Chapter 12

Is Turnitin for Punitive or Educative Measures in Postgraduate Students' Research Experiences?

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Abstract

Higher Education Institutions (HEIs) use digital technologies in various activities including teaching, learning and research practices. Turnitin is one of the digital technologies used by HEIs, such as universities, to detect plagiarism with a similarity index for both academics' and students' work. Over the recent years, HEIs have been challenged with an increasing problem of plagiarism, especially due to the use of online tools for learning and research. As a result, most HEIs have resorted to the use of plagiarism detecting tools such as Turnitin, to compare academic work produced by students against various online sources. This qualitative case study explored postgraduate masters students' experiences of using Turnitin for research purposes at a HEI in South Africa. Six participants were purposively selected from a larger doctoral study, to share their experiences of using Turnitin to detect plagiarism in their masters research projects. Semi-structured interviews and focus group discussions were used to generate data to address the key research questions. Thematic analysis and the Persona-Tech framework were used to analyse and interpret data. The findings of the study indicate that Turnitin was used to detect similarities more to punish students than to educate them. This study recommends that using Turnitin should be personalised according to students' needs, so that it

can produce a personal experience that may detect similarities to educate the students.

1. Introduction

Higher Education Institutions (HEIs) across the world are faced with a situation where academics and research supervisors deal with large numbers of students through Digitalised Curriculum (DC) forms (Khoza & Mpungose, 2020). As a result, it is tempting for students to reproduce information from a diverse range of published studies, especially during the COVID-19 pandemic-induced online learning that results in plagiarism. Therefore, HEIs have a task of addressing plagiarism from students. One of the commonly used solutions is to have students submit their work through anti-plagiarism software such as Turnitin. Turnitin is a software programme developed by John Barrie in 1997, to identify similarity in information presented by students and academics; and to encourage originality and proper reference of sources used in academic work like assignments, articles, theses and dissertations (Sokhulu, 2021). Likewise, Zuma (2020) observes that Turnitin is a software that was developed to generate a similarity index on academic work produced by various stakeholders in education and research. The Turnitin software compares textual matches in submissions to content in its internet database, and generates a report based on similarity in the work produced (Batane, 2010). In other words, Turnitin establishes whether plagiarism has taken place by producing a content similarity index report which identifies text that matches with information from other online sources. This similarity index report can be used by academics and other relevant stakeholders to determine if a student has plagiarised.

Plagiarism can be defined as the act of presenting someone else's ideas as your own (Mphahlele & McKenna, 2019). Vithal (2009) similarly calls it a form of academic theft, in which a person steals other people's or their own (self-plagiarism) ideas without referencing. The act of

plagiarism needs to be addressed in order to uphold a high academic standard, and protect academic integrity. Software and digital technologies such as Turnitin were introduced to help curb incidents of academic theft. this chapter addresses one of the themes identified in a larger doctoral study on masters students' experiences of using digital technologies in research. The specific purpose of this chapter was to explore postgraduate students' experiences of using Turnitin for their research studies. this chapter aimed to explore postgraduate masters students' use of Turnitin according to socialisation, professionalisation, and personalisation experiences, as determined by their study needs or situations. This study found it essential to explore what these experiences meant in relation to using Turnitin in research within the Fourth Industrial Revolution era (4IR) characterised by digitalised research practices.

2. Literature review and framing of the study

Digitalised educational experiences

The advancement in digital technologies has resulted in multiple revolutions, which have triggered significant changes in economic, societal, and educational systems (Schwab, 2017). We are currently in the 4IR or digital age, where most practices are digitalised because of innovations such as internet of things, cloud computing, artificial intelligence, robotics and many others (Elayyan, 2021). The higher education sector is not spared from such technological innovation, as digital technologies have had a significant effect on teaching, learning and research practices offering various educational digital opportunities to both academics and student communities. Higher Education Institutions have had to design suitable digitalised curriculum matching students' needs during the 4IR and COVID-19 era, in order to attend to different professionalisation, socialisation and personalisation experiences.

Theorising experiences of using Turnitin

Turnitin can be used to support social and professional learning according to students' personal needs (Amory, 2014). In other words, students can use Turnitin for their research studies as informed by their socialisation, professionalisation and personalisation needs (Zuma, 2020; Khoza, 2016). In this study, socialisation refers to using Turnitin as informed by informal activities that may support learning. For example, a case study by Sokhulu (2021) noted that students were able to informally help each other understand the use of digital technologies during COVID-19 lockdown (a socialisation experience). Professionalisation is the use of Turnitin drawing from formal learning experiences, like learning to use Turnitin effectively in research following prescribed rules by the university (policies) and other formal activities (Kiriakidis, 2013).

Personalisation experiences speak to using Turnitin to address individual research needs that may draw from either socialisation or professionalisation processes. This personalisation experience has been found to be an under-researched phenomenon in studies relating to the use of digital technologies for learning and research (Khoza, 2021). This study intends to reveal students' Turnitin personalisation experiences in order to enhance the understanding of how to personalise digital technology use in research. Using semi-structured interviews and reflective activities, Khoza (2015) found that teachers used Turnitin to identify plagiarism from students' work as a punitive measure. The findings indicated that, as a professionalisation practice, Turnitin did not help teachers to fully prevent students from plagiarising (Khoza, 2015). Students could still commit plagiarism despite the application of a plagiarism detecting software such as Turnitin. Similarly, in a study exploring mathematics lecturers' understanding of Turnitin, Zuma (2020) found that lecturers noted that some students could manipulate Turnitin to get a low content similarity index report. These findings imply that, even though Turnitin is designed to help combat plagiarism, students did not always use it in accordance with

the rules, particularly if it was used to punish students who plagiarised. Students have developed mechanisms to continue plagiarising even though the use of Turnitin is implemented to prevent such acts. The findings from these studies also raise concerns about the Turnitin software's usefulness as an aid to resolve plagiarism issues among students.

Effective use of Turnitin in higher education

In a study conducted at the university of Botswana, Batane (2010) reported that Turnitin was effective in decreasing plagiarism when students were made aware of the integration of the software in their studies, and the implications of plagiarising. In a survey study, Graham-Matheson and Starr (2013) found that students acknowledged Turnitin for helping them improve citation, plagiarised less, and excelled in academic writing. In the study by Graham-Matheson and Starr (2013), constant instruction and guidance (from tutors) on how to use the Turnitin software and how to write academically, acknowledging all sources, resulted in a considerable reduction in student plagiarism. Studies, such as those by Ledwith and Rasquez (2008), Özbek (2016), Orlanda-Ventayen (2018), and McCarthy and Rogerson (2009), have found lower levels of plagiarism in students' work following the implementation of Turnitin and the provision of further support from academic staff. This suggests that Turnitin was a useful tool to educate students on academic writing, and to further develop their writing skill in order to avoid plagiarism. It is worth noting that formal support and training were required for Turnitin to be used effectively as part of the professionalisation experience.

Person-Tech analytical framework

The present study argues that using digital technologies such as Turnitin requires the evaluation of experiences according to various factors shaped by socialisation and professionalisation processes. These processes further influence one's personal experience with digital technologies. The Persona-Tech analytical framework is conceptualised

using useful components from the Cultural Historical Activity Theory (CHAT) and Unified Theory of Acceptance and Use of Technology (UTAUT) frameworks. These components are listed as factors shaping the socialisation and professionalisation processes respectively.

The combination of socialisation and professionalisation processes affects users' individual experience with Turnitin, resulting in unique experiences which include willingness and patience for learning, developing problem-solving skills, understanding the purpose of Turnitin, and seeking help and information on effectively using Turnitin in academic studies. Such factors are negotiated by the Persona-Tech analytical framework, which is used in this study to interpret findings (see figure 1).

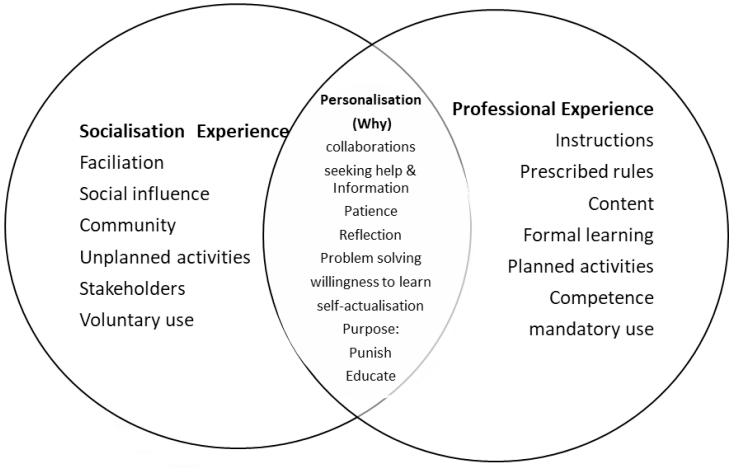

Figure 1: Persona-Tech analytical framework used to understand postgraduate students' experiences with Turnitin. From Sokhulu (2021, p. 441)

According to the Persona-Tech framework, socialisation experiences may include any social influences that inform students' understanding of Turnitin. These influences can come from the students' research community consisting of various stakeholders. These stakeholders facilitate voluntary

and informal learning that may take place regarding the use of Turnitin in research studies. Professionalisation involves formal experiences with Turnitin. These may include planned and formal learning activities relating to the software use, mandatory implementation of Turnitin, following instructions according to prescribed rules (policies) and professional competence for using Turnitin, gained from formal training. Scholars like Graham-Matheson and Starr (2013), Ledwith and Rasquez (2008), and Zheng (2021) attest to providing students with professional support on how to effectively use Turnitin in their academic work. However, this professional support may not cater for the needs of students who prefer to learn how to use Turnitin informally (socialisation experience). Such students may continue to plagiarise because their needs are not met.

The abovementioned studies provide solid findings on students professionalisation experiences with Turnitin, and critically evaluate its effectiveness in the fight against plagiarism. However, they do not take into account students' personalisation factors such as problem-solving skills and patience, socialisation influences, and individual study needs. Moreover, recent studies, such as those by Dlamini (2019), Khoza and Biyela (2020), and Mpungose (2020) have been silent about such personalisation factors. The present study is important because it reflects on both the experiences of socialisation and professionalisation, as informed by students' individual needs related to using Turnitin, thus producing a unique personalisation experience. This personalisation experience further reveals postgraduate students use of Turnitin in punitive or educative ways. This study argues that the personalisation factors promoted by the Persona-Tech analytical framework, which other studies have been silent about, are essential for scrutinising students' experiences with Turnitin.

Many studies exploring the experiences of using Turnitin for academic purposes are conducted using survey and mixed methods with undergraduate students as participants (Bailey, & Challen, 2015; Balbay, & Kilis, 2019; Nova & Utami, 2018;

Mtshali, 2021; Zaza, & McKenzie, 2018). This study is different in that it is qualitative, and samples postgraduate Master of Education (M.Ed.) students to share their personalisation experiences of using Turnitin in research which has been found to be missing in literature. While quantitative research focuses on numerical data and statistical analysis, qualitative research is more concerned with gathering and analysing textual data. This change in the research approach can lead to in-depth insights and conclusions that may not have been revealed through quantitative studies. Furthermore, the transition from undergraduate to postgraduate studies represents a significant change in learning in terms of depth and complexity of the research conducted. The presentation of postgraduate students' realities can lead to further meaningful findings that can inform the use of Turnitin in research. The literature search further revealed that there is a dearth of studies that explore South African postgraduate masters students' experiences with Turnitin, to evaluate its usefulness as a punitive or educative tool in research.

3. Research purpose and questions

The purpose of this study was to explore postgraduate masters students' experiences of using Turnitin in their research studies. The aim was also to understand postgraduate masters students particular ways of experiencing the use of Turnitin.

The study aimed to address the following research questions:

- What are postgraduate students' experiences of using Turnitin in research?
- What informs postgraduate students' particular ways of experiencing the use of Turnitin in research?

4. Study Methodology

Research paradigm, design and approach

This study made use of the interpretivist paradigm which is concerned with developing an in-depth understanding about people's experiences to create meaning (Alharahsheh, & Pius, 2020; Teddlie & Tashakkori, 1998). This study further employed a qualitative case study methodology because it allowed for the gathering of in-depth data based on the participants' experiences of using Turnitin in research. Moriarty (2011) describes qualitative studies as providing a detailed and in-depth view of participants' world. This approach also allows participants to draw on their own personal experiences in order to provide detailed data. Qualitative methods, according to Creswell and Creswell (2017), allow researchers to 'dig' into participants' experiences to describe, analyse, and explain findings. A researcher can then critique the data to understand and interpret participants' experiences.

Sampling and data generation methods

The initial doctoral study had sampled fourteen masters students to be part of the study. However, only six were purposively selected for this chapter, as their experiences addressed the theme of using Turnitin for punitive or educative ways in research. Data were generated through semi-structured interviews and focus group discussions, which enabled the study to generate rich data on participants' experiences, aligning with the qualitative approach expectations. According to Evans and Lewis (2018) and Wilkinson (1998), semi-structured interviews and focus group discussions are among the most utilised data generation methods in qualitative research, as they allow participants to provide detailed responses about their experiences. Both interview and focus group schedules included open-ended questions that enabled participants to respond freely without limitation, but gave an opportunity for further probing. The study was located in a HEI in the Durban area of KwaZulu-

Natal province. Telephone interviews and Zoom focus group discussions were conducted because participants were not physically accessible due to physical distancing restrictions established to reduce the spread of COVID-19.

Trustworthiness and authenticity

To enhance trustworthiness, the study adhered to four principles, namely credibility, dependability, confirmability and transferability (Morrow, 2005; Shenton, 2004). Each interview and Zoom meeting (focus group discussion) was recorded and later transcribed. The recordings and transcriptions were made available to participants to confirm accuracy (credibility). Direct verbatim quotes were used for analysis, reflecting participants' experiences (dependability). The study was reviewed by two senior academics who were supervisors for the larger doctoral study, to confirm unbiased findings (confirmability). Details of the context, methodology and participants' realities were outlined so that readers may be able to transfer findings (transferability).

Participants' profile

Six masters students, in the School of Education (SoE) at Tempo university (pseudonym), were purposively selected to participate in this study. Turnitin is employed across all disciplines found in SoE of Tempo university. Table 1 below presents participants' profiles, noting their discipline of study and phases in research.

Table 1: Participants' profiles

Name	Discipline	Phase in masters research
Azania	Curriculum Studies	Submitted, waiting for results
Jessie	History Education Studies	Submitted, waiting for results
Rose	Gender Education Studies	Finalising dissertation

Name	Discipline	Phase in masters research
Shawn	Science and Technology Education Studies	Submitted, waiting for results
Thabo	Gender Education Studies	Writing literature review
Akinola	Curriculum Studies	Finalising dissertation

5. Data presentation and analysis

Thematic analysis and the lens of the Persona-Tech analytical framework were used to interpret and discuss the findings. Thematic analysis involves identifying, analysing and reporting research data according to themes that emerge from the findings (Braun & Clarke, 2006; Turunen, Vaismoradi, & Bondas, 2013). In this study, thematic analysis was used to code and present data from semi-structured interviews and focus group discussions. The data were analysed, and three themes emerged from the findings. See figure 2 below:

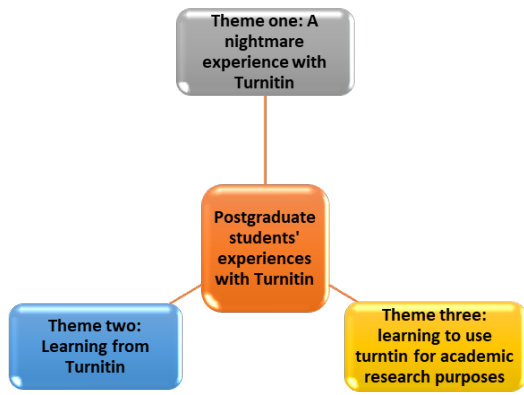

Figure 2: Themes derived from the study findings

Theme one: A nightmare experience with Turnitin

This theme discusses participants' experiences with Turnitin as a mandatory software in research, which turned their experience into a nightmare. Under this theme, students

expressed negative feelings and thoughts about using Turnitin in their research. Their statements suggested that they felt punished by using the software, especially for thesis submission. Furthermore, students felt that Turnitin had some malfunctions with matching commonly used terms in education and research, which further frustrated them.

When asked about her experience with the Turnitin software, Azania expressed the following:

> Oooh Turnitin!! It's a nightmare, an animal that nearly killed me. I put my work on Turnitin when I had to submit the following week and I received 60 something percent [content similarity index]. So, I had to start off everything again. My confusion was that it also highlighted chapter headings as plagiarism too, for example chapter four, the methodology and everything. So, I had to re-do, especially where I did not reference properly. It went down to 9 percent and then I was fine, but the experience nearly gave me a heart attack because I had to spend about four weeks doing that activity of correcting plagiarism. My supervisor said I had to have 10 percent plagiarism in order to have my thesis marked and no one helped me, I had to do everything myself.

Azania had received a high content similarity index report and had to edit her thesis to attain lower similarity. This process was a long and daunting one for her. Azania's experience of turning in her work towards the end of her masters study made it burdensome and time-consuming as she had to refine a fully developed thesis. Depicting her experience with Turnitin as a *"nightmare"* indicates her negative experience with the software. However, she also acknowledged that she did not reference properly in some cases, which earned her a high match on similarity index. The "*nightmare*" experience seemed to have been triggered by the confusion of having to re-work the chapter headings (e.g., the methodology chapter), which come as mandatory headings for a masters thesis outline. From Azania's experience, it was a formal requirement for students to put their work in Turnitin in order for it to be marked.

Another participant (Jessie) also spoke about the nightmare experience with Turnitin. This implied a negative experience with using Turnitin in her research study. In the following extract, Jessie questions the trustworthiness of Turnitin software because of the challenges she faced, particularly with matching terms. Jessie said:

> Whoa!! (Expression) I feel like Turnitin is not reliable because how can it highlight words such as teaching, learning and education because we are all in the same campus or School of Education, so all of us will use such terms. Also, my experience with Turnitin has been bad, especially with my postgraduate masters study because the percentage was still high even though I had paraphrased but it went to 16%. Removing the 6% was a nightmare. I felt like I had done a lot and it should just sit at 10% but it didn't because it kept on highlighting those common concepts such as education, the university and the entire declaration. It feels absurd because it wanted me to change those words, and there is no way I can change teaching and learning because it is going to change the whole meaning of what I am trying to discuss. I ended up being angry and frustrated.

What was particularly intriguing was how many negative thoughts Jessie expressed about her experience with Turnitin. For the second time, employing Turnitin in a research project was described as a nightmare due to the exasperating process of reducing one's plagiarism similarity to meet the ten percent criteria (Azania and Jessie). The participants had to paraphrase and change phrases regularly used in their field of study several times, which Jessie found *absurd*. Jessie's *anger* and *frustration* appeared to have been recreated during this process.

The two participants did not make mention of their supervisors or any other professional stakeholder supporting and educating them on how not to plagiarise in the process. They only referred to their lonely process of reducing similarity index. Sokhulu (2021) and Zuma (2020) claim that when Turnitin is used for professionalisation (formal processes), it becomes a tool for detecting similarities in order to punish students who plagiarise. Such experiences by

Azania and Jessie support the view that Turnitin was used as a formal tool to punish them for plagiarising, because they were overwhelmed with negative emotions that felt like they were being punished. In other words, for Azania and Jessie Turnitin was used as a punitive measure due to the lack of support evidenced in their experience. They ignored the learning process that came with reducing the content similarity report. In addition, they were not educated by anyone on how not to plagiarise. In a study by Ozbek (2016), students with a high Turnitin similarity report were not helped by their teachers to lower it in their assessment (detecting plagiarism to punish). The main descriptors arising from this theme, as a result of a nightmare experience with Turnitin, are summarised in Figure 3.

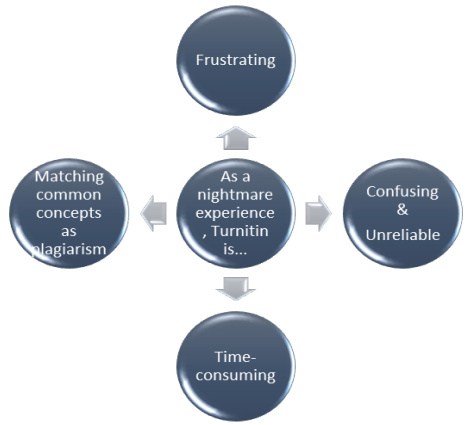

Figure 3: Descriptors derived from participants' negative experience with Turnitin

Theme two: Learning from Turnitin

Two participants (Rose and Shawn) expressed their positive thoughts and educative experience with Turnitin, in their research projects. Rose explained that her experience with the software allowed her to learn and expand her academic writing skills which became an educative experience. She noted that:

> It is fun to use Turnitin because when you write your research and submit it, that makes you gain more knowledge. For example, finding different ways of writing, different ways to define different things, changing the words, it's all fun. I put each chapter on Turnitin and it brings feedback. I then have to do corrections and turn my work in again until it is at zero percent or one percent. Our supervisor doesn't even want ten percent but way less than that.

The response from Rose indicates that she valued the use of Turnitin in her research, as she learnt new ways of writing. This suggests that she could find many ways to paraphrase her work, trying to reduce the similarity contents of her research work. In Rose's case, Turnitin was used as an educative measure to help her improve her academic writing and plagiarise less. The ability to enhance her writing skills informs the educative experience for Rose, making it a fun learning experience to use different words in paraphrasing her work.

It is also interesting to note that participants spoke of different acceptable similarity index reports (in percentages). Azania and Jessie had to produce a ten percent or less index report and Rose was specifically required to have a one or zero percent report by her supervisor. According to Vithal (2009), plagiarism cannot be quantitatively measured, and the percentage in the Turnitin reports only reflects similarity contents. Students are instructed differently on the acceptable percentage to be achieved on the Turnitin report, and have to comply with the requirements of stakeholders considered to be important in their studies, such as supervisors (Alwahaishi & Snásel, 2013). Moreover, when people talk about Turnitin socially, they speak of prescriptions they receive from other people without pointing to a formal documentation that stipulates these requirements (Sokhulu, 2021). In this study, two participants (Rose and Azania) referred to their supervisor's suggestions on which percentage they should obtain on their report.

Shawn's experience shows that employing Turnitin for his study was also an educative measure because he learnt how not to plagiarise through the support he received from a professional staff member who was familiar with the software. Having to reduce the similarity index on Turnitin means that one needs to learn how to reference, cite and paraphrase scholarly findings in an academically acceptable way (Halgamuge, 2017).

Shawn said:

> Aaah Turnitin!!! (laughs) my things had to go through Turnitin. It's compulsory here at school to check the percentage of plagiarism so that I can edit my work if it is high to at least 9%. Turnitin is not difficult because it is done by the supervisor than me. So, I have not experienced any difficulties since I have also learnt how to reduce Turnitin percentage from another guy at the university who was a professional staff.

Similar to Shawn's experience, Thabo also reported having received academic support and assistance, from his supervisor's personal assistant, on how to reduce similarity contents identified by the Turnitin software.

Thabo said:

> I don't even submit for myself on Turnitin. My supervisor has her personal assistant who does it for us and reports back to us what percentage we received and how to go about reducing that. So, even if you have the skills of robbing Turnitin. You just cannot do it because we are not submitting for ourselves. Anyway, now I know how to write using paraphrasing and referencing. I usually do not re-submit after I have worked on the errors.

Zuma (2020) postulate that in instances where Turnitin is used for socialisation, it becomes a tool for educating students. Such educative experiences were evident in both Shawn's and Thabo's cases. Two other implications arise from the above findings. Firstly, the findings imply that there are various stakeholders within the university who help students with

Turnitin related matters. It was a professional staff member for Shawn and a supervisor's personal assistant for Thabo. Secondly, based on Shawn and Thabo's experience, it was apparent that supervisors could submit students' research work on Turnitin on their behalf. However, even though the Turnitin submissions were made by the supervisors, the students were still responsible for the corrections, where there was a high content similarity index report. For Thabo, the guidance provided by the supervisor's assistant was useful to him as he was able to rework minor corrections and had learnt to paraphrase findings. His experience further highlighted Turnitin as an educative measure as he was provided with support and guidance, which led him to understanding the essence of paraphrasing and using Turnitin accordingly (detecting plagiarism to educate).

Interestingly, Thabo appeared to be an opportunistic plagiarist because he thought of manipulating the software to get a similarity index report that reflects a lower percentage. Opportunistic plagiarism refers to the act of consciously and intentionally plagiarising other people's ideas (Ke, 2019; Correa, 2011; Zuma, 2020). Opportunistic plagiarism can result from laziness, unethical behaviour, not considering the importance of citing, and clear intention to cheat (Bailey & Trudy, 2018). It was also interesting to note that Thabo saw nothing wrong with such unethical behaviour as he confidently made mention of it. Nonetheless, having someone else submit on Turnitin for him had his hands tied, with little to no chance of 'robbing' the software for his unethical gain. The main descriptors that emerged as an educative experience with Turnitin are highlighted in Figure 4 below.

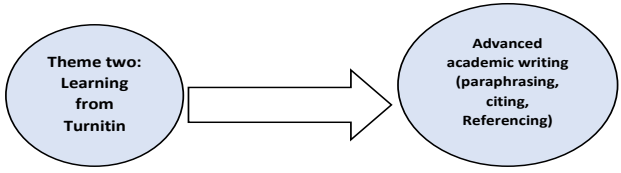

Figure 4: Descriptors that were prominent in theme two

The participants in this theme attested to learning new writing techniques through guided support, which led to an educational experience with Turnitin. It is evident that pertinent academic support and guidance informs educative experiences with Turnitin.

Theme three: Learning to use Turnitin for academic research purposes

Akinola shared an experience of how she learnt to use Turnitin from her friends, peers (socialisation) and past formal experience (professionalisation). She was able to use such knowledge and skills for her current masters study, and further help other students. Akinola said:

> I learnt how to use digital technologies such as Turnitin from my peers and friends, and in turn, I could also help other older students on how to use the software effectively in their studies. My experience with Turnitin in my undergraduate years also helped me use it efficiently for my masters study. My lecturers used to provide us with guidance on how to use the software.

Akinola draws on how she familiarised herself with the Turnitin software. She does not seem to have any complaints or challenges about using Turnitin in her research study. Instead, she speaks about an efficient experience that enabled her to assist others. This suggest that she had a unique personalisation experience of learning how to use Turnitin, drawing from both professionalisation (lecturers) and socialisation (peers). Furthermore, Akinola's acquired expertise with Turnitin allowed her to educate other students about the software through socialisation experiences. Figure 5 below presents descriptors noted in this theme.

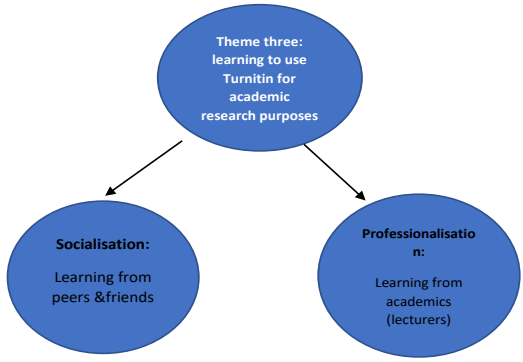

Figure 5: Descriptors that emerged from theme three

6. Discussion of findings in relation to the Persona-Tech framework

The above findings show that participants used Turnitin in a variety of ways to attend to their study needs, thus attesting to their unique personalisation experience with the software. The Persona-Tech analytical framework stipulates various personalisation factors that need to be considered when scrutinising students' experiences of using Turnitin in their research studies. Such factors are specified in the personalisation categorisation of the framework (see figure1). According to the Persona-Tech framework, students should seek collaborations to understand how to use Turnitin effectively in their research studies. In other words, students should collaborate with a variety of stakeholders in order to improve their knowledge, writing, and referencing skills, and obtain an academically acceptable Turnitin result. In this study, Shawn and Thabo collaborated with others to reduce similarity contents in their Turnitin reports.

Furthermore, this study suggests (through the persona-Tech) that students should understand how to use Turnitin in research, so that they can use it to improve their studies (producing plagiarism free content) and self-actualise (advance in academic writing). Rose, Thabo, Akinola and Shawn understood the significance of Turnitin in their studies,

and also received the supported they needed, and thus, could use the software effectively as an educative tool to learn how to write academically and not plagiarise. Such experiences informed their educative ways with Turnitin. Additionally, the Persona-Tech proposes that students should have a willingness to learn about Turnitin and academic writing in order to prevent plagiarising. Rose and Thabo mastered the art of paraphrasing as a result of a willingness to learn, and so developed new ways of academic writing. Likewise, their experiences reflect the use of Turnitin as an educative measure to enhance students writing abilities.

Patience is the ability to wait calmly when experiencing difficulty or frustration (Schnitker, 2012). Patience can be a useful coping mechanism in situations where one's experience is not going well. Azania's and Jessie's response about their nightmare experiences with Turnitin needed them to be patient with their lonely process of reducing content similarity index for their theses to be examined. They had to employ the patience factor into their personalisation experience to attend to their study needs (submitting their thesis with an acceptable similarity report).

Moreover, the Persona-Tech negotiates problem-solving as a personalisation factor. Problem- solving involves the process of moving towards a goal when the path is uncertain (Martinez, 1998). When it comes to identifying solutions to a problem, such problem-solving abilities are essential. Azania and Jessie were faced with the challenge of reworking their theses after receiving a high Turnitin content similarity report. These two participants displayed problem-solving skills when they had to find ways to reduce the similarity index reported by Turnitin, without much professional support provided.

Akinola's experience with Turnitin was affected, not only by professionalisation, but also socialisation experiences. In the above literature and findings, students learnt how to use Turnitin in their studies through professional support (Orlanda-Ventayen, 2018; Zheng, 2021). However, Akinola

had a unique experience where she learnt how to use Turnitin effectively, socially (through her peers) and professionally (lecturer's guidance). In order to meet individual learning needs through the Persona-Tech framework, this study encourages using the strengths of both professionalisation and socialisation to aid in successful Turnitin use.

7. Implications and conclusion

This study explored experiences of using Turnitin as punitive or educative measures for postgraduate master's students. The findings of the study indicated that students experienced the use of Turnitin in varying punitive and educative ways. Some participants felt punished and were frustrated by the process of reducing content similarities on their own. Other participants learnt about using Turnitin effectively in their studies through professionalisation and socialisation processes which enabled them to gain an educational experience with the software. Nonetheless, each participant had their unique personalisation experience with Turnitin, drawing from both or either professionalisation and socialisation experiences, which led to detecting similarities to punish and educate students. This study recommends that Turnitin be personalised according to the research needs of students, thus producing a personalisation experience that may detect similarities to educate the students. The study also recommends that students be made aware of Turnitin's use early in their studies, so that they may work out with their supervisors when and how they will submit their research. Additionally, there is a need to uncover relevant strategies to avoid plagiarism and properly cite academic work. HEIs are encouraged to design Turnitin policies that explicitly define an acceptable similarity level, to establish a standard procedure that is understood by both supervisors and students.

8. Statements and Declarations

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