of oppressive education based on Freire's arguments can be summarized in the following points:

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[58] Freire, 71.

[59] John Dale and Emery J. Hyslop-Margison, *Paulo Freire: Teaching for Freedom and Transformation: The Philosophical Influences on the Work of Paulo Freire*, Explorations of Educational Purpose (Springer Netherlands, 2011), 133

- Top-down structure, one teacher to many students in the classroom;

- Centered on the teacher, who is the one who teaches, and students are taught;

- The teachers are the ones who know, and the students do not know;

- Unidirectional structure where the students listen to what the teacher is lecturing, dialogue is not promoted;

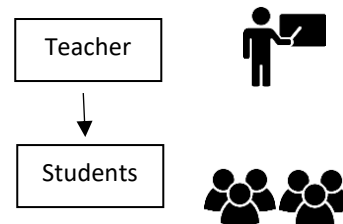- The content is fixed, and the students adapt to it;

Fig. 1. Learning structure in banking model of education[60]

Fig 1. Illustrates the learning structure in the banking model approach, where a top-down model is present. The power dynamics in this structure can be seen in the layout of the classroom, where the teacher remains at the center; students cannot make any decisions with regard to the content they will study, and they are evaluated in terms of repeating what they are told to memorize. This process in education impedes a process of inquiry and frame students as objects being trained to follow orders.

Freire received criticism for not providing a clear methodology to overcome oppressive dynamics in the classroom. However, it is important to highlight that Freire continuously stressed it was not his aim to provide such a check-list for teachers to follow or educational institutions to adopt. Henry Giroux recounts when Freire was asked for recipes or answers that people demanded for their educational issues. Giroux notes that such requests to Freire undermined his concern with how contexts and political forces shaped the learning relationship between students and teachers.[61] A universal approach will not be possible because every school, students, authorities, infrastructure, and other external forces that influence the learning environment are different.

Having introduced and discussed the structure of oppression that Freire found in social structures, particularly in education institutions, I will further elaborate and evaluate the structure of education in digital learning. There are aspects in MOOCs that mirror the oppressive structures that Freire criticized. Therefore, I will argue that digital oppression can take place mediated through

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[60] I made this diagram to illustrate the hierarchical structure between the teacher and students in a banking education model. The icons have a free license and were designed by the artist Freepik https://www.flaticon.com/authors/freepik

[61] Henry A. Giroux, "Paulo Freire and the Crisis of the Political," *Power and Education* Vol. 2, no. 3 (September 2010): 338, https://doi.org/10.2304/power.2010.2.3.335.

technology. My analysis will reveal how the understanding of learning as transferring of information is replicated in educational technologies. The problematic aspect is that educational institutions adopt these technologies and maintain models that are dehumanizing. There is a need to critically understand how technologies enable and hinder people's flourishing at the same time. Analyzing educational technologies from critical perspectives, therefore, offer the possibility to reflect about hidden structures and take actions to change them.

The digitally oppressed: Problematizing the learning structure in MOOCs

As I introduced in the first chapter, MOOCs are presented as "effective learning through storytelling",[62] the stories are told through "microlectures", where the content of the videos are focused on explaining concepts in less than 6 minutes. The MOOC format is appealing in digital cultures where instant information, visuals, and online courses are described as enhanced ways to learn. The assumption is that access to knowledge has never been easier. But MOOC platforms are structured in a way that are top-down and remains one-sided because a teacher can virtually "reach" thousands of students, but not the other way around.
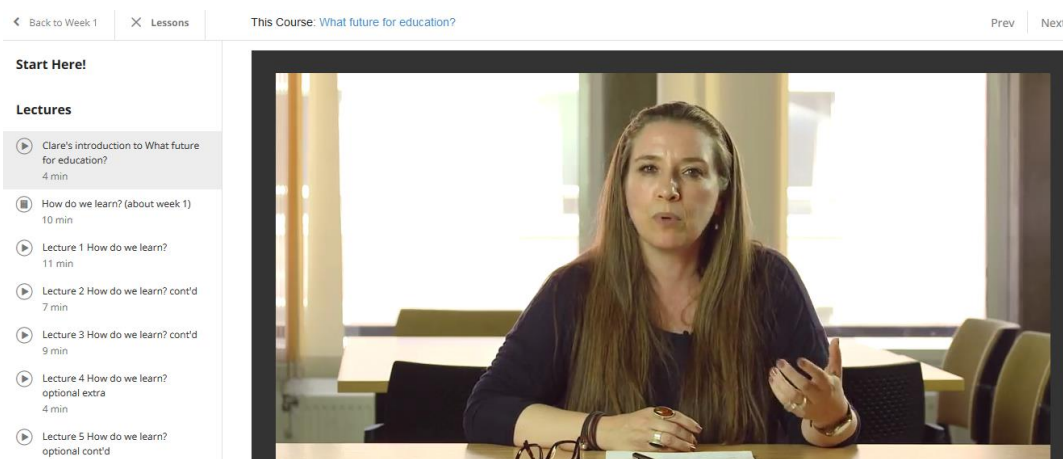

Fig. 2. A screenshot from the course "What future for education?" in the MOOC platform of Coursera

In Fig. 2 we can see an example of the Coursera interface where a teacher is delivering a lecture to her audience on the other side of the screen. To make their lectures more attractive, some teachers change the background or setting of their lectures. They can be outdoors, in a classroom, or behind a green screen that later is changed for a PowerPoint-like background where relevant concepts are annotated. The teacher delivers a pre-packaged lecture that is scripted. This script can be read next to the video.

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[62] Future Learn, "Why FutureLearn Is An Effective Way to Learn," *Future Learn*, accessed May 14, 2018, https://www.futurelearn.com/using-futurelearn/why-it-works.

The process of planning for recording a MOOC vary according to the university. For example, the University of Twente invested in state-of-the-art resources for recording videos in-house and MOOC production.[63] A Technology Enhanced Learning and Teaching department is dedicated to support the development and use of digital learning materials. When visiting the recording studio, the amount of work and preparations needed to record a MOOC micro-lecture was explained. Teachers can follow a guide that provides a checklist for recording a micro-lecture.[64] The checklist recommends the videos should last less than 6 minutes, this to keep students engaged. To make the lecture entertaining, the checklist suggests using visuals for the presentation slides showed in the video. The document also remarks the importance of the teacher to show her personality and teaching style in the video. Before recording, teachers write a script of the content they want to narrate. This script is revised and approved by an educational expert from the TELT department. To become familiar with the stage, teachers are trained to read in a teleprompter where the script they provided will appear.

The University of Twente has dangerously joined the trend of equating the understanding of learning as transferring of information. This process is made possible by using high tech for recording videos, but the human touch is lost. On the webpage of the TELT department it can be read: "*The videos enable you as a teacher to transfer large amounts of information in a relatively short period of time. Learning from videos is meaningful and liked by students. They can watch the videos anywhere, anytime and as much as they want*".[65] This is problematic because teachers are presented with a perspective where the use of language reinforce reducing learning to training, and due to this perspective videos are seen as an engaging platform for transmitting content, learning however is not about passively absorbing information, exchanging ideas and promoting inquiry through dialogue is of vital importance for the development of critical skills.

In MOOC platforms students cannot question what the teacher is sharing, but if they do not understand what is being explained, students can pause or repeat the video. If the information is not clear, students can ask questions in the discussion forums. However, getting a reply in a forum can be difficult when many threads are posted, and the question can get lost. In Fig. 3 we can see an example of a forum discussion in the platform of Coursera. For that specific course, 605 threads were created in the discussion for the first week, these amount to 41 pages for which the teacher cannot respond to each question. This is why mentors, who are also part of the teaching staff of the course,

[63] University of Twente, "Video in Education," accessed May 26, 2018, https://www.utwente.nl/en/telt/themes/Videoproduction/.
[64] The checklist How to create a micro-lecture can be retrieved from https://www.utwente.nl/en/telt/solutions/AdditionalMaterials/microlecture-checklist.pdf
[65] University of Twente, "Video in Education," accessed May 26, 2018, https://www.utwente.nl/en/telt/themes/Videoproduction/.

occasionally reply to questions. The discussion forum provides the number of views and replies that a question receives. Not surprisingly, replies are much lower than views.

It can be argued that the digital forums and peer reviews offered in MOOC platforms are an initiative to promote interaction between students, but the drawbacks are the possibilities of not obtaining a response because many threads are created in the forums, or the quality of the feedback received is not motivating or sufficient. Therefore, engaging in a virtual dialogue can be difficult in the MOOC forums. These issues were raised in a recent study on the experience of both attending a course physically and following the same course via a MOOC.[66] In regards to the participation in forums, the researcher noted the duplication of posts which created redundancy in the forums. This issue had to do with the fact that in some MOOCs it is mandatory to make a post in the forums in order to be able to pass the course. This can be problematic because rather than incentivizing engagement in a dialogue, the forum participation becomes perceived as an obligation.
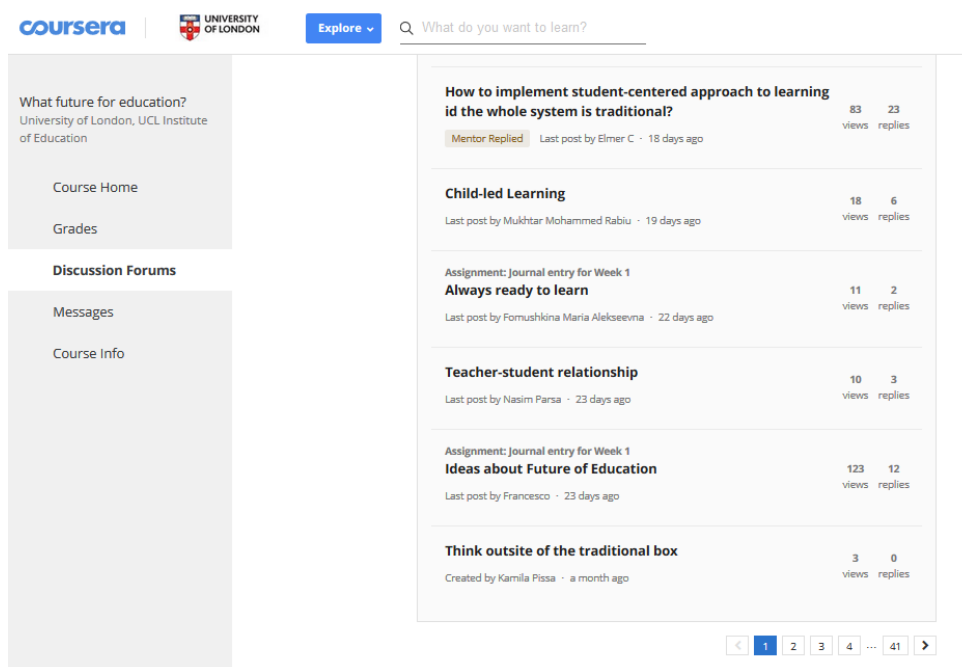

Fig. 3. A screenshot from the discussion forums of the course "What future for education?" in the MOOC platform of Coursera

Another aspect present in the structure of MOOC platforms is that they are organized in a way that put content at the center. The content is previously planned and recorded according to specific "learning goals" and it is expected that students adapt to this plan. It is a closed structure where the format makes the content fixed because the lectures are already recorded. Even if students give feedback, the lectures are unchangeable.

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[66] Lavinia Marin, "From the Textual to the Digital University: A Philosophical Investigation of the Mediatic Conditions for University Thinking" (Doctoral Thesis, Katholieke Universiteit Leuven, 2016).

On comparing and contrasting the structure of the banking model in education with the structure of digital learning through MOOCs, the following aspects are found:

- Top-down structure, one teacher virtually reaches thousands of students watching lectures in their computers/mobile devices;

- Centered in delivering content taught by an expert;

- The teachers are the ones who know, and the students watch screens passively;

- Questions can be asked in forums, but it is difficult to engage in dialogue;

- The content is fixed, the lectures are unchangeable, and the students adapt to it;
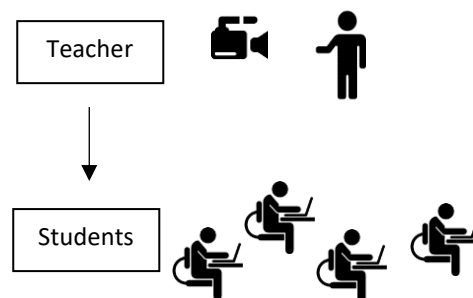
Fig. 4. Structure of learning through MOOCs

The structure of learning through MOOCs (Fig. 4), hence, replicates banking education because they are centered on delivering information. In this model, students and teachers do not work for developing each other's critical consciousness and communication techniques that promote useful dialogue. MOOCs foster passivity because students absorb and repeat the content already prescribed by an expert. In other words, the answers are already given. Learners cannot develop critical skills or gain deeper understanding when the importance of questioning is overlooked in the first place. Students think they are learning when what is actually happening is that they are partaking in oppressive structures of education. Students are being digitally oppressed. The problematic aspect about educational technologies that follow these structures is that they perpetuate ideological forces.

Educational technologies that emulate the banking model approaches focus on training for market societies. This can be seen in the marketing messages that emphasize the advantages of MOOCs and learning through videos. Coursera encourage learners to "build in-demand skills and earn valuable credentials"[67], "learn a new skill in 4-6 weeks" [68], and "earn a specialization certificate to share with your professional network and potential employers".[69] According to such platforms access to knowledge has never been easier. Taking this discourse and promises as a starting point, I reflect on how MOOC providers frame education and what is the 'knowledge' that is being promoted. For

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[67] Coursera, "About," Coursera Blog, (n.d.), https://blog.coursera.org/about/. Accessed 18 June 2018
[68] Íbid
[69] Íbid

instance, MOOC platforms promote specific skills and careers in its browsing courses landing page (Fig. 5). Coursera top courses include for example "Become an entrepreneur", "Become a data scientist" and get a "Google IT Support Professional Certificate". The education they offer is therefore reduced to training for what they think will be the professions or skills for the technological future.
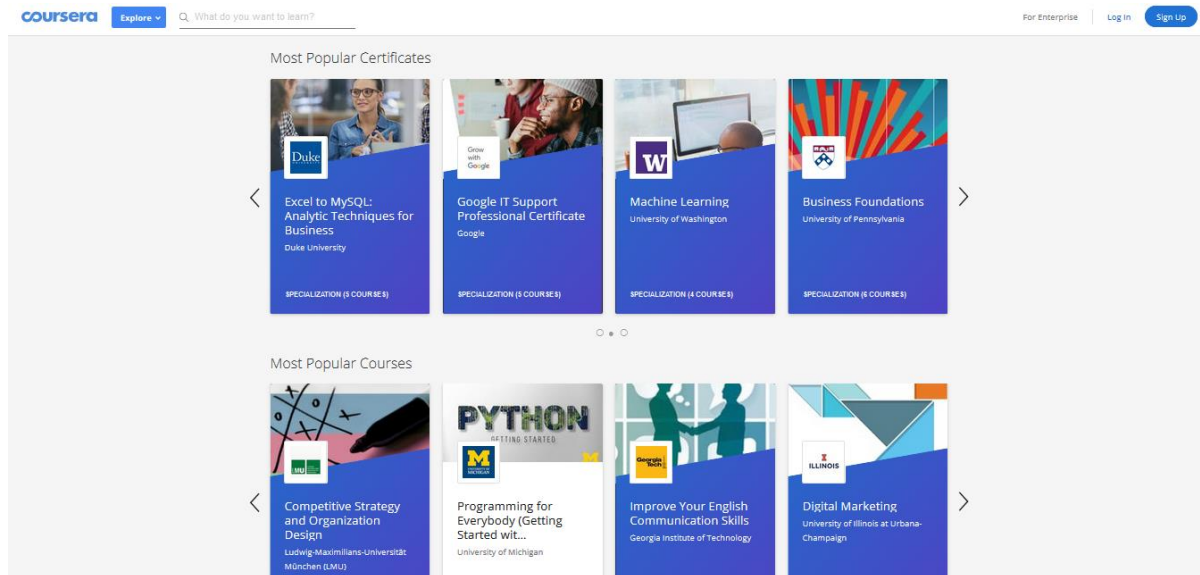

Fig. 5 Coursera most popular courses page

Rather than fostering critical agency and "democratizing education", the focus of MOOC platforms is on business and training people which do not account for as strategy that would empower them. The oppressive process found in MOOC platforms maintains a structure that conforms to neoliberalists ideologies and ensures the compliance with current inequalities. In contemporary digital societies, people are framed as consumers of information and told what to learn by digital platforms that are in turn organized according to the market needs. This can be seen for example in the initiatives of coding schools that offer their classes for free and then students are required to pay back with a portion of their salary once they are employed.[70] This is problematic because in the public discourse these structures might appear as attractive, but the result is that people start to think that education is training, and that the current training they need to know is how to code. Therefore, people think they are getting education, when instead they are being oppressed, this time through digital means.

I conceptualize "digital oppression" as the technologically-mediated process where oppressor-oppressed relationships take place. Critical reflections about technologies can uncover these processes, which are regularly obscured due to narratives that frame technologies as neutral. When technologies are taken for granted, little attention is paid to hidden dynamics that prevent people to

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[70] Lindsay Gellman, "Code Now. Pay Tuition Later.," *The Atlantic*, June 30, 2018, https://www.theatlantic.com/education/archive/2018/06/an-alternative-to-student-loan-debt/563093/.

consider the way technologies shape their lives. For instance, digital learning mirrors a problematic model of education where the development of a critical consciousness is hindered because students are not encouraged to think for themselves. The closed format of MOOCs provides answers and dictate methods through screens without motivating the learner to develop insights or engage through dialogue for further investigating the materials analyzed.

The digitally oppressed are then expecting that a better technological development will come to make learning more effective. For instance, in a recent article published in TechCrunch, the headline announced that "*EdTech is having a renaissance, powered by the emerging world*".[71] In the article, it is described how education start-ups are working with "low income and emerging world countries" to develop new learning solutions. Some of the projects include compressing the size of educational videos so they can be streamed in countries where the internet connection is slow; another project is a marketplace that connects teachers to students in a one-on-one dynamic. Although this is a case where one could expect teacher and students to engage in conversations and learn from each other, the service frames education through a banking approach where students learn from "experts". Thus, the top-down structure between teacher and students prevail.

Conclusion

In this chapter I analyzed the concept of learning from the perspective of critical pedagogy. First, I introduced the framework of oppression-oppressed relationships in education as conceptualized by the philosopher of education Paulo Freire. Freire's approach to education as an ethical and political process served to evaluate the model of learning delivered through digital learning. I provided examples of these dynamics and problematized the oppressive structures found in MOOCs because they mirror a model that does not help learners to develop a critical consciousness.

Questions that arose in this chapter and that will be examined in the following chapter are: Why digital oppression takes place in contemporary digital societies? and how do technologies simultaneously enable and threat people's development? Furthermore, the question of "can educational technologies such as MOOCs help students to develop the skills needed to tackle complex global challenges in contemporary societies?" will be discussed. If there is a need for promoting the acquisition of new skills, oppressive models in education should not be replicated. In the next chapter I will discuss the perspectives of philosophers of technology to understand the dynamics of efficient societies and the techno-hypnosis that technologies can produce. There is a need for continuous investigations about educational technologies through approaches that can lead to the development of transformative practices.

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[71] Mike Butcher, "EdTech Is Having a Renaissance, Powered by the Emerging World," *TechCrunch*, March 18, 2018, http://social.techcrunch.com/2018/03/18/edtech-is-having-a-renaissance-powered-by-the-emerging-world/.

Chapter III. Rethinking the role of educational technologies in contemporary digital societies

In the previous chapter I problematized the oppressive structure of MOOCs and concluded with the insight of how digital oppression can occur through apparent unproblematic and well-intentioned technologies. In this chapter, I will further examine the relations of people and technologies to show that little attention is paid to how technologies shape our lives. This, thereby, leads to the denial of digital oppression. Moreover, I will introduce the social theory of Byung-Chul Han to theorize and examine the oppression people experience in digital societies. Han's analysis reveals that efficient forms of exploitation occur when they are seductive because violence is not needed to perpetuate inequalities. An example is the use of "Techno-hypnotic" technologies, as conceptualized by the philosopher Nolen Gertz. I will discuss Gertz's investigation on how technologies prevent people from understanding the role they play in shaping their ideas. Both Han and Gertz can be perceived as techno-pessimists in their accounts of technology. On a closer examination, their reflections shed light on aspects that are regularly obscured by optimist discourses. I conclude the chapter by reflecting on the emerging initiatives towards a critical digital pedagogy.

The digitally oppressed as achievement subjects and the culture of positivity

A potential reply from MOOC providers to my criticism might be that they do not intend to replace education, but to supplement it. People who enroll in Coursera may have diverse motivations to take online courses, as I described in the first chapter, and MOOC providers can defend that nobody is forced to enroll in MOOCs, therefore, people are not being oppressed. However, my argument starts from questioning the model of learning supported by MOOCs, which I find problematic because, as an educational technology, it shapes people's view according to which all future learning can be compared and expected. These oppressive structures remain hidden to the public view because digital technologies are presented as neutral, and the problematic aspect of not lending attention to these structures is that possibilities for transformation cannot be posed. The idea of present educational technologies as efficient, objective and unproblematic tools for learning needs to be changed.

The oppression that Freire denounced is different from the oppression that I am analyzing because in contemporary digital societies people would not consider themselves as being oppressed. In the Brazil of Freire, authoritarian regimes were oppressive towards people because of their class, race, culture, gender, etc. The social order and institutions were structured for benefiting the ruling class. Today, there are still countries with oppressive structures that limit the autonomy of their

citizens by not granting access to education[72] that are not so different from the Brazilian context in which Freire lived.

In order to critically analyze digital oppression, I will discuss the perspectives of contemporary philosophers Byung-Chul Han and Nolen Gertz, who have started theorizing about the new forms of social order in contemporary societies where technology plays a relevant role as it becomes ubiquitous. They argue that structures have shifted from negative and oppressive dynamics towards more seductive and permissive cultures that perpetuate more efficiently the neoliberal ideology.

The philosopher Byung-Chul Han conceptualized in his book *The Burnout Society* the shift from *disciplinary societies* to *achievement societies*.[73] Han argues that Foucault's account of power is loaded with too much negativity that does not hold in today's cultures of effectiveness and positivity. For Han, the disciplinary society of Foucault was characterized by "*obedient subjects*" that followed commands and where society was controlled through *prohibition*. The negativity created madmen and criminals. Hospitals, madhouses, prisons, factories were representative in the disciplinary society. In contrast, the achievement society characterizes individuals as "*achievement subjects*" or *entrepreneurs*. In this culture, self-optimization and positivity are the promoted values. Fitness studios, malls, banks, and airports represent the current lifestyle. Depression, burnout syndrome, and attention deficit disorder are some of the neurological illnesses[74] that afflict people in achievement societies. In achievement societies individuals do not need an external force to exploit them because they exploit themselves. This self-exploitation occurs not by a coercive external force such as authoritarian governments, but through individual seemingly ordinary practices people willingly subscribe to. This can be seen for example in consumerist cultures where people buy products and publish their purchases on social networks, which servers as free marketing for brands, and where brands test the reaction of customers for investing in digital campaigns.[75]

Technology plays a significant role in achievement societies. In his book *Psychopolitics*, Han further elaborates on how neoliberalism exploits the psyche of people and why this is an efficient mode of domination.[76] He argues that in contemporary societies citizens are framed as consumers and they see themselves as projects, always reinventing themselves. Han observes that "The greater power is, the more quietly it works. It just happens: it has no need to draw attention to itself".[77] Digital

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[72] According to the Democracy Index, which evaluated the governments and political culture of 167 countries. https://www.eiu.com/topic/democracy-index.

[73] Byung-Chul Han, *The Burnout Society* (Stanford University Press, 2015), 8.

[74] Armita Golkar et al., "The Influence of Work-Related Chronic Stress on the Regulation of Emotion and on Functional Connectivity in the Brain," *PLoS ONE* 9, no. 9 (September 3, 2014), https://doi.org/10.1371/journal.pone.0104550.

[75] Hilary Milnes, "The Instagram Effect: How the Platform Drives Decisions at Fashion Brands," *Digiday*, March 4, 2016, https://digiday.com/marketing/beyond-likes-instagram-informing-fashion-brands-internal-decisions/.

[76] Byung-Chul Han, *Psychopolitics: Neoliberalism and New Technologies of Power* (Verso Books, 2017).

[77] Han, *Psychopolitics*, 20.

technologies exemplify this description of power. Regularly, technologies are presented to the public as simply offering a service, for instance, MOOC platforms connect students with teachers and experts, what remains hidden to the public is the backend infrastructure where the platform collects the data generated by students taking the online courses. I did not find evidence of how MOOC platforms, specifically Coursera, profit from this data, but they do collect significant amount of information and it is likely that it is not simply used to "build higher quality, more useful services".[78]

Han sees an efficient mode of exploitation and domination in achievement societies because freedom and autonomy are being undermined without people feeling oppressed or stripped from their rights. In Han's view, exploitation is therefore possible without domination. Examples of these models of exploitation include the increasing use of Big Data and movements like the Quantified Self. People monitor themselves through sensors and devices that record their routine: heart rate, steps walked, hours of sleep, calories intake, etc. with the aim of getting personalized insights for self-knowledge. The process does not end with the collection of data, in achievement societies people willingly expose themselves across digital mediums. Everyone is encouraged to share what they are doing in order to seek for recognition or validation. People buy a coffee and publish the picture on their Instagram. People run around their neighborhood and publish their route on Facebook. People enroll in a MOOC for learning about "How to become an entrepreneur" and share it on Twitter. People feel free and empowered to do and share while companies profit from it. For example, the business of MOOCs profits from people that find online courses attractive because they think learning is something that can be acquired instantly like other prepackaged ready to consume products.

The criticism of achievement societies raised by Han help us see the dynamics of digital cultures. In these cultures, people are encouraged to improve, communicate, and consume. It is through these dynamics digital oppression can occur as it is obscured by the narratives of having better and efficient lifestyles. Technologies are framed as the tools that help people accomplish their goals, solve problems and inefficiencies, and the digitally oppressed see in technologies the solutions to problems that might not actually be problems but that are framed in certain ways to be perceived as such. For the case of learning, the technological solution is to access a platform that promise to deliver knowledge in an engaging way. What is rarely problematized is the reduction of awareness on inequalities and the new norms educational technologies create around them.

Beyond techno-solutionism and why we should care

In order to further grasp how MOOCs shape and create cultural norms about how people think about education, we must understand that technologies mediate our experiences in the world. This

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[78] Coursera, "Terms of Use," Privacy Policy, (n.d.), https://www.coursera.org/about/privacy. accessed 15 May 2018

means that we relate to the world because we rely on technologies that enable or prevents us to perceive the world in certain ways. For instance, cellphones mediate the way we communicate, and in doing so, we can afford to talk to people that are not near us, but we cannot see the person we are talking to, except if it is a videocall, in which still we do not completely *see* the person. These technological mediations have been theorized and investigated through the approach of postphenomenology carried by researchers from diverse backgrounds. The results and insights from their analyses are applicable in design, policy, and scientific research.[79]

Postphenomenological investigations show how technologies can reveal and obscure, amplify or reduce the dynamics in human-technology relations. In this section, I will discuss how technologies can reduce people's awareness on the role technologies perform in their lives. This *"techno-hypnotic"* aspect was conceptualized by the philosopher of technology Nolen Gertz in his book *Nihilism and Technology*. Drawing from Nietzsche's philosophy, Gertz's analysis investigates nihilistic attitudes in technological relations. He describes a world that is increasingly nihilistic, a world where people "*do not care*".[80] In this world, people do not want to worry, be wrong or be held accountable. And so, this is why technologies that make decisions for people or tell people what to do are seductive.[81]

In his analysis, Gertz proposes analyzing technological mediations to shape them and not just be subordinated to them. He investigates nihilism-technology relations and discusses the lack of concern with how people relate to technologies and use them in their everyday lives. Echoing Freire's concept of *conscientization*, Gertz observes that "We must begin by learning to recognize the dangerous as well as the desirable effects of our relationships with technologies, and to recognize the pervasiveness of these dangerous effects".[82] To exemplify the effects of technologies, he studies concrete cases to reveal nihilistic attitudes and the dangers of it. I am particularly interested in his conceptualization of the "*techno-hypnotic*" effect of technologies. This is an effect that explains the complacency that technologies can induce. The approach serves to recognize a type of relationship that broadens the understanding of technologies and ourselves.

Techno-hypnotic technologies are those that, according to Gertz, "reduce our awareness of the role they play in shaping our ideas".[83] The exemplar technology in this regard is television. Grand narratives, predictive storylines, repeating stereotypes displayed on television create a culture of sameness. People increasingly grow familiar with worldviews and ideas informed by what they watch. The problematic aspect is that the constant exposure to certain views can lead to a perception of these

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[79] Robert Rosenberger and Peter P. C. C. Verbeek, *Postphenomenological Investigations: Essays on Human-Technology Relations* (Lexington Books, 2015), 2.
[80] Nolen Gertz, *Nihilism and Technology* (Rowman & Littlefield International, 2018), 13.
[81] Gertz, 13.
[82] Gertz, 207.
[83] Gertz, 83.

views as ultimate truths, and when the awareness on these issues is reduced, little attention is paid to hidden structures reinforced through apparent unproblematic technologies. Following Gertz's arguments, the structure of techno-hypnosis can be described as follows:

- Technologies can produce comfort and induce complacency;
- Technologies can endorse certain views that are internalized as familiar and normal;
- Technologies are not perceived as biased, but rather as mere neutral tools;
- Technologies present a worldview rather than a view of the world;

Gertz's approach might be read as techno-pessimist because he denounces practices that contradict technological enthusiasm and innovation discourses around technologies. Technologies are supposed to make the world a better place and not reduce the awareness of people, manipulate them or shape their values. Therefore, when critically analyzing the techno-hypnotic effects of learning through MOOCs, their potential to induce complacency can be revealed because people begin to accept that they are getting education staring at a screen and overlook the oppressive dynamics of this practice; furthermore, online learning is perceived as convenient because people believe they can have access to courses at any time and for free, but attention is not given to inequalities that relate to who has access to these platforms. MOOC platforms promote specific skills and courses and this is not problematized, these are perceived as the skills demanded by employers. "Becoming an entrepreneur" and "learning to program" are examples of the worldview promoted. However, the question of will these courses produce critical and conscious citizens? remains unanswered. Finally, MOOCs are not neutral because they shape and create norms according to which people will have certain expectations about learning, for instance, expected to be taught in a short period of time (less than 6 minutes), present information with visual examples, and trust the content of a course covers what it is needed to know.

Analyzing the complexity of digital learning beyond the optimist discourses serves to inform developers and users of educational technologies. By considering the structures of learning promoted, and the "hypnotic" aspects that the technology can promote, stakeholders can question how they are designing their tools to promote or hinder critical reflection, content creators can analyze the world perspectives they are sharing and discussing and learners can question what and why they want to learn about a specific topic. Furthermore, reflecting on the role technologies have in shaping our experiences allows to pose questions about the assumptions we might have, for instance, what other issues might emerge out of introducing a solution for somethings that might not be a problem, including the political, social, ethical, and environmental aspects.

It is until conflict arises that people might start to do something different. But conflict cannot arise if technologies remain perceived as neutral, and if people think that by not using them they are

not affected by technologies. For instance, the understanding of learning and transferring of information is why MOOCs were developed. More than 150 prestigious universities around the world joined Coursera supporting this view, and more than 70 million of people who have enrolled in online courses have subscribed to this perspective of learning. MOOCs present a view of learning, and because of the "techno-hypnotic" effect of technologies, people can become complacent and accept this view. Through techno-hypnotic technologies, people in the 21st century can be digitally oppressed.

Both Han and Gertz can be criticized for not offering pragmatic solutions or methods for designing technological mediations but that does not reduce the value of their analysis. It is certainly difficult to identify structures of power and consider all the participants of socio-technical networks in an increasingly globalized world. The theoretical frameworks discussed in this thesis do not offer pragmatic solutions and methods ready to apply. But as Freire argued, engaging in reflection is not calling for an armchair revolution, true reflection leads to action.[84] Therefore, by analyzing digital learning from philosophical perspectives, structures of power were revealed along with the reduction of awareness that technologies can promote. Analyzing these perspectives can help stakeholders recognize these structures and take them into consideration when developing, promoting, or using educational technologies.

So now what? Beyond technological enthusiasm on educational technologies

"Blended learning" is a concept that is gaining popularity among educators and in the literature. It describes the combination of computer-mediated instruction integrated with face to face teaching.[85] The concept aims to describe more than a "tech-rich" teaching environment where devices are used to support traditional instruction methods. Clifford Maxwell highlights three elements that distinguish blended learning: 1. Students learn online part of the content of the course they are enrolled. Therefore, they have control over the time, place, and pace to complete the online work. 2. Students attend classes in a physical location. 3. The learning experience is integrated in a way that students are not lectured, and class time is used for discussion, complement the topics investigated, and ensure that students understand and apply the self-studied content. [86]

Examples of blended learning practices have been documented in studies where courses are designed as a "hybrid": they include a mix of taking online courses, assigning readings of recent and

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[84] Freire, 66.

[85] Xiangyang Zhang and Jie Xu, "Integration of Micro Lectures into the Blended Learning Discourse in Tertiary Education," *Asian Association of Open Universities Journal* Vol. 10, no. 2 (December 2015): 13–28, https://doi.org/10.1108/AAOUJ-10-02-2015-B003.

[86] Clifford Maxwell, "What Blended Learning Is – and Isn't," *Blended Learning Universe*, March 4, 2016, https://www.blendedlearning.org/what-blended-learning-is-and-isnt/.

seminal research on the studied topic, class discussions, and individual final projects.[87] In a study documented by researchers of Vanderbilt University, students were required to prepare for class by enrolling in a MOOC course of Machine Learning taught on Coursera.[88] The course was introductory level, and students were assigned journal articles to complement the MOOC lectures, then they would come to class to discuss and apply the studied material. Key findings of the studies describe how students framed the role of the teacher as mediator or facilitator in guiding discussions and clarifying doubts. Although the MOOC provided a discussion forum, students preferred the "live" interaction and used the forum only as a resource material to check if some questions they had were already answered there. Students found the MOOC lecturer as highly effective and understandable. The challenge was to understand the assigned readings to complement the MOOC lectures: students found the information taught on the MOOC was introductory in comparison with the level of understanding that the papers demanded. The students voiced that the readings required "a different kind of learning",[89] the class discussions were the ideal setting to answer questions about the assigned readings.

Studies have documented the advantages of integrating digital learning in combination with face-to-face interaction, but critical accounts problematize the aspect of prioritizing technology in the curriculum instead of promoting critical thinking.[90] Furthermore, professors have voiced their concern on how blended learning can lead to the creation of new models of instruction that undermine their role as teachers. In an article published in *The Chronicle of Higher Education*, professors of San Jose State University refused to assign to their students a philosophy course taught through a MOOC by a distinguished Harvard professor. The professors commented in a letter to the university administration: "we believe that having a scholar teach and engage with his or her own students is far superior to having those students watch a video of another scholar".[91] The university representatives remarked not forcing professors to use the MOOC materials, but the concern for future policies making blended strategies obligatory remained.

Two scenarios emerge when blended learning is analyzed based on Critical Pedagogy: if the teacher promotes learning through MOOCs, she incentivizes the transmission of information as a model of learning, which I problematized because of its oppressive structure. On the other hand, as the discussed studies concluded, MOOCs can serve as a starting point to critically analyze and discuss

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[87] Zhang and Xu, "Integration of Micro Lectures into the Blended Learning Discourse in Tertiary Education."

[88] Derek Bruff, "Wrapping a MOOC: A Case Study in Blended Learning," *MERLOT Journal of Online Learning and Teaching* Vol. 9, no. 2 (June 2013), http://jolt.merlot.org/vol9no2/bruff_0613.htm.

[89] Íbid

[90] Julia Freeland Fisher, "Three False Dichotomies in Blended Learning," *Christensen Institute*, January 23, 2015, https://www.christenseninstitute.org/blog/three-false-dichotomies-in-blended-learning/.

[91] Steve Kolowich, "Why Professors at San Jose State Won't Use a Harvard Professor's MOOC," *The Chronicle of Higher Education*, May 2, 2013, https://www.chronicle.com/article/Why-Professors-at-San-Jose/138941.

what it is learned through the online courses. However, I did not find evidence of critical accounts on blended learning to support this scenario.

People and societies are immersed in contexts where institutions give a structure and organize their culture and values. As Freire observed, "The pedagogy of the oppressed cannot be developed or practiced by the oppressors".[92] He recognized that a systemic change would require political power, which the oppressed do not have. However, he distinguishes between *systematic education* and *educational projects*, the latter can be organized with the oppressed in a true commitment for transformation.

An example of educational projects developed as an alternative to systematic education and blended strategies is the initiative by Brightworks, a private school where "there are no exams, no testing or SATs, no formal curriculum, no learning objectives and no teachers, only "collaborators"".[93] The school promotes building a community where teachers facilitate and guide students through experience-driven learning. In their classrooms there are no screens or digital technologies, but children can work on their own projects using tools like drills, hammers, and saws. The school's "low-tech, high play" approach is structured to foster students' critical thinking, deep exploration, confidence, and collaboration. However, not many students can attend Brightworks. Located in California, the school is popular among tech elites who can afford to pay the $30,000 USD per year fee.

It is interesting to highlight the aspect that the tech elites are not educating their children through the educational solutions they develop. As recently reported in Business Insider, Silicon Valley parents are raising their children tech-free in schools and atmospheres where they are allowed to ask questions, explore and tinker. The article cited a survey conducted amongst 907 Silicon Valley parents where it was found that despite acknowledging technological benefits, parents were concerned about the impact of technology on children's psychological and social development.[94] Initiatives such as Brightworks are promoting educational models of active learning rather than passive models of transferring of information in which the emphasis is in low-tech, experience-driven education.

Digital literacy and the critical skills needed for the 21st century cannot be developed by relying solely on digital technologies. New educational models are being explored where technologies are not the central element that help student enhance their learning process. Initiatives like Brightworks have a clear aim of giving students opportunities to develop reflective skills and capacities to explore and actively learn. An essential task for stakeholders involved in education is to reflect on educational

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[92] Freire, 54.

[93] Cliff Jones, "Why Low-Tech and Outdoor Play Is Trending in Education," *Financial Times*, June 22, 2018, https://www.ft.com/content/7ad7d6ec-5393-11e8-84f4-43d65af59d43.

[94] Chris Weller, "Silicon Valley Parents Are Raising Their Kids Tech-Free — and It Should Be a Red Flag," *Business Insider*, February 18, 2018, http://www.businessinsider.com/silicon-valley-parents-raising-their-kids-tech-free-red-flag-2018-2.

technologies beyond solutionist perspectives. This will allow the development of educational systems that can promote not just technological persons, but reflective and caring human beings. Critical pedagogy and philosophy of technology invites us to reflect beyond the technological enthusiasm around technologies and reveal new perspectives that allow to further ask questions and take actions.

Conclusion

In this chapter I discussed how technologies mediate the way people experience the world, and in these dynamics, new expectations and norms are established. These dynamics can be revealed when technologies are analyzed beyond their functional roles, and philosophy of technology offered perspectives that allowed the examination of human-technology relationships. For instance, the theoretical analysis of Byung-Chul Han on the role of technologies in achievement societies served to illustrate why people might not acknowledge digital oppression. Cultures of positivity and techno optimism obscure oppressive structures that may be embedded in technologies. Furthermore, technologies might be deliberatively designed to produce comfort, complacency, and reinforce certain worldviews. Nolen Gertz's approach of "Techno-hypnotic" technologies helped to examine the structure of learning through MOOCs, which normalizes a model of learning that hinder critical reflection and maintain systemic inequalities.

I reflected on emerging initiatives that approach learning as a "blended" process: it can be physical and digital. I problematized the strategy if it remains structured based on oppressive models. Another initiative is the approach of "low-tech" as employed in educational institutions, for instance Brightworks. However, such institutions are educating students from privileged backgrounds, including the children of tech-elites. The critical skills needed for the 21st century challenges, need not be developed through technological means according to such "low-tech" initiatives.

Conclusion

Educational technologies do more than just "enhancing" the learning experience. In this thesis, I posed the question "what do we learn when we *learn* through educational technologies such as MOOCs?" with the aim to contribute to the discussion analyzing MOOCs from philosophical perspectives, which are helpful to bring to the fore issues that are often overlooked. To give an answer I first investigated why MOOCs are seen as an effective strategy for providing continuous education and skills development. In the first chapter I answered what are the promises of learning through MOOCs from the perspectives of MOOC developers and in academic discussions. The discourse of MOOC platforms, particularly Coursera, describe its aim to provide "the world's best learning experience", where students can have access to free courses "taught by top instructors from the world's best universities". In the literature, current criticisms on MOOCs are not moving the discussion beyond the cycle of raising issues and providers fixing these issues. Less attention is given to the analysis of the structures of learning through MOOCs and their role in shaping how people understand education.

To investigate what is the structure of learning through MOOCs, I discussed the concept of learning from the philosophical perspective of Critical Pedagogy. The theoretical frameworks of Paulo Freire served to problematize the understanding of learning as transmission of information. The aim of education is not just to equip students with the skills and competences to function in a world that treat them as labour force. Education can serve as a vehicle for developing a critical consciousness and social awareness of the active role that people have in transforming their reality. This is what Freire conceptualized as a process of humanization. Education makes us human. However, there are structures in educational models that frame students as objects rather than active subjects. The example is the approach of "banking model education", where oppressive structures in the classroom maintain hierarchical structures of power.

On examining the educational models in MOOCs, it was found that the oppressive structures that Freire criticized were mirrored when students *learn* through MOOC platforms. This is an example of digital oppression, which I conceptualized as the technologically-mediated processes where oppressor-oppressed relationships take place. In order to further grasp how digital oppression can occur through educational technologies, I discussed perspectives from philosophy of technology to understand the role of MOOCs in shaping people's understanding of learning. Digital oppression cannot be perceived due to techno-hypnotic effects of MOOCs, examples of these effects are the complacency induced by perceiving online learning as convenient, the promotion of specific skills demanded by employers, and the creation of expectations and norms about learning. These are the aspects that need further investigation to understand how they occur, in which contexts, what perspectives can help to reveal socio-technical processes. These and new questions about techno-

hypnotic effects in educational technologies can be posed in order to shape technologies and not just be shaped by them.

Hence, after answering these questions my final answer to "what do we learn when we *learn* through educational technologies such as MOOCs?" is that through MOOCs we do not learn the skills needed for the 21ˢᵗ century. MOOC platforms are instrumental in helping prepare students with skills that serve an ideology of market interests. Critical thinking, reflection, and the development of a social and political consciousness cannot be *learned* through MOOCs. The promise of Coursera to provide "the world's best learning experience" is flawed because they are not promoting what they think they are. My analysis showed why they are not delivering learning but maintaining a structure that relies on an oppressive model of education. Therefore, I find it relevant to be careful with the language that such technological companies employ when offering their services, for instance "promising learning out of a video". As I discussed, technologies present a view of the world, in this case, MOOC present a perspective of learning, which when closely examining is not learning.

To an extent we are always in a position of students or teachers. Learning is therefore a serious process for which a critical stance is needed to analyze and participate in its transformation. I argued that technologies can become new forms of oppression if individuals do not inquire and reflect on how they shape their ideas and behavior. My analysis is relevant to developers, users, educators, students, and stakeholders involved in the development and use of educational technologies. Critical pedagogy presented an alternative to the dominant understanding of education as training and mastering methods. Philosophy of Technology helped to pose questions about how technologies shape our understanding of the world and ourselves. Developers and educators can reflect upon the technologies they develop, and enquire if they are really solving "a problem"? Beyond technological enthusiasm, teachers and students can also question how they relate to the technologies they engage with. Are they promoting or hindering critical reflection and the continuous process of humanization?

The limitations of this thesis include not having access to information about the processes happening in the backend of MOOC platforms., I have previously indicated that there are content which MOOC users do not have access to and are not aware of. This information could have further enriched the perspective of digital oppression. The analysis that has been performed in this thesis, I believe, can serve as a starting point for future research that investigates other forms of digital learning and the structures of their processes. I urge for the need to continue questioning educational technologies from diverse perspectives, for instance, social, psychological, ethical, anthropological, and political approaches in order to bring to the fore hidden issues. My work serves to continue the discussion on what kind of structures can be envisioned in education. Further research can continue inquiring the value of education from different disciplines which would be useful in not just to develop better technologies, but also to better improve education.

Furthermore, future research can also narrow their focus to specific geographies or social groups which use MOOCs. Another limitation of my analysis is that I have discussed perspectives and policies mainly from European sources. The discussion can be further enriched if diverse contexts, cultures and different backgrounds of students and teachers are additionally investigated. These perspectives would supplement the discussions and allow stakeholders in education to reflect, inquire, and govern the learning environments of the future.

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