When disruptive technologies knock at the door: talking about ChatGPT in higher education

A qualitative case study investigating the perceptions at Radboud University about ChatGPT in higher education

Bachelor's thesis

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Abstract

When ChatGPT was released in November 2022, the world of higher education was overwhelmed by the advanced, versatile applications of the language model that seemed both exiting and threatening. Nevertheless, few research on the perceptions of Higher Education Institutions (HEI) regarding ChatGPT existed. Therefore, utilizing a qualitative case method, the present study aimed at acquiring further understanding of these attitudes towards the language model in higher education. In three in-depth semi-structured interviews with employees from the Radboud University in the Netherlands, the following research question was explored: "*How does Radboud University perceive the use of ChatGPT in higher education?"* A thematic analysis indicated that participants expected the disruptive technology to alter conventional learning and teaching at Radboud University. However, while some accepted the presence of ChatGPT, others warned for embracing ChatGPT too quickly. Furthermore, the ubiquity of ChatGPT increased awareness of the importance of academic competences. Besides, the focus on a conscious attitude was considered vital when utilizing ChatGPT. Although participants recognized beneficial applications for higher education, the system behind ChatGPT, and its commercial character were alarming. Yet, the formulation of adequate university measures may be difficult, as ChatGPT's capabilities continuingly evolve. Conclusively, the perceptions about ChatGPT in higher education identified at the Radboud University may contribute to ongoing discussions within HEI on how to deal with the prevalence of ChatGPT and its implications for academic education.

Keywords: *ChatGPT – higher education – perceptions – HEI – educational technology – AI*

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1. Introduction

The worldwide release of ChatGPT in November 2022 caused a momentum in the world of higher education. Whereas digital native students were keen to embrace the multifunctional tool for their essays and homework, lecturers – especially the older generation with little interest in technological developments – were often left astounded by the capacity of ChatGPT to generate pages of immaculate prose that ostensible equalled an academic standard. Never, a technology had shaken the university community to its foundations in the way ChatGPT did.

The unprecedented sophistication of ChatGPT seemed to be the result of a recent advancement in the field of natural language processing (NLP): the state-of-the-art pre-trained language models (PLMs) (Peters et al., 2018, as cited in Li et al., 2021). In extensive pre-training on large datasets, PLMs encrypt all sorts of knowledge into parameters, which may embellish its generation quality and understanding of human language (Li et al., 2021). Since the revival of deep learning, text generation tasks could now even be executed based on different versions of neural networks available (Li et al., 2021). Consequently, due to this pre-training, and the subsequent tasks to finetune the language models, results at the most advanced level were achieved (Li et al., 2021). As opposed to previous natural language models, PLMs were assumed to fulfil two decisive criteria for text generation tasks: they comprehended natural language accurately, and could produce human language fluently (Li et al., 2021).

Various pre-trained language models existed. Among those were MASS, BART, T5, CTRL, and GPT (Li et al., 2021). *Chat Generative Pre-Trained Transformer* (ChatGPT), designed by the company *OpenAI*, was amid the most recent additions in a range of pioneering natural language models (Lund & Wang, 2023). ChatGPT is defined as an intelligent chatbot that utilizes unsupervised and supervised learning practices to comprehend and produce learning similar to that of humans (Radford et al., 2018, as cited in Lund & Wang, 2023). A chatbot is generally understood to mean a computer program that can conversate with a user via text and speech (Mogavi et al., 2023).

The GPT family of models exponentially advanced its abilities since the introduction of GPT-1 in 2018 (Mogavi et al., 2023). The newest generation, GPT-4, which was announced on March 14, 2023, could process visual and textual inputs, further progressing the possibilities of AI-generated content (Mogavi et al., 2023). Because of the language processing capabilities, ChatGPT could be applied in various domains (Lund & Wang, 2023).

Especially in education, ChatGPT was considered a promising tool because of its assumed potential in creating conversational and attractive learning environments that tailor students' individual needs (Mogavi et al., 2023).

Artificial Intelligence in the classroom

The suggestion that AI-technologies, such as ChatGPT, provided solutions for educational settings seemed not entirely new. The covid-19 pandemic incited the mass adoption of educational technologies (EdTech), which entailed all sorts of technology ranging from gamification and adaptive learning to online platforms, AI, and virtual reality (*Humane Artificial Intelligence Working Paper No. 1*, n.d.). The integration of EdTech in education altered existing educational formats, allowing for more flexibility and accessibility in attending classes (Baidoo-Anu & Owusu Ansah, 2023). With the prevalence of disruptive technologies in education, traditional learning and teaching were confronted with challenges (Rudolph et al., 2023). According to Cotton et al. (2023), as cited in Rudolph et al. (2023), ChatGPT pushed efficiency and reduced the need for human labour, as it provided information and automated repetitive tasks. In a classroom context, this implied that the chatbot could help saving time to concentrate more on students (Alshater, 2022; Terwiesch, 2023). Consequently, when educational technologies optimized learning while reducing costs, the further implementation and optimization of technologies in educational institutions seemed inevitable (*Humane Artificial Intelligence Working Paper No. 1*, n.d.).

Impressions of ChatGPT in HEI

The ongoing progression of technologies as GPT-models increased concern about mistreatment and ethics (Mogavi et al., 2023). Doing research, teaching, and learning, practices that heavily rely on written work, and the core business of Higher Education Institutions (HEI), might be significantly impacted by the text generating capacity of GPT (Baidoo-Anu & Owusu Ansah, 2023). Preliminary literature reviews, as that of Baidoo-Anu and Owusu Ansah (2023), suggested that the usage of ChatGPT for educational purposes caused ambivalent responses among educators, considering the alleged power of ChatGPT to transform existing educational practices. Where some regarded the advancement of AI as the future of teaching and learning, others were concerned for the continuity of educational practices, a decrease of analytical competences, and laziness among students (Baidoo-Anu & Owusu Ansah, 2023).

Mogavi et al. (2023) explored the user perspectives of early adopter groups on AI in educational settings, including scholars, parents, students, and educators. In a social media

content analysis, over 6000 text pieces on four primary social media platforms were analysed. Inductive coding was utilized because of the scarcity of previous research on ChatGPT in relation to user experience, and to prohibit the interference of prior assumptions (Mogavi et al., 2023). Findings indicated that ChatGPT was most frequently utilized within the higher education context (Mogavi et al., 2023). Generally, the AI-tool was perceived to be valuable in assisting students and educators with time-consuming tasks, for example in research or problem-solving (Mogavi et al., 2023). Similar to the risks portrayed by Baidoo-Anu and Owusu Ansah (2023), Mogavi et al. (2023) reported concerns of early adopters, who pointed at potential abuse, including cheating, laziness, dependence, and impediment of critical thinking and creativity. However, a limitation of the study was the limited scope and scale of the data collection, which did not portray the diversified perspectives and experiences of ChatGPT users (Mogavi et al., 2023).

To increase understanding of the impact of ChatGPT on universities, Firat (2023) qualitatively examined the perceptions of scholars and PhD students from Turkey, Sweden, Canada, and Australia. By means of a thematic content analysis, it was observed that among participants in the study, the consensus existed that AI would alter contemporary learning methods, focusing more on competences, and altering the position of universities (Firat, 2023). Conclusively, AI offered advantageous applications for the future of education, but particularly digital literacy, ethics, and assessments seemed threatened by this transformation (Firat, 2023). Prospective studies should further examine the possible applications and the influence of AI on education, and develop frameworks for AI in assessments, learning objectives, and pedagogy (Firat, 2023).

Transformation of traditional student evaluation

Increasingly, the acquisition of vital academic competences as writing and analytical thinking, and student assessments to evaluate these, seemed under pressure (Baidoo-Anu & Owusu Ansah, 2023). This was exemplified in the work of Thorp (2023, as cited in Firat, 2023), who examined how lecturers were forced to modify their courses and appoint assignments on which ChatGPT did not perform well. It was disclosed that university policies to guide students in using AI-technologies will soon be outdated, as ChatGPT functions will be standardised in Microsoft Office, and the tool will have become mainstream (Metz & Weise, 2023, as cited in Rudolph et al., 2023). This notion might evoke the question if, and if so, how skills central to academic 'Bildung' could be adequately assessed, recognizing the ubiquity of ChatGPT. According to Rudolph et al. (2023) universities should support

employees, and share research on AI for educational purposes. Further recommendations included integrity training for students, instruction of employees on AI-tools, and clear guidelines on the proper use of AI-tools, including the consequences of cheating (Rudolph et al., 2023).

In addition, a concern raised by Lund and Wang (2023) who interviewed ChatGPT about his benefits for the research process, was how universities should work alongside this technology without abusing it or being abused, in a time when HEI compete in producing scholarly outputs and educating future professionals. It could be questioned to what extent AI-tools as ChatGPT can be, at all, utilized responsibly, and in a controlled setting at universities, or even in society at large. There is some evidence to suggest that roles shifted, and technology is no longer the servant of mankind, but increasingly technology masters people (Avant, 1975). This theory developed by Ivan Illich, 'Tools for conviviality', expressed the view that technology is gradually more abused, exemplifying this with the field of medicine, but also noticing the application in the field of education (Avant, 1975). Accordingly, the theory might imply that an ethically responsible use of ChatGPT within a HEI-context is wishful thinking.

At the same time, the risks associated with technologies as ChatGPT seemed gradually recognized in academia. As an example, Rudolph et al. (2023) demanded a societal debate with policy makers, educators, and researchers on the challenges and opportunities of ChatGPT. What is more, some HEI anticipated on the release of ChatGPT in November 2022. For example, the Radboud University in the Netherlands published a webpage with information for university stakeholders about ChatGPT and the implications for the university (*ChatGPT | Radboud Universiteit*, n.d.). The university identified plagiarism and fraud as the two most concerning risks. To counter plagiarism by ChatGPT, new developments are in progress, and additional policies might be required, for example regarding students´ assessments, according to the university website (*ChatGPT | Radboud Universiteit*, n.d.).

Conclusively, initial studies appeared to acknowledge that ChatGPT encompassed both a threat and an opportunity, and suggested that ChatGPT could have profound implications for the future of education. However, few studies have examined this in the context of HEI. Although preliminary research incorporated user experiences and students' perceptions, the influence of AI on education necessitates further examination, including diverse perspectives and experiences. Meanwhile, publications as that of the Radboud University seemingly confirmed that the AI-technology has embarked on educational

institutions. While the exact impact of ChatGPT on academic education may be speculative, investigating the perceptions and experiences within a university was highly relevant to acquire further empirical understanding of the impact of ChatGPT on higher education. In addition, findings could contribute to ongoing discussions within universities on how to deal with the prevalence of ChatGPT. A qualitative case study within the Radboud University presented an opportunity to explore the technology in a case-in-point. Therefore, the aim of this study was to investigate the perceptions of the Radboud University about ChatGPT in higher education. Henceforth, the following research question was formulated**: "***How does Radboud University perceive the use of ChatGPT in higher education?"*

2. Method

2.1 Instruments

To answer the research question, semi-structured in-depth interviews in the Dutch language were utilized. A qualitative method was most appropriate, as it allowed for obtaining in-depth insights into an existing phenomenon, i.e., the perceptions of the Radboud University about ChatGPT in higher education (Moser & Korstjens, 2017). Generally, face-to-face in-depth interviews were considered appropriate for collecting thoughts, feelings, attitudes, and experiences from the interviewee (Moser & Korstjens, 2017). Since the study inductively examined how ChatGPT among other language models was perceived by university staff, in-depth interviews were adequate to investigate these sentiments. More specifically, a qualitative case study methodology was employed. The university members' viewpoints about ChatGPT could not be examined without the context of the Radboud University, and in particular the seminars, lecture halls, board room, and other organizational work settings (Baxter & Jack, 2010). Besides, research on ChatGPT in higher education was scarce. Qualitative research was assumed to be a valuable starting point for further investigation, when few studies existed (Moser & Korstjens, 2017). The semi-structured nature of the interviews was dictated by the fact that it allowed for exploring the lived experience of the interviewee, and supported in defining the meaning of the phenomenon under investigation (Brinkmann & Kvale, 2018).

In the present study, the seven qualitative research phases from Brinkmann and Kvale (2018) were employed. This frame was preferred, as it navigated the researcher on how to organize and manage her research project within the intended time frame.

Table 1. Qualitative research phases by Brinkmann and Kvale (2018)

Phase	**Description**
Thematizing	The development of thematic and theoretical understanding, including the research question(s), providing background information for, and familiarity with the research topic
Designing	The planning of the study
Interviewing	The creation of an interview guide, and the execution of the interviews
Transcribing	The preparation of the raw interview data for the analysing phase
Analysing	Based on the interview data, topic, and objective of the research, an appropriate analysis method is chosen
Verifying	Establishing the validity, reliability, and generalizability of the findings
Reporting	Reassures that the communication of the findings is in line with scientific and ethical standards

Based on the scientific literature, and the formulated research question, an interview guide was created (see Appendix V). The identified key terms were ChatGPT, perceptions, and higher education. ChatGPT was previously defined as a natural language model that employs unsupervised and supervised learning practices to produce learning similar to that of humans (Radford et al., 2018, as cited in Lund & Wang, 2023). Perceptions were described as convictions, representations, or opinions that stem from how one comprehends or regards somethings (*Perception Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.Com*, n.d.). Higher education was explained as education taught at university level (*Higher-Education Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.Com*, n.d.).

Previous research demonstrated that the implementation of AI in educational settings caused mixed responses among educators (Baidoo-Anu & Owusu Ansah, 2023). To acquire insight into the perceptions of Radboud University about ChatGPT in higher education, it was important to include participants' role, as their position and duties might have influenced their lived experience. To elicit a response from the interviewees, firstly, an introductory question about their vision on ChatGPT was asked. Secondly, a follow-up question about their role was utilized to collect more information: *"To what extent does this approach/view differ from*

when you were a researcher/lecturer/manager?"

Similarly, preliminary observations from research about ChatGPT in higher education were included in the interviews. The benefits, possible applications, risks, and concerns associated with ChatGPT in higher education, as identified in previous research, were investigated utilizing structuring questions, follow-up questions, and probing questions. An example of a probing question pertained to: *"An often-mentioned benefit [of ChatGPT for education] related to the implementation of feedback for students by ChatGPT. What do you think of this?"* Furthermore, according to Moser and Korstjens (2017) certain topics important to participants might not have been encompassed in the interview guide. Therefore, the researcher decided to incorporate a direct question at the end of the interview, with the possibility of a follow-up question to discuss topics presented by the interviewee: "*Were there any topics that weren't addressed/that you would like to touch upon?"*

2.2 Participants

In total three interviews with Radboud University employees were conducted. This amount was adequate as themes repeatedly surfaced after three interviews. In addition, the time limit of the study, four months in total, restricted the number of interviews. For the selection of participants, purposeful sampling was exploited. This choice relied on the power of purposeful sampling in selecting subjects with abundant knowledge and information on the phenomenon under investigation, providing in-depth insights and explanation (Russell & Gregory, 2003). Therefore, within the Radboud University in the Netherlands, the HEI in focus, employees from different departments, and from distinct levels within the organization were approached. The participants selected were all at some point confronted with ChatGPT in their work.

Although the age of participants was unknown, all participants were male and of Dutch origin, and obtained a PhD. In addition, participants possessed a scientific professional background, and worked for the Radboud University. Participants' scientific expertise were related to (art) history, medicine, and philosophy and AI. The participants worked respectively as a rector magnificus, a researcher and lecturer, and a director of education and professor. The Radboud University, where the study was conducted, is situated in Nijmegen, the eastern part of the Netherlands that is close to the German border. The university is internationally oriented, and offers degree programmes in the alpha and beta sciences (*Feiten en cijfers | Radboud Universiteit*, n.d.). To date, the university has 24.663 students and 6.147 staff (FTE) (*Feiten en cijfers | Radboud Universiteit*, n.d.).

2.3 Procedure

The interviews were conducted at the end of April 2023 until the beginning of May 2023, and all lasted 30 – 45 minutes. All interviews were administered by the researcher herself. Two interviews took place on the Radboud University campus, and one interview was conducted through a Zoom conference. Via the internal e-mail system of the university, participants were approached for an interview (see Appendix IV). In the e-mail, an information sheet (see Appendix II) and a consent form (see Appendix III) were enclosed. Although the study was not approved by an ethics committee, an ethical checklist (see Appendix I) was completed.

At the beginning of each interview, the purpose of the study was explained, and participants were again asked for their consent. Moreover, participants could address remaining questions. The topic was introduced with a question about the personal experience of the interviewee with ChatGPT. At the end of the interview, participants were debriefed. The interviews were audio recorded and stored on the university One Drive. No irregularities during the interviews occurred. The audio recordings were transcribed using Microsoft's *Word* dictating tool. The three initial transcriptions contained various mistakes. Therefore, the transcripts were manually checked.

For the analysis of the data, a thematic analysis was utilized. The researcher conducted the thematic analysis alone. This analysis method was preferred because of the accessible and systematic framework for developing codes and themes from qualitative data (Clarke & Braun, 2017). A further advantage of the method pertained to its capability in establishing patterns within the data and beyond, to acquire understanding of participants' lived experiences and attitude (Clarke & Braun, 2017). The thematic analysis employed aimed at providing a rich thematic description of the data (Braun & Clarke, 2006). Besides, inductive coding was utilized. Inductive coding was considered effective when few research on a topic existed and prevented the interference of the researcher's assumptions during the development of themes (Mogavi et al., 2023).

The framework of Braun & Clarke (2006), entailing six research phases, was adopted to identify the overall themes in the data. In the first phase, the familiarisation with the data, the transcripts were read to shape ideas, and to determine definitions and patterns (Braun & Clarke, 2006). In phase two, generating initial codes, all interview data were manually labelled a code. As a result, a long table with coded abstracts was produced. In the third phase, searching for themes, the coded abstracts were analysed and categorized into potential

themes (Braun & Clarke, 2006). In the reviewing phase, themes were combined or omitted (Braun & Clarke, 2006). During phase five, defining and naming themes, each theme was compared with the data that it captured to reassure that they were organised as a coherent and consistent narrative (Braun & Clarke, 2006). To increase understanding of the narrative in the data, themes were visualised (see Appendix VI) In the last phase, producing the report, the results section was crafted, and vivid abstracts illustrating the themes were included.

2.4 Statement on reflexivity

To safeguard the reliability during the interviews, no leading questions were asked. However, it was recognized that the influence from the researcher's perspective was unavoidable (Moser & Korstjens, 2017). The researcher, who was enrolled at the Radboud University, wanted to be open to the perspectives presented by the Radboud University employees. Nonetheless, it was sometimes difficult to remain neutral, as the researcher had experienced ChatGPT in higher education from a student perspective at Radboud University.

3. Results

To answer the research question, a thematic analysis identified six themes related to ChatGPT in higher education, pertaining to 'Purpose academic education', 'Thoughtfulness and consciousness', 'Problematic nature of the tool', 'Vision on ChatGPT in higher education', 'Possible positive applications', and 'University policy and measures'.

3.1 Purpose academic education

What should students' curriculum be composed of? Which competences should students be taught and possess? What kind of students do we want to deliver to the labour market and to society? And to what extent are students allowed to depend on technologies as ChatGPT? These questions represented the consensus among the participants in this study, suggesting that the presence of ChatGPT in the public sphere gave rise to reflections on the purpose of academic education and competences. Participants noticed that the competences students possess when entering the institutions nowadays differ to previously. Students perform less well on aspects as writing and maths but seem to compensate for this with other qualifications. The following abstracts illustrated this sentiment:

IV3: *"But yes, students can write much less well when they come here, but if you ask them to give a presentation, they can do that much better than we could […]"*

IV1: "*We know that the math level is lower than we were used to, so we are indeed concerned about that. […] At the same time, I see that students have learned other things and can do better, so it's not that I think the students are less or less able, but they can do other things. But some things, yes, I do worry about. So being able to really understand a text and being able to create a text is an incredibly important skill for any academic."*

In was reported that the task-generating capabilities of ChatGPT could offer consolation for those tasks that require competences on which students perform less nowadays. ChatGPT was, for example, compared to widely accepted devices as smart phones and calculators, or even the printing press, which have taken over tasks from humans, and have shifted the attention to other competences:

"No, I remember I also read a piece about the discussion when the printing press came about. Then people said, yes, but once everyone can read, people will no longer remember things. And it is like that. We remember much less than people before the printing press. So, we can recite a lot less texts from memory and stuff. But we don't mind that either because we think

we can do other things better now."

Within the Radboud University, the discussion seemed to be centred around the topic "*whether students should be able to write themselves or not, or whether they can outsource parts of it to GPT"* (IV2). Participants displayed distinctive opinions about the extent to which students should depend on ChatGPT. Despite this, the interview data suggested that the objectives of academic training remained unaltered. Overall, participants highlighted the importance of academic competences and abilities. IV1 stated on the aim of university education: *"Learn people to think, and then they can still make their own choice"*. Likewise, IV2 mentioned *"The most important thing we do at a university is learn to think critically about social developments, about how we do science, business and how we generate knowledge."*, and IV3 argued "*I would like to put good, academically trained scientists in society. This means that they are analytically well versed, that they can use the scientific skills they have learned in their profession in a much broader, broader way [..]".*

What is more, the focus on these academic competences, such as critical thinking, should be even intensified, as reported in the interviews. To date, limited attention is drawn to this, according to IV2: *"The emphasis on attitude, that is still too little."* Similarly, IV3 observed: *"I think there should be more emphasis on critical thinking, on analysis, but I also think combining sources for our field [..]".*

Future of assessments and education

All participants believed that, eventually, ChatGPT will affect some student evaluations and educational practices at Radboud University. Discussing the impact of ChatGPT on education, participants acknowledged that with the prevalence of ChatGPT it might become more difficult to evaluate certain competences, changing conventional evaluation formats. For example, IV2 predicted that it will be relatively *"easy"* to generate texts, and a higher abstract level will be reachable. However, he also recognized the possibility that texts will become more generic. This possible deficiency resembled the notion of "*eenheidsworst*" (boring uniformity) by IV3, signifying that ChatGPT may restrain innovation, and fades out small degree programmes. Furthermore, IV3 expected that *"[..] you can test less on formal matters, and you should put much more emphasis on the content. And that is not necessarily a bad thing. I think you can, then you can demand that that form is good by definition. Then you will set the bar much higher than it was in the past."* IV1 noticed: *"Yes it affects all [red: existing evaluation formats], and it will do even more. And*

actually, I think it's good that testing is being rethought again. What I thought even before the rise of ChatGPT is that we pay too little attention to tests."

3.2 Thoughtfulness and consciousness

Overall, participants articulated that more attention should be drawn to thoughtfulness and consciousness. The consequences and implications of ChatGPT should be taken better into account when, if at all, utilizing ChatGPT. IV1 explained: *"[…] I hope that we will at least make our students, but actually everyone, more aware of the choices you make yourself, the consequences they can have and what you are participating in."* Yet, IV2 emphasised that those who are hesitant towards the integration of ChatGPT are often portrayed as completely against ChatGPT. He advocated that "*You can also say, let's see what we can do with it before we implement it everywhere."*

A particular threat to thoughtfulness and consciousness related to the ignorant attitude of students and the public in using tools designed by commercial parties, as but not limited to *ChatGPT*, *TikTok*, and *Instagram*. A participant remarked that a pitfall for students is oftentimes to over-rely on what ChatGPT generates, and another found it "*worrisome*" that everyone, including the university, gives in to large commercial corporations and "*throws away our data*". Also, participants agreed that students should be sensitized for the risks associated with the usage of ChatGPT. According to IV1 it was okay to utilize ChatGPT from time to time, but awareness is imperative. Furthermore, IV1 explained how he sensitized his students to study for exams, highlighting the societal relevance of learning:
"[..] I always said you can read all my old questions and you can cheat. However, it is of no use to you because if you - I taught Medicine - really start training to become a medical specialist, you will immediately fall short if you do not have your knowledge."

3.3 The problematic nature of ChatGPT

Interviewees envisioned certain risks and constraints of ChatGPT in higher education. For instance, IV2 indicated that he was hesitant to adopt ChatGPT for educational purposes due to the ethical risk that the language model steers. He illustrated this with an example of Einstein's Theory of Relativity: *"GPT would have been very inclined to confirm Newton, but that is of course not a good approach. That is not what you want to teach students. They must present arguments."* The tendency of ChatGPT to confirm what is accepted, thus, conflicted with the scientific approach of critically examining concepts and questioning the status quo, as emphasized by IV2. In addition, the commercial character of the language model was

mentioned. IV2 described that, while opinions differed, certain colleagues wanted to exclude the tool entirely because of the power structures in which GPT operated. In addition, he asserted that ChatGPT belonged to an American company over which you have no control. Accordingly, IV1 seemed uncomfortable with the personal data that 'Bigtech' gathers from consumers:

"[..] we see a lot of people using TikTok, using Google, where a lot of private information goes directly to a commercial party, without you having any idea that they are doing it. With TikTok, that's really bad. But at ChatGPT, whatever you ask ChatGPT they know exactly who you are, what your IP address is, when you asked, what text came out."

Another aspect that was disclosed in interviews was the knowledge paradox. The usage of ChatGPT necessitates understanding of the system to be able to know what the limits are. Yet, a majority of users tended to employ ChatGPT to learn new things and were often unexperienced in working with the technology.

IV1: *"[..] But then you have to be knowledgeable, because they always seem very nice, so at first reading there really seems to be something."*

IV2: *"There is also a kind of expert paradox in GPT. To be able to properly estimate whether the output is useful, you have to be an expert in the field of that output. But many people will use GPT to learn new things. And then you don't have that expertise yet."*

The social biases of ChatGPT and the sustainability component of chatbots were only touched upon by IV2. He pointed at the risk of biases about minorities, gender, and other power constructs, which are present on the internet, and are further enhanced by ChatGPT. Furthermore, IV2 questioned the amount of energy required to train and use the model.

An alternative model

Two interviewees emphasized that they did not entirely reject the usage of language models and recognized possible favourable integrations. However, they considered the current model an inadequate tool for education and desired an alternative model. IV2 expressed that his opinions had changed a few times, and that his current viewpoint was that the university should not adopt ChatGPT: *"And by that I don't mean to say that there can't be an alternative, but GPT as it is now and who owns it, I don't think is a good tool for broad use by the university."* IV1 expressed a similar opinion: *"Well, I hope a next generation or another. Because ChatGPT is the most famous, they have very smart marketing, but other parties are*

also working on something similar."

The alternative model should qualify for transparency, in order for the user to *"know where it stems from"* (IV1), and it should be *"clear when texts or pictures where generated and when not"* (IV2). Furthermore, an alternative model should guarantee that *"data is safely stored and not misused"* (IV1) and could be created in Europe. Lastly, the initiative should remain with the user. Then, according to IV1, there would be possibilities for using a language model in education.

3.4 Vision on ChatGPT in higher education

Overall, the participants recognized that ChatGPT may influence contemporary ways of working at university and, consequently, requires adjustments. IV3 was "*shocked that it [red: ChatGPT] was able to reach the level of a BA-thesis"* and explained that this gave rise to a discussion on how to deal with that. For IV1 it was immediately clear that ChatGPT could have major consequences for the university. IV2 referred to smaller discussions among philosophers of Artificial Intelligence at the faculty about the influence ChatGPT could have on our thinking and education.

In the participants´ visions on how to manage ChatGPT in higher education, it could be distinguished between two perspectives: ChatGPT as another innovation, and a reluctant attitude. The view of ChatGPT as another innovation was represented by IV1 and IV3, who explained that "*[…] with such an innovation you should try to use the positive side and try to eliminate the negative sides"*(IV1). Especially, the prevalence of ChatGPT should be accepted because "*once they [red: innovations] are there, they don't go away"* (IV1), and it is *"a fact so you have to live with that"* (IV3). This stance contradicted with that of IV2, which reflected a reluctant attitude, and disputed the acceptance of ChatGPT as a factor to consider:

"In many discussions it is automatically assumed that ChatGPT is there, that it will stay and that we should do something with it. But you can question that. We are not forced to work with ChatGPT. That should be clear. It now feels a bit like we've passed the step of should we use it, yes or no, like we've already passed that one."

Roles

Furthermore, the professional role of the participants might have affected their viewpoints on ChatGPT in higher education. IV1 stated that *"as a rector and director, you think a bit longer about the consequences for a lot of people of such a development. As a professor you might be keener to use it."* In his work as a researcher and teacher, IV2

commented that he was reluctant to utilize ChatGPT as a *"tool for research"*, or to *"obtain feedback"* because of the leading character of the language model. However, investigating the consequences of the chatbot and teaching about language models was acceptable for IV2. As a director of education, IV3 admitted a more positive view than in his role as a teacher, where he envisioned *"still many bumps"* because students and results must be treated differently.

3.5 Possible positive application

Besides disadvantages of ChatGPT, participants identified some possible positive applications of ChatGPT for the Radboud University. Still, these applications were under the premise of an alternative model, as elaborated in the theme 'Problematic nature of ChatGPT'. ChatGPT could be utilized in a manner to obtain a more critical application out of it. For example, IV1 referred to a secondary school assignment in which students discussed strengths, weaknesses, and differences between texts generated by ChatGPT. This could increase awareness about the functioning of GPT and might even contribute to better reading according to IV1. Likewise, IV2 stated that an appropriate assignment would be to *"just see what kind of biases or naive or boring conclusions GPT generates when you ask him difficult questions".*

Also, educating about ChatGPT in a degree as Artificial Intelligence might be relevant since it fits in with the students' environment according to IV2. On top of that, with the normalisation of long-distance educational formats, language models could potentially offer structured feedback for students who do not have access to peers (IV2). With an alternative model, IV1 furthermore expressed the hope that it will help to access sources more easily. Lastly, all participants highlighted the importance of guidance and support for students in working with language models.

3.6 University policy and measures

The participants thought differently about the university policy and measures with respect to ChatGPT. As a rector, IV1 favoured warning, developing alternatives, and pressuring companies to improve their ways of working. An example of this strategy pertained to the existing agreement between the Radboud University and Microsoft: *"What we have now, for example, with our Microsoft in the Cloud, we have really been able to make some arrangements that make that a whole lot safer than it was. So that is by and large our policy as well."* In addition, IV1 stressed that examination boards should contemplate how to continuate proper testing, when ChatGPT can perform better than the average student on certain aspects. Comparable to the attitude of IV1, IV2 affirmed that clear communication

about the ethical dangers of ChatGPT and its influence on our thinking were vital. In addition, he urged dissemination of knowledge about ChatGPT in an accessible fashion. According to IV3, ChatGPT should be addressed at a low level in the university because of the different impact on study programmes.

Novelty of the model

Notwithstanding, ChatGPT is relatively new to the public and still developing. Consequently, it may be difficult to ascertain what further applications the chatbot will have in the near future. This complicated the question as to what adequate measures should be taken, according to the participants. IV2 noted: *"The problem is also, it's still so new. We are doing workshops and things. You just mentioned one to explore what's possible. But that process is still evolving, so we don't know those outcomes yet."* IV3 stated that he did not yet reflect upon how he would regard greater advancements of ChatGPT. However, he believed that in six months an even more refined version of ChatGPT will be reality.

4. Conclusion

The objective of the present study was to examine the perceptions of academic university staff at Radboud University with respect to ChatGPT in higher education. The findings indicated that the ubiquity of ChatGPT in the public sphere increased awareness among participants about the importance of academic competences. Abilities as critical thinking and analysing were regarded essential for academic training. Furthermore, the focus of higher education should increasingly be on training students a critical attitude towards AI-technologies at large. Similarly, in deciding on whether to employ ChatGPT, the public, including students, should be more conscious and thoughtful. At present, most people possessed a neglecting attitude when utilizing products of large commercial corporations, according to the participants. In addition, the commercial character, its underlying (power)structurers, and the leading nature were considered problematic aspects of the ChatGPT. It was concluded that because of the risks affiliated to ChatGPT, an alternative language model should be constructed.

Participants unanimously recognized that ChatGPT was a factor that should be considered. Yet, the visions on how the Radboud University should encounter ChatGPT varied. On the one hand, some considered ChatGPT to be 'another innovation', of which you want to integrate the beneficial aspects, and control for the negative effects. One the other hand, one participant questioned this dominant viewpoint, which assumed the establishment of ChatGPT in society. This contrary perspective highlighted that the public is not obliged to adopt ChatGPT.

Under the premise of an alternative model, however, participants were receptive to beneficial applications of large language models that allowed for a more critical usage in education. Yet, students should receive the right support in working with the technology. Finally, with respect to the university policy and measures for ChatGPT, disseminating information and warning for the risks of ChatGPT were regarded as vital. Some participants conflicted in their views at what hierarchical level the responsibility for these regulations should be placed. In spite of that, the novelty of ChatGPT to the public, and its continuing development, complicated considerations about adequate measures and policies.

5. Discussion

The experiences and perceptions captivated in the present study seemed comparable to initial research on the implications of ChatGPT on (higher) education. Similar to previous findings, the results of the present study indicated that ChatGPT might transform existing educational formats at HEI (Baidoo-Anu & Owusu Ansah, 2023; Rudolph et al., 2023). Within the small number of qualitative studies investigating ChatGPT in higher education available, it was observed that among participants, ChatGPT was considered to provide opportunities for learning and teaching, although it entailed serious risks. Exploring the perceptions of scholars and PhD students, Firat (2023) reported both the beneficial applications of ChatGPT, and its menace to digital literacy, ethics, and assessments. Likewise, in a qualitative content analysis by Mogavi et al. (2023), users recognized ChatGPT's value, but noticed risks for education, relating to abuse, cheating, and the impediment of critical thinking.

The present research elaborated on, and expanded literature on AI within the university context. The interviews from the Radboud University contributed to further mapping the diversity of perceptions and experiences on ChatGPT in higher education present at HEI. On account of empirical research on this topic being sparse, these insights may contribute to an increased understanding of GPT in the context of HEI. For instance, the problematic nature of ChatGPT, including the commercial character of the language model and the demand for an alternative language model, were not explicitly mentioned in previous literature reviews on ChatGPT in education (Alshater, 2022; Baidoo-Anu & Owusu Ansah, 2023; Kasneci et al., 2023; Lund & Wang, 2023). Yet, it might be relevant to incorporate these considerations when working with the ChatGPT, as the commercial character and system behind ChatGPT could conflict with academic values as integrity, transparency, and autonomy. Additionally, a remarkable result were the social biases and energy demand of ChatGPT voiced by one participant. Although these deficiencies may be manifest, previous research on ChatGPT in higher education did not incorporate them. As sustainability and social inclusion seem to be spearheads within HEI nowadays, the question of using ChatGPT on campus might require additional consideration.

The risks portrayed in this study might concur with the theory 'tools of conviviality', that discussed how technology increasingly masters mankind. The perception that ChatGPT is a given fact, as expressed in the interviews, might imply indeed that people have no choice and are forced to comply to the chatbot. In addition, the leading system behind the chatbot

demonstrated properties of a technology that may not dominate humanity, but at least governs our thinking process. This raises the question to what extent, when ChatGPT further expands its applications, society should allow ChatGPT to take over a human's tasks. Despite the improbability that ChatGPT will rule mankind, the manner in which the language model functions seem to display certain properties that would suspect it of mastering its user.

Moreover, the concentration on consciousness and thoughtfulness issued by participants elaborated on previous research that stressed the importance of digital literacy, and competences as critical thinking. Participants in the present study equally highlighted the focus on academic competences and a critical attitude. An explanation for this perspective could be that the assumed disruptive impact of ChatGPT on traditional ways of working, as described in the 'tools for conviviality' theory, might have increased the urgency to arm students with instruments to cope with the negative effects of ChatGPT.

Limitations

The qualitative character and small sample size of the study limited its generalization to other settings. Another constraint pertained to interpretative thematic analysis employed. Firstly, the researcher coded the transcripts alone, which may have resulted in the influence of personal biases in the findings (Russell & Gregory, 2003). Secondly, the researcher might have falsely interpreted utterances (Russell & Gregory, 2003). Continuing, the reader should bear in mind that the overrepresentation of the male gender in the data could have affected outcomes. Besides, the purposeful sampling employed might have been affected by the researcher's assumptions about the relevance of certain participants for the study, resulting in a selection bias (Treadwell & Davis, 2019). Further research should include additional and more diverse perspectives on ChatGPT in higher education, for example those of students, women, and participants from various levels in an organization. In addition, the assumptions underlying the perceptions can be addressed in future studies. To further explore AI in higher education, quantitative, or mixed methods could be employed to increase the generalizability of the findings.

Altogether, the present study may have been the first to investigate ChatGPT in academia in a case-in-point, namely how the Radboud University regarded ChatGPT in higher education. The findings might provide insights for other HEI on the perceptions of ChatGPT present within the academic community. These notions may contribute to ongoing discussions and investigations on how to deal with the prevalence of ChatGPT within our universities, and

in the public sphere at large. So that when disruptive technologies knock at the door, they know what conditions are attached to a stay.

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7. Appendices

7.1 Appendix I: Checklist EACH

Checklist EACH (version 1.9, December 2022)

You fill in the questions by clicking on the square next to the chosen answer ☐

After clicking, a cross will appear in this square ☒

1. Will you be collecting data from social media platforms?

☐ Yes → consult the guidelines and contact the EACH to see if assessment is necessary

☒ Nee → continue with questionnaire

2. Will you use an existing dataset?

☐ Yes → continue with questionnaire

☒ No → go to question 4

3. When using an existing dataset, do you comply with the EACH guidelines**?

☒ Yes → continue with questionnaire

☐ No or in doubt → contact the EACH to see if assessment is necessary

** Guidelines: - ethics approval is obtained for the original data collection, - participants have consented to the

reuse of the research data, or the reuse fits within the original research purpose.

4. Will you be collecting data from participants?

☒ Yes → continue with questionnaire

☐ No → end of checklist

5. Is a health care institution involved in the research?

Explanation: A health care institution is involved if one of the following (A/B/C) is the case:

One or more employees of a health care institution is/are involved in the research as principle or in the carrying out or execution of the research.

A. The research takes place within the walls of the health care institution and should, following the nature of the research, generally not be carried out outside the institution.
B. Patients / clients of the health care institution participate in the research (in the form of treatment).

☒ No → continue with questionnaire

☐ Yes → Did a Dutch Medical Institutional Review Board (MIRB) decide that the Wet Medisch Onderzoek (Medical Research Involving Human Subjects Act) is not applicable or does the research comply with one of the standard research methods described by the EACH

☐ Yes → continue with questionnaire

☐ No → This application should be reviewed by a Medical Institutional Review Board, for example, the Dutch CMO Regio Arnhem Nijmegen. If review by an MIRB has already taken place → continue with questionnaire. If this review has not yet taken place → end of checklist

6. Does the research include medical-scientific research that might carry risks for the participant?

☐ Yes → This application should be reviewed by a Medical Institutional Review Board, for example, the Dutch CMO Regio Arnhem Nijmegen → end of checklist

☒ No → continue with questionnaire

Standard research method

7. Does this research fall under one of the stated standard research methods of the Faculty of Arts or the Faculty of Philosophy, Theology and Religious Studies?

☒ Yes → Standard in-depth interview **(fill in name and number of standard research method)** → continue with questionnaire

☐ No → assessment necessary, end of checklist

Participants

8. Is the participant population a healthy one?

☒ Yes → continue with questionnaire

☐ No → assessment necessary**, end of checklist → go to assessment procedure

**Exception for studies with patients participating in one of the described standard studies in the field of language and speech pathology

9. Will the research be conducted amongst minors (<16 years of age) or amongst (legally) incapable persons?

☐ Yes → assessment necessary, end of checklist → go to assessment procedure

☒ No → continue with questionnaire

Method

10. Is a method used that makes it possible to produce a coincidental finding that the participant should be informed of?

☐ Yes → assessment necessary, end of checklist → go to assessment procedure

☒ No → continue with questionnaire

11. Will participants undergo treatment or are they asked to perform certain behaviours that can lead to discomfort?

☐ Yes → assessment necessary, end of checklist → go to assessment procedure

☒ No → continue with questionnaire

12. Are the estimated risks connected to the research minimal?

☐ Yes → continue with questionnaire

☒ No → assessment necessary, end of checklist → go to assessment procedure

13. Are the participants offered a different compensation than the usual one?

☐ Yes → assessment necessary, end of checklist → go to assessment procedure

☒ No → continue with questionnaire

14. Should deception take place, does the procedure meet the standard requirements?

☐ Yes → continue with questionnaire

☐ No → assessment necessary, end of checklist → go to assessment procedure

☒ deception is not applicable

15. Are the standard regulations regarding anonymity and privacy met?

☒ Yes → continue with questionnaire

☐ No → assessment necessary, end of checklist → go to assessment procedure

Conducting the research

16. Are participants recruited via the Radboud Research Participation System (SONA) and/or is the research conducted in the CLS Lab?

☐ Yes → assessment necessary, end of checklist → go to assessment procedure

☒ No → continue with questionnaire

17. Will the research be carried out at an external location (such as a school)?

☐ Yes→ Do you have/will you receive written permission from this institution?

☐ No → assessment necessary, end of checklist → go to assessment procedure

☐ Yes → continue with questionnaire

☒ No → continue with questionnaire

18. Is there a contact person to whom participants can turn to with questions regarding the research and are they informed of this?

☒ Yes → continue with questionnaire

☐ No → assessment necessary, end of checklist → go to assessment procedure

19. Is it clear for participants where they can file complaints with regard to participating in the research and how these complaints will be dealt with?

☒ Yes → continue with questionnaire

☐ No→ assessment necessary, end of checklist → go to assessment procedure

20. Are the participants free to participate in the research, and to stop at any given point, whenever and for whatever reason they should wish to do so?

☒ Yes → continue with questionnaire

☐ No→ assessment necessary, end of checklist → go to assessment procedure

21. Before participating, are participants informed by means of an information document about the aim, nature and risks and objections of the study? (see explanation on informed consent and sample documents).

☒ Yes → continue with questionnaire

☐ No→ assessment necessary, end of checklist → go to assessment procedure

22. Do participants and/or their representatives sign a consent form? (see explanation on informed consent and sample documents.

☒ Yes → checklist finished

☐ No→ assessment necessary, end of checklist → go to assessment procedure

If you want to record the results of this checklist, please save the completed file.

If you need approval from the EACH due to the requirement of a publisher or research grant provider, you will have to follow the formal assessment procedure of the EACH.

7.2 Appendix II: Information sheet

Radboud University

INFORMATION ABOUT THE RESEARCH STUDY

The impact of ChatGPT on student evaluations at Radboud University

Introduction

We would like to invite you to participate in a research study. Participation is voluntary. If you want to participate, we will ask you to sign a consent form. Before you decide whether or not to take part, we will give you information about the study. Please take time to read the following information carefully. If something is not clear, or you would like more information, please ask the researcher.

Outline and aim of the research study

In this research study we want to investigate how the chatbot ChatGPT affects student evaluations at the Radboud University in the Netherlands. ChatGPT is fairly new and a hot topic. With the help of semi structured in-depth interviews with educational professionals, researchers, and other staff at university, we strive to explore ChatGPT and student evaluations in Higher Education Institutions (HEIs). This information will provide insight for other HEIs on how to handle the chatbot with regards to student assessment and evaluation.

What is expected of you?

In this research study you will be interviewed about your work at Radboud University. Central to this are questions about your observations, experiences and knowledge about how ChatGPT might impact teaching and learning, and in particularly how it influences student evaluations and assessments at Radboud University. The interview will take place in person on the Radboud University Campus or online via Zoom, and will endure about 30 – 45 minutes. During the interview, participants can bring up topics that they think should have been addressed or require further explanation. Because of the time frame of this study, the interview should take place no later than 1 May 2023.

Voluntary participation

Your participation in this research is voluntary. This means that you can withdraw your participation and consent at any time during the research, without giving a reason. Even up to two weeks after participating you can have your research data and personal data removed, by sending a request to eline.burgman@ru.nl.

What will happen to my data?

The research data we collect during this study will be used by scientists as part of data sets, articles and presentations. The anonymized research data is accessible to other scientists for a period of at least 10 years. Personal data collected remain confidential. When we share data with other researchers, these data cannot be traced back to you.

Audio recordings will be made during this study. In case of an online interview, video recordings will be made. These recordings are used for transcribing the interview and analysing the data presented in the interviews.

The audio recording cannot be made fully anonymous. In the video recordings participants will be identifiable. The recordings will be transcribed and the original recordings will be deleted. The recordings will not be shared with third parties other than the researcher conducting this research and her supervisor.

You will be handed a consent form on which you can give permission for us to make and use these recordings.

In order to carry out the study and register your participation, it is necessary for us to collect, use and store personal data. The consent form indicates which personal data is involved.

All research and personal data are safely stored following the Radboud University guidelines.

More information?

If you have any questions or would like more information about the research study, please contact us using the contact information at the bottom of this letter.

Ethical assessment and complaints

This research study has been approved by the Ethics Assessment Committee Humanities of Radboud University.

Should you have any complaints regarding this research, please contact the researcher.

You can also file a complaint with the secretary of the Ethics Assessment Committee Humanities of Radboud University (etc-gw@ru.nl)

For questions on data processing in this research, please contact: dataofficer@let.ru.nl

Consent form

If you want to participate in this research study, we ask you to sign the consent form. With this written consent, you declare that you have understood the information we have provided and consent to participate in this research study.

Kind regards,

Eline Burgman (researcher)
eline.burgman@ru.nl
+31 (0) 6 42 89 41 79

dr. Andreas Liesenfeld (supervisor)
andreas.liesenfeld@ru.nl

7.3 Appendix III: Consent form

Radboud University

CONSENT FORM

for participation in the scientific research study: The impact of ChatGPT on student evaluations at Radboud University

Statement of participant

The aim of the research study has been outlined to me. I was given the opportunity to ask questions regarding the research study. I participate voluntarily in the research study. I understand that I can stop at any point during the research study, should I wish to do so. I understand how the data of the research study will be stored and how they will be used. I consent to participating in the research study as described in the information document.

In addition, I give permission to:

Yes	**No**	
☐	☐	process the following personal data: name, gender, age, profession, and e-mail address
☐	☐	have audio recordings made of me
☐	☐	have video recordings made of me (only applies in case of an online interview)
☐	☐	use these identifiable recordings for scientific purposes (for example in a conference)
☐	☐	share these identifiable recordings with the researcher of this study
☐	☐	have the audio recordings transcribed
☐	☐	use the anonymized transcripts for scientific research

Name:……

Signature: .....

Date:…….....

Statement of executive researcher

I declare that I have informed the above-mentioned person correctly about the research study and that I abide by the guidelines for research as stated in the protocol of the Ethics Assessment Committee Humanities.

Name: Eline Maria Eleonora Burgman Date: 30 March 2023

7.4 Appendix IV: E-mail request for participation in interview

Onderwerp: Interview ChatGPT en toetsing op Radboud Universiteit

Geachte heer/mevrouw,

Met deze mail wil ik u vragen of ik u zou mogen interviewen voor mijn bachelorscriptie over ChatGPT en het hoger onderwijs aan de RU. Ik ben heel erg benieuwd hoe u in uw rol als docent/hoogleraar/onderzoeker/onderwijsdirecteur kijkt naar ChatGPT en hoe dit het leren en onderwijs aan de RU beïnvloedt.

Wie ben ik?
Mijn naam is Eline Burgman en ik ben derdejaars student International Business Communication. Voor mijn bachelorscriptie doe ik onderzoek naar de invloed van ChatGPT op de toetsing van studenten aan de Radboud Universiteit.

Hoe kunt u mij helpen?
In een interview van ongeveer **30 – 45 minuten** wil ik u bevragen over uw expertise, visie, mening en ervaring met ChatGPT in relatie tot hoe de Radboud Universiteit haar studenten opleidt en toetst, én hoe de toekomst daarvan uitziet. In overleg kan ik u op voorhand reeds een overzicht van de interviewvragen sturen. In de bijlage vindt u alvast een information sheet en een consent form voor meer informatie.

Wanneer?
Graag kom ik bij u langs op de Campus voor een interview, maar online is ook mogelijk. Ik ben op de doordeweekse dagen beschikbaar, behalve op woensdag en vrijdag (dan werk ik). Om aan de voorwaarden van de scriptie te voldoen is het van belang dat het interview vóór **6 mei 2023** is afgenomen.

Vragen?
Mocht u nog vragen hebben, schroom dan niet om mij een mail te sturen op mijn e-mailadres eline.burgman@ru.nl of telefonisch op 06 42 89 41 79

Hartelijk bedankt alvast.

Met vriendelijke groet,

Eline Burgman
s1060689

7.5 Appendix V: Interview guide

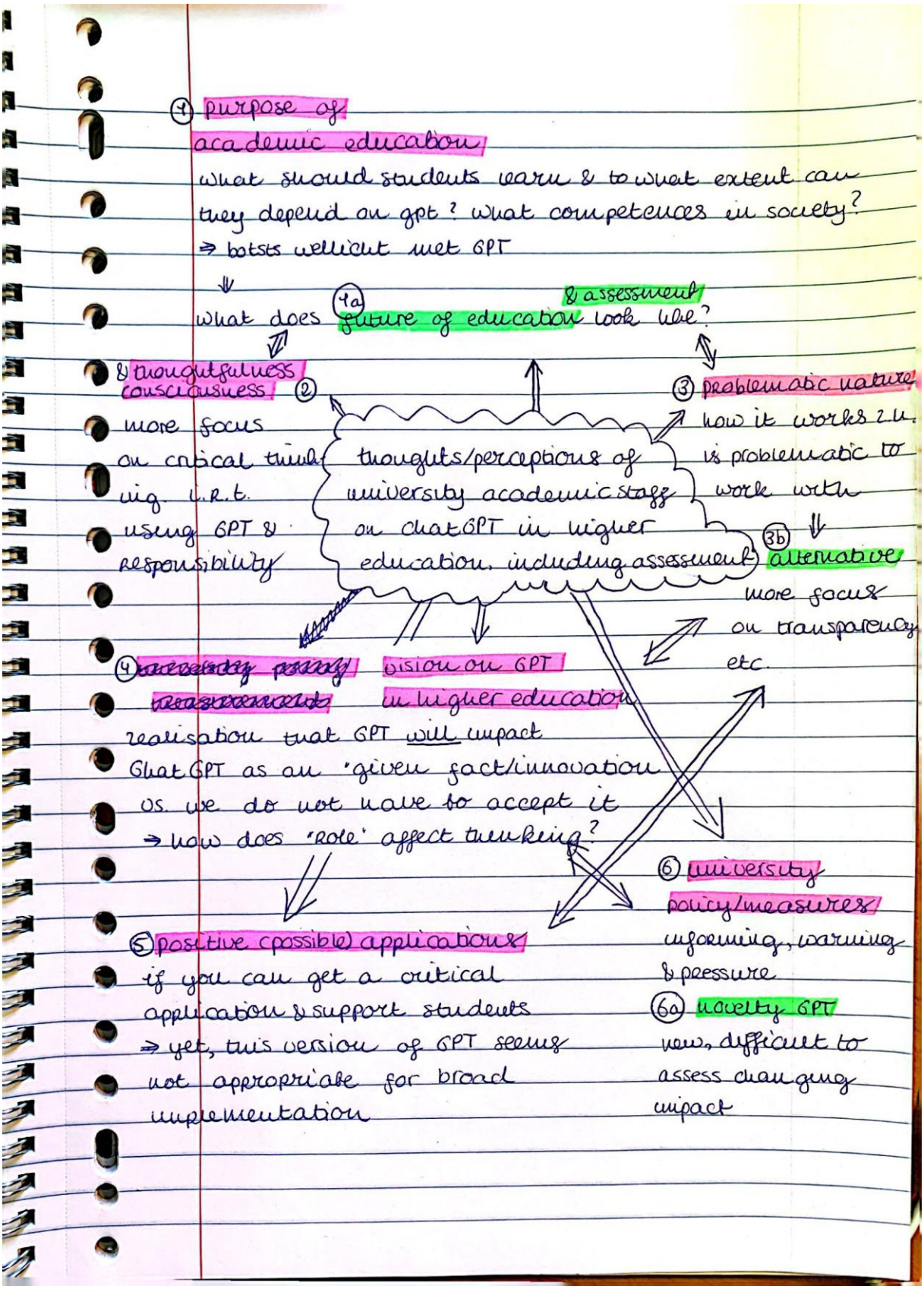
	Introduction Briefly introduce the project and who you are. Tell something about research and explain about consent + information sheet
Introductory question	Can you tell me something about the first time you heard about ChatGPT?/When was the first time you were confronted with ChatGPT?
Follow-up question	How are you confronted with ChatGPT in your work? Do you use ChatGPT and how? What was the first thing you noticed/changed since then?
	Topic I: professional role and view on ChatGPT
Introductory question	From your role as…how do you look at ChatGPT? To what extent does this approach/view differ from when you are a researcher/teacher/manager?
Follow-up question	You mention .. how is this translated in practise ?
Direct question	What is the biggest challenge you are confronted with in your work due to ChatGPT?
	Topic II: Challenges/disadvantages/risks
Introductory question	An important, if not primary task of the university, is its educational purpose. This implies the training and evaluation of students. If we see the current power of ChatGPT, it could be said that the chatbot can help students to perform certain text-generating tasks. This capacity might affect traditional student evaluation formats. To what extent does ChatGPT influence existing student assessment formats at Radboud?
Follow-up questions	What are the challenges educators are confronted with regarding student evaluation forms?

	Can you give me a more detailed example of the consequences of ChatGPT for student evaluation and teaching at the Radboud university?
Probing question	To what extent are we able to use ChatGPT for testing and learning in a controlled setting?
Structuring question	Another hot topic in literature, is how important skills like analytical thinking and writing are tested, now that ChatGPT can take over some of these skills. To what extent do you think evaluation formats at Radboud University will change as a result of ChatGPT?
Follow-up questions	What do you think that the future of student evaluation will look like? What skills will the university teach and assess in the future? → what role will the university have in the future within society? To what extent did the Radboud advise to change testing formats for that kind of skills?
	Topic III: Benefits ChatGPT
Structuring question	We discussed some of the challenges of ChatGPT for evaluation. What are the benefits of ChatGPT for student evaluation in your opinion?
Follow-up question	An often mentioned benefit pertained to the implementation of feedback for students by ChatGPT. What do you think of this? Related to topic of high workload at universities.
Follow-up question	How can the university utilize ChatGPT to improve its education and work more efficient?
Follow-up question	What are the advantages of ChatGPT in your work?
	Topic IV: Measures and policy of the university
Direct question	Recently, the university organised a workshop "Writing with or without ChatGPT"

	"The workshop will cover the latest AI tools and techniques for academic writing, including ChatGPT, and demonstrate how to effectively collaborate with AI to improve your writing productivity and quality. Whether you are a student, researcher, or teacher, this workshop will help you stay ahead of the curve and embrace the possibilities of AI in your future writing practice." 'This workshop was developed in response to the increasing use of AI in academic writing and concerns about its impact on the writing process. By exploring how AI can complement and enhance writing skills, we aim to alleviate these concerns and empower students and staff to use AI effectively to improve their writing productivity and quality.' What do you think of this approach?
Probing question	It what other ways can Radboud University anticipate on ChatGPT and its impact on student assessments?
Structuring question	According to literature, one of the most important risks of ChatGPT for education is the risk of plagiarism and fraud. From my experience as a student, I know that this topic is often mentioned during classes. What are, in your opinion, ethical conflicts that arise for Higher Institutions in relation to ChatGPT, teaching, and evaluation?
Specifying question	What other risks are there? What broader societal impact does this have?
Probing question	Can you give me a more detailed description of the responsibility that the university and other parties have in this?
Direct question?	What policies are already set in place to mitigate/manage the impact of ChatGPT on the learning and teaching at Radboud University? What other measures/steps might be needed to mitigate/manage the impact of ChatGPT on student assessments at university?

Direct question	What shift may be needed to deal with ChatGPT in an integer manner?
Direct question	Overall, what is your vision and opinion about ChatGPT with regards to student testing and evaluation?
	Topic V: topics brought up by the interviewee
Direct question	Were there any topics that weren't addressed/that you would like to touch upon?
	Debriefing Ask about remaining questions and how they experienced the interview.

7.6 Appendix VI: Visualisation of the themes



7.7 Appendix VII: Statement of own work

Statement of own work – BA thesis

By signing this declaration, the undersigned
[first name, surname and student number],

Eline Maria Eleonora Burgman s1060689

Bachelor's student at the Radboud University Faculty of Arts,

declares that the submitted BA thesis is entirely original and was written exclusively by himself/herself, and without the use of AI tools, such as ChatGPT. The undersigned has indicated explicitly and in detail where all the information and ideas derived from other sources can be found by referencing all sources used, both in the text and in the bibliography.

By signing this declaration, the undersigned also declares that the research data presented in this thesis were collected by the undersigned himself/herself using the methods described in this thesis.

Place and date:

Zeist, 17 June 2023

Signature: