

# Truth or Myth: A Critical Discourse Analysis of technological change in higher education by analysing online articles

## **SMALL SCALE QUALITATIVE RESEARCH PROJECT REPORT**

### **SOCY7329 ADVANCED ISSUES IN QUALITATIVE INQUIRY**

#### **INTRODUCTION**

With the growing use of technology in the society, the higher education sectors, especially western universities, have also incorporated Information Communication Technology(ICT) to create their virtual/managed environment(Kirkwood & Price, 2013). There are various course management systems such as Blackboard/ WebCT, have been introduced to deliver educational material (Miltenoff et al., 2011).Waghid & Waghid(2016) Argued the technology tools bring significant quantitative and qualitative changes to education. However, there are a few researchers(Freiere, 1972; Marx & Kim, 2019) demonstrated that if the decision-maker and tech promoter did not have a deep understating of the technology they are going to adopt, it will not only pose a treats to the education quality but also pose a potential to constitute radical monopoly.

It seems technology pose a huge impact on educational system. But Limited research focuses on how our perception towards technological change in higher education context has been influenced by technology companies and educational institutions. Given the gaps here, this research uses critical discourse analysis(CDA) with emancipatory approach to investigate

how the newspaper and official institution perpetuate the concept that technology is the future of education through the discourse and how does the knowledge power relation has been altered. First this report will review literature related to the role of higher education and the technological change in tertiary context. After that the main findings examined from two online articles will be presented. Finally this research will conclude a discussion about how institutionally empowered forces reinforce the power relation through the discourse.

## **Literature review**

The start of technological revolution in education could be traced back to 1950s in the United States(Albirini, 2007). The broad spread of information and communication technology with internet system enabled universities to distribute their education beyond the physical boundaries(Carr, 2012). Further more, some advanced technology like flipped room and Artificial Intelligence(AI) are used to design a most suitable teaching program with algorithm for individuals in the class(Dennis, 2018). The current technology industry is “reshaping” higher education system into a new knowledge paradigm.

### ***Role of higher education***

Role of Higher education is not just the institutions to deliver knowledge but also the sole legitimate way for individuals to acquire high degree knowledge (Albirini, 2007). As a result of this, individuals are not given the freedom to choose neither the content nor the education method, but only be seated at the end of the “knowledge transmitting process”, if they want to get higher socioeconomic status. In the knowledge transmitting process, Welker (1991) argue that tertiary institutions perpetuate the sense of trust by using conniving information into individuals mind As the result of this, most members of society end up having to rely on experts (Wyant & BaekIndeed, 2018). Indeed, education system has become the measure of

success, income level, social class, and so on(Welker, 1991). Students has been seated in a really oppressive position. This emphasis a need to uncover the current power relation in higher education and prioritize the voice of students in terms of using higher education as metrics to measure their social status. the later of last century, the education technology was underway, Besser(1993) claimed that the new technology might reform the current knowledge system and reinforce the power relation.

### ***Technology tools in higher knowledge system***

Modern literature on the use of technology in education disclose that the technological change in higher education is the result of the combinations of three forces: corporations, universities, and the tech industries (Kearsley, 2002). Educational technology revolution is described as a healthier and more efficient system compared to the traditional education system. This because it will democratise learning, decentralise instruction and remove hierarchies in communication and interaction. These consistent advocacies lead the public to an “unshakable faith in the capacity of technology to improve life” (Cuban, 2003).

But is this truth or myth? Poole(1995) mentioned the educational technology in schools indicate technology bring some crisis, such as lack of planning, absence of standard, commercialised web, health issue, self-worth, creativity, and social value. More importantly, Frankfurt school, first massive movement in studies of the relationships between technologies and human beings in wide social contexts, strongly argued that technologies are capable of constituting radical monopoly which deprive user’s choice and ontological vocations (Encyclopdia Britannica, 2011). However, the apologist of educational technology mentioned that the current use of technology did not exploit the potential of computer, then it remains certain issues. For the concern of the radical monopoly, Feenberg (1996) asserted that the

current information technology only helps to extend the content delivering but nothing else. The rejecting technology in education could only widen the gap between providers and receivers.

Most of the research on radical monopoly of technology is decades ago. During this period, educational technology has been transformed completely. The emergence of the advanced technology like AI and smart class room which will collect the personal data of users to design a new modality of learning. The strong control over sources of information might cause to impair student's privacy and agency in the higher education context (Popenici & Kerr, 2017). Therefore, this study generate the research question:

*How the tech companies and tertiary institutions alter learning opportunities and relationship of power in higher education through the discourse?*

### ***Theoretical framework***

This study uses emancipatory theory to uncover how tech companies and higher education use knowledge as power to convince the public the technology is destiny within online discourses. Emancipatory theory is mainly used to dismantle the system of relationships within the existing society and then lead to a realm of freedom where a free agency could be created(Goosen, 2004). Emancipatory lens will guide this research to dismantle the power relation through different aspects of this society. Liasidou(2008) state that Critical discourse analysis could be used as an emancipatory research tool to uncover the way that power manifest itself through language and text. CDA make the implicit more obvious and apparent. Because the sample is online documents created mainly through words, interpreting analysis would be used to combine with CDA which is appropriate analytic method to study oppressive relationships through language and text. The aim of CDA is to uncover how

discourses are constructed by history, knowledge and politics (Wodak, 2001), which is compatible to the goal of this research.

## **Methods**

Given the previous literature mentioned that the revolution of the technology in higher education is driven by 3 different forces: corporations, universities, and tech industrie , which provide quite specific direction for this research. As a result of this, this research adopt selective sampling strategy which selects certain subjects according to the preconceived but reasonable initial set of criteria(Coyne, 1997).

After knowing the research object, This research start data collection. Google search engine was applied to obtain different articles about the technological change in higher education. Following is key words this reseach typed in the search engine: higher education, future, technology, tech industry. However this research encountered a issue at the start. There was no specific article talking about the relationship between tech industry and higher education. The tech industry in this context has been interchangeably used with tech companies. Industry is no longer independent from the capital market such as Google , Tesla. They were star-up in the tech industry, then become the giant corporations driven by the capital and stock market.

Thus, this research narrowed down the research into two objects: tech companies, universities. For the tech company, this research consider it as the capital forces of the educational technology. Thanks for the advertaisement feature of google, normally they first article is paid to be displayed on the top. Thus, I chose the first article after I typed future technology in higher education. This article was publicized on a commercial company

website named “digital marketing training”. After that this research put the attention on the academic related articles. Most of the articles are from online newspaper like New York Times, and Economist. Then put some prestigious university name, like UQ, Harvard in the search engine with other keywords. Finally, I chose the article from Harvard business review, because of the reputation and appropriate article size. As this research adopt emancipatory theory which requires all of the social entity to cooperate together for dismantling (Goosen, 2004). Then this research chose six comment from the article comment to do critical analysis. Through the analysis of the three main aspect of the educational technology. Hopefully, this research will provide an insight about how the power relationship is constituted though the online discourses.

### ***Ethics***

When we talking about ethics, informed consents, privacy, and confidentiality are the most important and basic ethical requirements for scientific research(Eysenbach & Till, 2001).

In terms of informed consents, this research followed Roberts (2015) insights in which the researcher should assess the sensitivity of online resources before conducting research and choosing sample. If it's a website that could be accessed by anyone, then it could be considered as an appropriate website to do online research without consent. Both articles I chose is universally accessible for the public without creating an account or subscribing. The commenter names have been pseudonymised. Regard the concern of privacy, this research would use passive analysis which would not involve researchers as participants in online discussion(Eysenbach & Till, 2001).

This is a university assessment that could only be accessed by the course lecturer, and this research will not be publicized elsewhere.

## ***Sampling***

<https://digitalmarketinginstitute.com/en-au/blog/technology-in-higher-education-whats-next>  
<https://hbr.org/2019/10/how-ai-and-data-could-personalize-higher-education>

## **Findings**

As discussed above, the application of education technology in higher education is heavily pushed by tech companies and tertiary institutions. However, students are passively silenced about this technology trending in higher education. In finding section, this research will present how the tech companies and tertiary institutions collaborate together on altering learning opportunities and reinforce power relation by creating new needs for higher education, and then proposing a technology to meet the needs. At the end of the finding it will analyse how the public perception been influenced by the closed loop of their discourse.

### ***Role of educator: driver, facilitator, mentor, researcher, or monitor?***

Throughout both examined articles, educators have been assigned so many different roles: driver, facilitator, mentor, researcher and monitor. The mixed roles of educators implies that being a teaching staff in the higher education is not just delivering the literature contents or technical skills, but also the driving innovation, monitoring security. The more responsibilities the educator be assigned by the discourse, the more power they will gain from that. Articles construct multiple roles for teacher thorough the discourse to reinforce the current power relations:

*“Educational institutions have been acknowledged as drivers of innovation and entrepreneurship. The Teachers Insurance and Annuity Association of America (TIAA) published a study which identified factors needed to support strategic*

*innovation. One of the factors identified was the need to have a diverse body of people “who bring along a variety of proficiencies and opinions (“Technology in Higher Education: What’s Next?”, 2020).”*

Using “driver” to describe educator is a metaphor strategy to bring the richness for the text and familiarity to the readers. People encounter driver in their daily life, which enable them to have a deep understanding of the role of driver. Driver is considered as a person to drive passenger safe and to et the right destination. The use of driver in educational context to implicate the teacher have the moral duty to guide student to be innovative. After that, the article used the research result from TIAA, an academic research centre, to demonstrate how to create innovation. The use of other voices helps a writer to bring more credibility to this article.

*“The faculty have to take the role of facilitator to ensure that groups can work together to generate new ideas, rather than delivering lectures from a fixed podium. Diverse groups will have diverse preferred learning methods. The use of adaptive learning technologies could support students from different backgrounds with different needs.”*

The academic statement is used to justify the rationality of the proposing technology again. Following is how the learning opportunities being created or altered: 1. Creating the need of innovation by emphasising the importance of innovation in education 2. Using the voice of academic research centre to show various group is important for innovation 3. Introducing the adaptive learning technology and claiming it is suitable for various group learning.



All the discourses are based on the creating need of innovation. The article creates a problem space by themselves, then propose a solution to solve this problem. Various group is only one of the factor to create innovation. There still a lot factor could be taken to promote innovations, if innovation is really that important as the discourse mentioned. The use of fixed podium implicate the traditional teaching is dull and inflexible. Which is a really personal prejudice. The various roles enable education system entitled to track students personal data in the name of efficiency, engagement and safety.

*"In the University of Hong Kong, student engagement scores are fed back to teaching staff to aid curriculum development and adapt teaching methods. No longer will lecturers have to wait until finals for the unpleasant surprise that their students have failed to grasp one of the fundamentals of their studies! Instead, real-time learning analytics will help them to modify their teaching in order to ensure that students understand the core concepts("Technology in Higher Education: What's Next?", 2020)."*

The article cites the example from the tertiary institution to enhance the credibility though professional voice again. Also this successful example can convince more readers. It mentioned the traditional teaching pattern could be unpleasant, because it cannot get the immediate feedbacks from students, which cause student to miss core concepts. It uses this emotional word to arise the compassion from their target readers. And perpetuate the concept traditional learning experience is unpleasant into reader's mind. Later, this emotion charge is used to legitimate the concept of data tracking.

*"For this type of AI-based learning system to work properly, big data would be needed in order to train it. As discussed later in this article, that data would need to*

*be used ethically, and students would need to be informed about how their personal data might be shared and used by AI algorithms("Technology in Higher Education: What's Next?", 2020). ”*

The article created a hypothetical scenario which sounds plausible. But the purpose is to legitimise the data tracking actions. It tried to legitimise the use of the personal data on the behalf of student' benefits. But the real scenario would be that dialogue between students and technology tools will be completely monitored. This might make student give lose more agency. Although the author mentioned the point, using it ethically, but there is no following content which talk about how to use it ethically. Using data ethically is more like a slogan in both article. the more times it mentioned, it will sounds more plausible for readers. Also they will be worried about the data privacy more.

*One promising initiative in this direction comes from [MyData.org](https://mydata.org), an international non- profit whose mission is to promote human-centered control and privacy of personal data. MyData.org, which has become a global movement, aims to give users more control over which personal data they choose to share with AI systems(How AI and Data Could Personalize Higher Education, 2020). ”.*

The article from the tertiary institution provided an example that how an data company would be capable of protecting student's agency and rights.

*“Every student would enjoy a completely unique educational approach , and that's fully tailored to his or her individual abilities and need (How AI and Data Could Personalize Higher Education, 2020). ”*

Tracking history has been further glorified with positive words. But it's author's presupposition again. Author present readers a utopia learning environment where all student will enjoy studying and gain fulfilment. When the author describe the scenario with technology, the words are usually positive. This positive description might perpetuate the concept that new technology would be a utopia and full of enjoyment.

### ***It's an emancipation for both educators and students***

The article using appealing discourse to highlight the idealised scenario of applying new technology which will be beneficial for both education provider and receiver , because the new technology provides them more agency and free time.

*“These tests have confirmed that many repetitive tasks and routines could benefit from the assistance of AI-enabled systems, offering teachers more time to focus on educating their students or to engage in research pursuits(How AI and Data Could Personalize Higher Education, 2020).”*

Silos are usually considered as a tower used for storing grain, winter food for farm and animal. In this context silos refer the store of the knowledge. Normally silo is fully sealed and really hard to have a solid cover. The use of silo in education context indicates that there is a gap between educators and students and this gap stop student to gain knowledge from educators. The gap could be knowledge gap or the perceived authority. But what the technology could do is to change the current situation and alter the learning opportunities through the change of leaning paradigm.

*“These tests have confirmed that many repetitive tasks and routines could benefit from the assistance of AI-enabled systems, offering teachers more time to focus on educating their students or to engage in research pursuits(How AI and Data Could Personalize Higher Education, 2020).”*

If university conduct this advanced technology which will enable the educators have more time to focus on their academic research. Also, students would be given more agency. This approach is trying to convince both educators and students, they new technology will emancipate from repetitive tasks. And having more time to pursue the research.

### ***Personalisation to reduce dropping out rate***

The article frame dropping out rate as an urgent problem which should be fixed.

*Today’s colleges and universities face a wide range of challenges, including disengaged students, **high dropout rates**, and the **ineffectiveness of a traditional “one-size-fits-all”** approach to education(How AI and Data Could Personalize Higher Education, 2020).*

It mentioned three big challenge the current education system is facing. But in deed it’s the same challenge, the ineffective traditional teaching approach causing higher drop rate.

*“AI learning systems would be helping students to reach their full potential, quite possibly preventing them from dropping out by identifying problems early enough to allow the appropriate corrective measures to be taken.”*

Describe the factors which cause students to drop out as problems. To arise the negative feeling. Is this a really bad things? when students are given the agency to drop or stay. Also the corrective measure imply teachers usually take the wrong action to intervene student's study. Only the Ai based learning system will help them in the right track.

Although this discourse is trying to constitute the new power relation through creating more needs for education. But It still acknowledge some aspect of the current higher education , such as the physical interaction.

*"we must never underestimate the value of human interaction and critical thinking in the field of education."*

it's more personal tone here to emphasise the importance of the educators. Tech revolution in higher context would not change the role of the teachers. All the new power relation is based on the current power structure. Two of six comment mentioned that they were sceptical about the using of advanced technology in higher education:

*"I have to admit, I was a little skeptic about this article. But the more I read the more I recognized the key-role of AI in educational settings. It is really interesting to realize that AI has potentially diminished the accumulation of daily demands through automation, thus allowing faculty members to focus on more urgent and important issues(commenter 1).<sup>[1]</sup>"*

*"As with others who've shared comments, I'll admit to being a little skeptical at first, but the analysis shared here turned out to be compelling for a most unexpected reason. teaching rule-based subjects" and for providing lower value-added/repetitive services (like bots to guide students through FAQs, etc.), an instructor's role/focus could evolve: (commenter 2)"*

However, after reading through the articles, their mind has been changed for the same reason. They both recognise the value of AI on diminishing repetitive tasks. One commenter did notice the issue of using AI with personal data:

*“However, the fact that there is an urge to gather and analyze student's personal data in large scales worries me. As it is aforementioned, ethically built settings must be prioritized to ensure data security. But there will be always this sense of awareness about the possibilities of this data being misused to fraudulence. It is never easy or simple, isn't it? (commenter 3)”*

But it turns out to justify that the use of new technology is never being simple. To implicate the public should be more patient about this revolution.

## **Discussion and Conclusions**

According to the theory of Wodak(2001), the use of CDA can not be taken out of the context. The analysis of text in the context is the vital and key of CDA. Unfortunately, this research did not dig into how the discourse is associated with their own interest, and what's the factor drive them to create this discourse? In addition, the comment size is quite small and unclear. As emancipatory theory mentioned each entity should contribute to dismantle the system of relationship. The role of commenter is unclear (teacher, students or public officer). If this research can have a better understanding of who the commenter is. this research could have a more explicitly analyse in the light of their interest. One of the purposes of this research is to emancipate students from the current power relation. But the research did not prioritize the voice of them.

According to the theory of Illich(1973) that radical monopolies can emerge only when new practices, powered by new tools, create new ways of doing the existing tasks, or create a need

for doing new, previously un-needed tasks, or both. The both articles show the coming education technology would have strong potential to create radical monopoly compared to the traditional education technology. Because the new technology education will bring ubiquitous experience to students and collecting student data for teaching analysis. This is a totally new task which did not exist in the traditional education modality. The discourse emphasised that the personalisation education is imperative and vital for future education, because it will prompt motivations, innovations, engagement. Also the new technology has the power to convert the learning paradigm. No matter the learning space and interaction paradigm has been completely shifted in this new environment. The discourse alter the learning opportunities through bringing new need to the higher education.

Why the data-based learning technology is important. For students, they will gain the most suitable learning program to exploit their potential. For educators, they will be given more agency to improve the teaching quality and more time to do personal research. But what's really matter for the tertiary institution? Articles mentioned about the dropping out rates quite frequently. Modern education system is considered as the sole legitimate way of gaining advanced knowledge. People who had a higher level of education were associated with higher socioeconomic status (Welker, 1991). However, if more and more students perceive higher education as an unnecessary step and find other way to gain knowledge or skill. the current power relation would be relatively harder to maintain. As the response, the tertiary institution introduces the new technology to change the current teaching situation. In this respect power and knowledge is indispensable. Those who are institutionally empowered forces constitute the dominant discourse to influence the public perception by creating a new need then propose a solution. They own the definition of the education issues and needs.

By so doing, this research hope that decision maker of higher education will be more sceptical before adoption of new technology in the higher education. There is no doubt that technology tools are powerful. But technology is a neutral tool per se, the misuses of the technology tool will cause students in a more oppressive relationship in this knowledge system.

Future research should focus on the voice of students in the educational technology context, how does they feel and how their perception has been influenced by the discourse. Because students are the one oppressive side of this unequal knowledge system. Also the research how the role of teachers has been shifted and how it change the power relation.

## Reference

- Albirini, A. (2007). The Crisis of Educational Technology, and the Prospect of Reinventing Education. *Educational Technology & Society*, 10(1), 227–236.<http://search.proquest.com/docview/61929261/> )
- Besser, H. (1993). Education as a Marketplace. In R. Muffoletto & N. Knupfer (Eds.), *Computers in Education: Social, Political and Historical Perspectives*, Cresskill, NJ: Hampton Press, 37-69.
- Carr, N. (2012). The Crisis in Higher Education. *Technology Review*, 115(6), 32–40. <http://search.proquest.com/docview/1349430172/>
- Cuban, L., & ProQuest. (2001). *Oversold and underused computers in the classroom*. Harvard University Press.
- Coyne, I. (1997). Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries?. *Journal Of Advanced Nursing*, 26(3), 623-630. <https://doi.org/10.1046/j.1365-2648.1997.t01-25-00999.x>
- Dennis, M. J. (2018). Artificial intelligence and higher education. *Enrollment Management Report*, 22(8), 1–3. <https://doi.org/10.1002/emt.30470>



Encyclopdia Britannica (2011). Frankfurt school. Retrieved October 8, 2011 from <http://www.britannica.com/EBchecked/topic/217277/Frankfurt-School>

Eysenbach, G., & Till, J. (2001). Ethical issues in qualitative research on internet communities. *BMJ*, 323(7321), 1103-1105. <https://doi.org/10.1136/bmj.323.7321.1103>

Feenberg, A. (1996). Marcuse or Habermas: Two critiques of technology. *Inquiry*, 39(1), 45–70. <https://doi.org/10.1080/00201749608602407>

Freire, P. (1972). *Pedagogy of the oppressed* (1st ed., p. 43). Penguin Education.

Goosen, G. (2004). Reconciliation: Emancipatory Theory Applied in Australia. *Peace & Change*, 29(2), 250–265. <https://doi.org/10.1111/j.1468-0130.2004.00290.x>  
Illich, I. (1973). *Tools for Conviviality* (1st ed., p. 32). Marion Boyars.

Kearsley, G. (2002). Is Online Learning for Everybody? *Educational Technology*, 42(1), 41–44.

Kirkwood, A., & Price, L. (2013). Missing: evidence of a scholarly approach to teaching and learning with technology in higher education. *Teaching In Higher Education*, 18(3), 327-337. <https://doi.org/10.1080/13562517.2013.773419>

Liasidou, A. (2008). Critical discourse analysis and inclusive educational policies: The power to exclude. *Journal of Education Policy*, 23, 483–500. doi:[10.1080/02680930802148933](https://doi.org/10.1080/02680930802148933)

Marx, S., & Kim, Y. (2019). Technology for Equity and Social Justice in Education: Introduction to the Special Issue. *International Journal Of Multicultural Education*, 21(1), 1. <https://doi.org/10.18251/ijme.v21i1.1939>

Poole, B. J. (1995). *Education for an Information Age: Teaching in the computerized classroom*, Madison: WCB Brown & Benchmark.

Popenici, S., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research And Practice In Technology Enhanced Learning*, 12(1). <https://doi.org/10.1186/s41039-017-0062-8>

Roberts, L. (2015). Ethical Issues in Conducting Qualitative Research in Online Communities. *Qualitative Research In Psychology*, 12(3), 314-325. <https://doi.org/10.1080/14780887.2015.1008909>

Rouhiainen, L. (2020). How AI and Data Could Personalize Higher Education. *Harvard Business Review*. Retrieved 7 June 2020, from <https://hbr.org/2019/10/how-ai-and-data-could-personalize-higher-education>.

Waghid, Z., & Waghid, F. (2016). Examining Digital Technology for (Higher) Education through Action Research and Critical Discourse Analysis. *South African Journal Of Higher Education*, 30(1). <https://doi.org/10.20853/30-1-562>

Welker, R. (1991). Expertise and the Teacher as Expert: Rethinking a Questionable Metaphor. *American Educational Research Journal*, 28(1), 19-35.  
<https://doi.org/10.3102/00028312028001019>

Wodak, Ruth, & Meyer, Michael. (2001). *Methods of Critical Discourse Analysis*(pp. viii, 200). SAGE Publications Ltd. <https://doi.org/10.4135/9780857028020>

Wyant, J., & Baek, J. (2018). Re-thinking technology adoption in physical education. *Curriculum Studies In Health And Physical Education*, 10(1), 3-17.  
<https://doi.org/10.1080/25742981.2018.1514983>