

## AUTHOR:

Dr Muntuwenkosi Abraham  
Mtshali<sup>1</sup> 

## AFFILIATION:

<sup>1</sup>School of Education, University  
of KwaZulu-Natal, South Africa

DOI: [http://dx.doi.](http://dx.doi.org/10.18820/2519593X/pie.v39.i3.9)

[org/10.18820/2519593X/pie.v39.i3.9](http://dx.doi.org/10.18820/2519593X/pie.v39.i3.9)

e-ISSN 2519-593X

Perspectives in Education

2021 39(3): 109-120

## PUBLISHED:

16 September 2021

## RECEIVED:

09 October 2020

## ACCEPTED:

21 January 2021

# STUDENTS' FEELINGS ABOUT THE ONLINE SUBMISSION OF ASSIGNMENTS USING TURNITIN

## ABSTRACT

*The integration of information and communication technologies (ICTs) into teaching and learning, and the implementation of computer-mediated methods of instruction in the form of e-learning in higher education, have led to the emergence of new methods of submitting assignments electronically. One of these methods employs a learning management system (LMS) for teaching, learning and assessment. While significant research has been conducted on this phenomenon in developed countries, little has been published on how students experience and perceive this method of submission in a developing country such as South Africa, where a slow pace of technological innovation in education has been reported. The mixed methods study on which this article is based reports on how the Moodle LMS was used in a business management education (BME) course of a Bachelor of Education undergraduate degree, where students had to submit assignments through Turnitin. The qualitative component had a sample of 15 participants selected from 156 students using phenomenography as a methodological approach. Personal reflective journals, focus group discussions and individual interviews were qualitative data sources. A questionnaire was used to collect quantitative data that was analysed using the statistical package for social sciences (SPSS). The study found that participants viewed this method of submitting assignments as a conduit for monitoring plagiarism in BME. Findings from the study may offer insight into how emerging economies might engage with the crucial aspect of developing student consciousness about the importance of speedy and safe delivery of assignments in ways that promote academic honesty.*

**Keywords:** *Learning management system, business management education, plagiarism, Turnitin.*



Published by the UFS

<http://journals.ufs.ac.za/index.php/pie>

© Creative Commons

With Attribution (CC-BY)



## 1. INTRODUCTION AND BACKGROUND

The increase in student numbers in South Africa's higher education institutions (HEIs), a consequence of the need to address inadequate access by historically disadvantaged groups triggered by Apartheid era policies (HESA, 2014), has rendered traditional face-to-face models of instruction inadequate for teaching and learning. Massification in higher education has led to large class sizes and a greater need to accommodate diversity (Mashau, Mutshaeni &

Maphosa, 2014). Exclusive attention is barely possible in large classes when conventional methods of transacting teaching and learning are used, and assignments are submitted in class during the lecture as this consumes more teaching time with less likelihood of detecting plagiarism that Turnitin is able to detect in classes of different sizes (Baillie-de Byl, 2004). A virtual learning environment (VLE), in the form of a learning management system (LMS), is considered to be a meaningful solution to the problem of managing teaching, learning and assessment in classes of a relatively large size (Padayachee, Van der Merwe & Kotze, 2016).

Handling hard copies of assignments, as well as assignments submitted electronically through email, can be a strenuous task in contexts where class sizes are relatively large (Wahab & Al-Alaiwat, 2015). The conventional approach to handling assignments in large classes by way of students submitting printed copies has created problems for students and lecturers, as assignments are often lost in the process (Kuzma, Wright & Henson, 2012). The problem is further compounded as the number of assignments completed by students increases during the semester (Wahab & Al-Alaiwat, 2015). Evidence has been documented where students had persistently claimed to have submitted assignments through the physical drop-box or handed them over the counter, only to find that these cannot be traced, as the outcome of their physical search had been negative (Kuzma *et al.*, 2012; Ramnarain-Seetohul, Abdool-Karim & Amir, 2012). To alleviate this problem, online learning systems that offer the latest brand of educational technology for transacting teaching, learning and assessment, have been deployed by HEIs in South Africa (Padayachee *et al.*, 2016). These electronic technologies offer students and lecturers a wide range of assessment tools (Wahab & Al-Alaiwat, 2015) that offer them space for the convenient submission of their assignments online (King *et al.*, 2017).

Students have demonstrated appreciation of online mediated feedback as it comprises remarks that are easier to read than handwritten comments on their scripts, and have also commended the privacy with which online feedback is communicated to them (Yildirim, Erdogan & Cigdem, 2017). For this reason, amongst others, HEIs have turned to Turnitin in their effort to promote a scholarship culture while attempting to minimise the habit of plagiarism among students in the process (Batane, 2010). While Assignment Box Alert takes the form of an LMS designed to monitor students in the submission of assignments (Noraziah *et al.*, 2011), Turnitin is a feature, tool or web-based software in the LMS that monitors the quality of the assignment that a student submits in a way that assists the lecturers and students in their endeavour to foster originality in students' work (Batane, 2010).

The study on which this article reports sought to explore students' experiences of learning using an online LMS in Business Management Education (BME) at the teacher education institute of one university in the province of KwaZulu-Natal, South Africa. The BME module, which features in the Bachelor of Education degree programme that is designed to train students to become teachers, had a relatively large class size of 156 second-year students and this complicated the administration and collection of assignments. This university had earlier-on adopted Moodle as its official LMS and this is currently the most extensively used system for online learning in all its campuses (Padayachee *et al.*, 2016). Students in BME used the Moodle LMS for communicating learning among themselves as a group and with their lecturer. As part of their online learning experience, students had to submit their assignments through Turnitin, a web-based application that is integrated with the Moodle LMS. This article therefore aims at reporting on how students felt about Turnitin as a tool for

submitting assignments and what students learn about plagiarism through online submission of assignments using Turnitin.

Studies have been conducted on the submission of assignments through Turnitin in courses such as Information Literacy Blackboard (Mphahlele, Simelane & Selepe, 2011), English Literacy course for English second language students (Bensal, Miraflores, & Tan 2015) and in cross curriculum secondary school subjects (Khoza, 2015). However, it is not yet known how students experience this in BME, a module that relies heavily on case-based pedagogy for making meaning of content by linking content to real-world business settings. The problem this article strives to address relates to students' encounters with learning as they engage with the submission of assignments. It may seem reasonable to presume that submitting assignments online tends to enhance academic writing because of the capacity of the online submission tool to detect plagiarism. However, there is great uncertainty as to how students in the South African context, where the integration of technology into teaching and learning has happened at a slow pace, are likely to feel about innovative ways of submitting learning tasks, considering that university students have had disparate schooling experiences regarding the accomplishment and submission of tasks.

## 2. LITERATURE REVIEW

A variety of options for the submission of assignments have emerged with the advent of LMSs that provide tools for conducting teaching and learning (Padayachee *et al.*, 2016), and tools for the submission and management of assignments in the form of assignment box alert (Noraziah *et al.*, 2011), Turnitin (Kiriakidis, 2012) and AssignIT (Barker, Fiedler & Johnson, 2008). These options are reported to have provided an expedient method of handling assignments while also providing students with quick feedback on their submitted work in the process (Geri & Naor-Elaiza, 2008).

Numerous methods related to the traditional submission and administration of assignments give rise to several problems to lecturers in contexts where class sizes are relatively large (Yildirim *et al.*, 2017). While the traditional manual submission methods are reasonably simple and common to lecturers and students, HEIs have come across numerous problems with methods of manually submitting assignments (Kuzma *et al.*, 2012; Ramnarain-Seetohul *et al.*, 2012). These problems relate to part-time students, as traditional methods of submitting assignments over the counter may not be convenient for these students as they have to be on campus on dates these assignments are due (Kuzma *et al.*, 2012). Owing to distance and time that separate off-campus students and lecturers, some assignments are manually submitted to lecturers after the due date and this reveals another problem of late submission, with the potential to interrupt the process of learning between students and lecturers (Ramnarain-Seetohul *et al.*, 2012).

Noraziah *et al.* (2011) suggest that these problems can best be alleviated by adopting an LMS that manages students in submitting assignments, as this has the capacity to block late submissions, and is therefore likely to inculcate in students the habit of timely submission of assignments to avoid marks being deducted for submitting a hard copy to the lecturer. Quteishat, Al-Mofleh, Al-Mefleh and Al-Batah (2011) alluded that a web-based LMS has provided solutions to the problem emanating from the distance that separated lecturers and students in a distance education course with a comparatively large class size. Yildirim *et al.* (2017) observe that the administration of assignments submitted using traditional methods

that often delay turnaround times, lowered the quality and extent of feedback directed to students and required more resources. The implementation of the online system of computer-based assessment by the Joint Admission and Matriculation Board in Nigeria comes with the flexibility of submitting assignments at any time and place (Osadebe & Ojukonsin, 2018).

Access to devices that improve students' attention capacity and offer worthwhile and instant feedback benefits students in improving their writing skills, while also enhancing valuable and meaningful communication between teachers and students (Osadebe & Ojukonsin, 2018). Recent investigation into teaching and learning feedback indicates that traditional methods of writing feedback disadvantage students as these methods cannot offer students the legible and clear feedback that electronically generated feedback can offer (Chang *et al.*, 2012; Wang & Wang, 2014). A study conducted at a vocational college found that students preferred rich and valuable feedback received from electronically submitted and marked assignments, as this helped them develop good understanding and knowledge (Yildirim *et al.*, 2017). Furthermore, due to increased workloads, teachers of learning areas with more theoretical content such as BME are likely to give inadequate feedback on students' writing when this has to be handwritten (Xiong *et al.*, 2012).

Personalised feedback received by students online, offer shy students the privacy they prefer as a means to avoid unnecessary contest with competitive students (Yildirim *et al.*, 2017). Protagonists of open online submission of assignments (Bridge & Appleyard, 2008; Yildirim *et al.*, 2017) assert that submitting assignments through an open online system enables students to view their peers' work and provides feedback to high- and low-quality peer work. Existing research indicates that feedback from a number of peers is a valuable source of feedback that may yield similar results, as feedback generated by instructors in a teaching and learning situation (Xiong *et al.*, 2012).

Owing to the reported increase in incidents of collusion and copying between students in HEIs, the deployment of plagiarism detection systems (PDS) such as Turnitin has become the best alternative for higher education (Lingard, 2009). Eradicating plagiarism is good for protecting the moral integrity of the institution since the problem of plagiarism and the difficulty of eradicating it is, though individual perpetrators are responsible, considered by academics to be with institutions that are unable to stop it from happening (Batane, 2010). It thus follows that eradicating the problem of plagiarism could require lecturers to embrace the use of online assignment submission tools such as Turnitin as these have the capacity to expose incidents of plagiarism (Mphahlele *et al.*, 2011), and could motivate students to improve their academic writing skills by being original when they write (Stoltenkamp & Kabaka, 2014).

There is a variety of other PDSs that are available, such as Safe Assignment, that has an intuitive user interface, the Essay Verification Engine (EVE2) system that does not have a database of its own and Plagiarism-Finder, that permits the user to vary the detection process according to need (Kakkonen & Mozgovoy, 2008). However, Turnitin is the most commonly used PDS by teachers and students, as it is reported that 10 thousand institutions in 126 countries with over a million teachers around the world are currently using its software (Bensal *et al.*, 2015). This PDS is hosted on the World Wide Web and functions from several data stations to monitor similarity indexes for originality with a view to promoting academic honesty (Stoltenkamp & Kabaka, 2014).

The practice of submitting assignments into Turnitin is therefore not only intended to alleviate problems that are typical of orthodox approaches to submission and improve timely

receipt of feedback, but also to enlighten students about the importance of writing in ways that acknowledge other peoples' work and avoid the violation of academic honesty (Kiriakidis, 2012).

While Turnitin has succeeded in inculcating a sense of vigilance and alleviating incidences of plagiarism brought about by advancing technology and the availability of information in the Internet, certain limitations have been observed in the software (Batane, 2010; Mphahlele *et al.*, 2011). Among these is the tendency of the software to consider some texts to be plagiarised even though they are not, while the accuracy with which plagiarism reports are scrutinised cannot be confirmed (Khoza, 2015). It is also not possible for the software to identify inappropriately cited material and to verify sources cited in the text of the assignment with the reference list (Bensal *et al.*, 2015). Cases where students may unwittingly use common words or sources that were used by other researchers in the past are erroneously considered by the software as incidents of plagiarism (Batane, 2010).

### 3. RESEARCH METHODS AND DESIGN

The research upon which this article is based used a mixed methods approach to explore students' feelings about submitting assignments using Turnitin as an online assignment submission tool. The question central to this article is "How do students feel about using Turnitin as a tool for submitting assignments?"

#### 3.1. Design

The sequential exploratory strategy was used to guide the blending of qualitative and quantitative research since the generation and analysis of quantitative data occurred subsequent to the generation and analysis of qualitative data (Creswell & Zhang, 2009). Three out of four data generation methods used in the study were qualitative, making the design a QUAL-quan model with more weight on the qualitative than on the quantitative component of the study. While the qualitative research sought to explore the lived experiences of participants as they manifested in real settings (Henning, 2004), the quantitative component sought to ascertain whether the quantitative data corroborated the qualitative data.

The use of the questionnaire was therefore motivated by the desire to achieve greater validation of the themes that emerged from qualitative data sources (Creswell & Plano Clark, 2007). Another reason for using the questionnaire was that I assumed that participants enjoy greater freedom when responding to questions at their leisure and in private than when interacting with the researcher. The quantitative component was used as a way of achieving better understanding of the research problem than could be accomplished when using either a qualitative or quantitative approach only (Creswell, 2003 and Creswell & Zhang, 2009). The purpose of using questionnaires was to enhance the validity of the research through multiple methods of data collection.

#### 3.2. Research methods

Phenomenography as a theoretical approach to qualitative research postulates that the experience of learning has to be viewed through the "how" aspect and the "what" aspect of learning as an experience (Stamouli & Huggard, 2007). Phenomenography was used to guide the sampling, generation and analysis of qualitative data and is described as follows (Han & Ellis, 2019: 2) "... the method that examines qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspects of, and phenomena in,

the world around them". The survey was, in the main study, used as an approach that guided the process according to which the sampling, collection and analysis of quantitative data were conducted.

To enter the research context, approval to conduct the research was obtained from the university's research ethics committee and ethical clearance was granted as per ethical protocol HSS/0016/012D. Informed consent was sought with participants through a written letter of request inviting them to participate in the research study as a means to secure ethically negotiated consent from the would-be participants. This written request explained the nature and purpose of the study and informed them of their rights to either accept or decline the invitation as participation was voluntary, and also that they could withdraw from participation at any time. The written letter, which they had to sign before returning it to the researcher, also indicated that their identities were going to be protected by using pseudonyms instead of their real names on compilation of the final research report.

### 3.3. Sampling

Guided by phenomenographic sampling for purposeful variation, 15 participants were purposively selected for the qualitative component as the study sample from a BME class with 156 students registered in a Bachelor of Education programme. All students in this class had the experience of learning to use the LMS as the medium of negotiating learning. Sampling in quantitative research intends to select people who are typical of a population so that the outcomes can be generalised to a broader population (Creswell & Plano Clark, 2007). However, the main study did not seek to generalise the results to a broader population; it sought to acquire a better understanding of the phenomenon. Sampling was therefore under these circumstances, non-random and purposive for the quantitative component of the study. This enabled the researcher to circulate the questionnaire to all students that were enrolled in the BME class.

### 3.4. Collection and analysis of research data

The use of personal reflective journals that were updated by all students registered in the BME class was the starting point in generating qualitative data. After analysing these journals, 15 participants were selected for participation in the focus group discussion (FGD) and interviews for the further probing of important matters that emerged from the journals and pseudonyms were used for citing from interview transcripts. Phenomenographic inductive analysis was used to analyse all three qualitative data transcripts to ascertain that participants' conceptions of an experience were truly captured from the data to derive the subsequent categories of description, rather than being imposed onto the data from some theoretical frame. After analysing personal reflective journals using the approach mentioned above, the researcher presented these in a PhD cohort seminar for a critical review to ascertain that data description and the generation of findings truly emanated from the transcripts.

Data analysis in the phenomenographic tradition is considered a process of discovery as well as of construction (Mann, Dall'Alba & Radcliffe, 2007) that pursues the development of a descriptive framework constructed on the two elements of meaning and structure (Bruce *et al.*, 2004). Questionnaires that were circulated to the respondents who ultimately completed these to generate quantitative data, were analysed by a specialist statistician whose services were specially sought and acquired to develop quantitative and descriptive statistics. To be able to do this, the statistician used the Statistical Package for Social Sciences (SPSS) version

14.0, a software for analysing quantitative data. Statistics comprised numeric representations that had either confirmed or conflicted with the qualitative themes (Creswell, 2003), while analysis of interpretations of the conceptions indicated whether the quantitative findings supported or opposed qualitative themes.

This article reports on a PhD study conducted by the researcher and the tables that feature in the presentation of data constitute the researcher's own work. This implies that the citing of these in the following section and the subsequent replication of such tables in this article did not require any permission to be sought from any person or institution.

## 4. RESULTS

Engagement with data through an iterative process of reading from the data transcripts yielded evidence that suggested that students acknowledged various purposes for which the online space could be used as a channel for communicating learning. One of these purposes, other than engaging with learning in the Chatroom and the Discussion Forum, and distributing announcements via the News Forum, was to submit assignments via the medium of a space that monitored plagiarism. Besides categories of description such as "complexities of epistemological access" and "the safety-net effect" that emerged, the emergence of the category of description or phenomenographic finding "conduit for submitting assignment with capability to monitor plagiarism" derives from participants' awareness of what the space "Turnitin Assignment" was capable of doing.

### 4.1 Conduit for submitting assignments with capability for monitoring plagiarism

This category of description emerged from participants' view of Turnitin as a tool that monitors levels of plagiarism when students submit assignments using it. Turnitin is a space in the LMS that allows students to write and submit assignments online while also detecting levels of similarity between the students' writing and the source of origin of this writing (plagiarism). Students had varying feelings about using this method of submission. This is evident in the following extracts from the reflective journals (J):

The first assignment had to be submitted online via the "Turnitin" space. I was unhappy, stressed because it was my first time submitting online, and was assumed to have plagiarised... (J49)

Another participant expressed their experiences regarding submitting assignments via the online learning space:

The method of submitting the assignment using the learning management system is fast and it is the safe method (J47).

The following quote reveals another participant's feelings about online assignment submission:

The online submission of assignments makes my studying difficult because when I submit, it always reports that I have plagiarized my work (J45).

The above three statements extracted from the reflective journals indicate that participants' experiences of submitting assignments online varied. The first statement depicts the participant who experienced anxiety and unhappiness about this method of submission when they had to submit for the first time. The second statement depicts the participant who

experienced this practice as hassle-free as it ensured a safe and speedy method with which assignments were submitted. The third statement depicts the participant who felt frustrated when the Turnitin report indicated that submitted work had been plagiarised. These varied accounts of participants' feelings about submitting assignments using Turnitin are consistent with phenomenography's assumption that there is a number of qualitatively different ways of experiencing a specific phenomenon (Han & Ellis, 2019). Participants in the focus group discussion (FGD) shared views on this, as in the following instance where students were asked the question "What would be your comments on the method of submitting tasks using the LMS?"

I think it also helps us...to learn to write, to reference, cite and write something on our own...now with this system in place I know now that I have to write my work, research it and reference sources and do everything required to avoid plagiarism (FGD).

Another view emerged from the interviews that the researcher conducted. Responding to the question "What are your experiences of submitting assignments using Turnitin?", one participant said:

... despite that it was all my work it still...reported plagiarism that was quite vast, I think it was about 39% and I know that, that I referenced accordingly and...whatever was required I did it...but what shocked me was that this plagiarism was so high (Suria).

Interviews conducted by the independent person also yielded comments on the method of submitting assignments online in response to the question "Ok, what are your feelings towards "Turnitin" and how has this helped you develop academically?"

I would say my, my feelings towards "Turnitin" is hatred (laughing). I have never liked "Turnitin" though it helped me to be original you know, by not taking other peoples' work. Yes, it has quite improved my, my research skills, yes. However, I do not like the idea of "Turnitin" (Sihle).

Participants' experiences of submitting assignments using online support varied in terms of how they felt about this method of submission. This is because Phenomenography as a theoretical approach to qualitative research does not take any interest in the nature of the experience as such, but on identifying the manner in which people feel about the same phenomenon in different ways (Mann, Dall'Alba & Radcliffe, 2007). The participant in the FGD experienced this method of submission as helpful in inculcating writing habits that observe academic conventions in a way that enable them to circumvent plagiarism. The participant in the interviews was surprised to learn that her work was reported to have been plagiarised despite having done all that was required to comply with academic writing. This indicates that participants who experienced high similarity indexes plagiarised by either copying and pasting from the Internet or reproducing texts from their sources without being aware that they were plagiarising, leading to high similarity indexes. The third participant seems to have hated this method passionately, as she expressed feelings of dislike for this method while acknowledging that the method helped her to produce non-replicated work.

Table 1 below presents statistics relating to the number of students who felt offended by the Turnitin report that they had plagiarised:

**Table 1:** Students who felt offended by Turnitin similarity-index reports

I felt offended when Turnitin reported that I have plagiarised even when I have cited and referenced

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Strongly disagree	12	12.9	12.9	12.9
	Disagree	5	5.4	5.4	18.3
	Neutral	25	26.9	26.9	45.2
	Agree	22	23.7	23.7	68.8
	Strongly agree	29	31.2	31.2	100.0
	Total	93	100.0	100.0	

51 out of 93 respondents (54.9%) who completed the questionnaire declared that they felt offended by the Turnitin report when they submitted their work online as their work was declared to have been plagiarised. However, 17 out of 93 respondents (18.3%) seem to have approved this method of submission, while 25 out of 93 respondents (26.9%) felt indifferent about the impact of Turnitin in monitoring their assignments. This points to a variation in the way participants experienced the consequences of having plagiarism monitored and is consistent with phenomenography.

## 5. DISCUSSION

Participants' experiences of submitting assignments through the LMS comprised mixed feelings of appreciation, anxiety and displeasure, though some acknowledged the process to have been fast and the method safe. The reason could be that this method of submission monitored their work by providing evidence of plagiarism in the form of a similarity index. Submitting assignments electronically through "Turnitin assignment" helped students by facilitating a quick and safer method of conveying their assignments to the lecturer in ways consistent with Swart's (2014) observation that students efficiently upload, download and submit their assignments within the shortest possible time than when these are posted.

While most students did not approve of this method as they seem to have despised it, the research reported in this article responds to a call by Stoltenkamp and Kabaka (2014) for a need to investigate how students feel about submitting assignments through an online assignment submission tool. This could suggest what needs to be done to address concerns students have relating to the practice of submitting assignments using a tool for online assignment submission, leading to a successful breakaway from the practice of submitting assignments using conventional methods that are less likely to expose incidents of plagiarism.

It will be inappropriate to generalise the results from this study to other contexts. However, a combination of two methodologies in a single study where the results from one methodology (quantitative) have been used to establish whether these are consistent with results from another methodology (qualitative), enhances the validity of its findings.

## 6. CONCLUSION

Based on the data from which the findings of this study emerged, participants seem to have had inadequate information about what constitutes plagiarism. Their thinking around the

concept of plagiarism seem to have been limited to not listing the sources of their references in the reference list at the end of the assignment, like in the case of Suria's response to the interview question in one quotation above. This constitutes failure to acknowledge the work of others and not necessarily writing in ways that are free from copying and pasting from the Internet or replicating other peoples' work and replacing certain words from the source with synonyms. Presenting other peoples' work by writing text that they wrote in their publications word-for-word, copying from the Internet and pasting into one's own assignment, and paraphrasing seems to have not featured in their understanding of plagiarism. This article contributes to scholarly work by exploring students' feelings about submitting their assignments using Turnitin, while also educating students about the need to write in ways that eradicate high similarity indexes, which would otherwise not have been noticed if assignments were submitted using conventional methods of submitting tasks over the counter. The article therefore recommends that students in HEIs, especially at entry level courses, be offered some training that covers all aspects of what constitutes plagiarism when assignments are submitted using Turnitin as the online assignment submission tool.

Research outcomes documented in this article have implications for the national and the international contexts. They offer insight into how emerging economies (such as South Africa) might engage with the crucial aspect of developing an understanding of how students feel about submitting assignments using Turnitin so that whatever needs to be done to prepare students for submitting their assignments using an online assignment submission tool can be considered. It points to the need for universities as agencies of scholarship to create spaces for improving the administration of students' submission of tasks in ways that embrace constant monitoring of the quality of work submitted by students in their quest to curb academic dishonesty.

## REFERENCES

- Baillie-de Byl, P. 2004. An online assistance for remote, distributed critiquing of electronically submitted assessment. *Educational Technology & Society*, 7(1): 29–41.
- Barker, S., Fiedler, B., & Johnson, P. 2008. Paperless assignments: Moving forward or marking time? In Hello! Where are you in the landscape of educational technology? *Paper presented at the Proceedings Ascilite 2008*, Melbourne. <http://www.ascilite.org.au/conferences/melbourne08/procs/barker.pdf>.
- Batane, T. 2010. Turning to Turnitin to fight plagiarism among university students. *Educational Technology & Society*, 13(2): 1–12. <https://doi.org/10.3126/nelta.v12i1.3440>
- Bensal, E.R., Miraflores, E.S. & Tan, N.C.C. 2015. Plagiarism: Shall we turn to Turnitin. *Computer Assisted Language Learning Electronic Journal*, 14(2): 2–22.
- Bridge, P. & Appleyard, R. 2008. A comparison of electronic and paper-based assignment submission and feedback. *British Journal of Educational Technology*, 39(4): 644–650. <https://doi.org/10.1111/j.1467-8535.2007.00753.x>
- Bruce, C., Buckingham, I., Hynd, J., McMahon, C., Roggenkamp, M., & Stoodley, I. 2004. Ways of experiencing the act of learning to program: A phenomenographic study of introductory programming students at university. *Journal of Information Technology Education*, 3: 144–160. <https://doi.org/10.28945/294>

- Chang, N., Watson, A.B., Bakerson, M.A., Williams, E.E., McGoron, F.X. & Spitzer, B. 2012. Electronic feedback or handwritten feedback: What do undergraduate students prefer and why? *Journal of Teaching and Learning with Technology*, 1(1): 1–23.
- Creswell, J.W. 2003. *Research design: Qualitative, quantitative, and mixed-methods approaches*. Thousand Oaks, CA.: Sage.
- Creswell, J.W. & Plano Clark, V.L. 2007. *Designing and conducting mixed methods research*. Thousand Oaks, CA.: Sage.
- Creswell, J.W. & Zhang, W. 2009. *The application of mixed methods designs to trauma research*. *Journal of Traumatic Stress*, 22(6): 612–621. <https://doi.org/10.1002/jts.20479>
- Geri, N. & Naor-Elaiza, O. 2008. Beyond adoption: Barriers to an online assignment submission system continued use. *Interdisciplinary Journal of E-Learning Objects*, 4: 225–241. <https://doi.org/10.28945/376>
- Han, F. & Ellis, R.A. 2019. Using Phenomenography to Tackle Key Challenges in Science Education. *Frontiers in Psychology*, 10(1414), 1-10. <https://doi.org/10.3389/fpsyg.2019.01414>
- Henning, E. 2004. *Finding your way in qualitative research*. Pretoria: Van Schaik.
- HESA. 2014. South African higher education in the 20th year of democracy: Context, achievements and key challenges. *HESA presentation to the Portfolio Committee on Higher Education and Training*, Cape Town, 5 March 2014.
- Kakkonen, T. & Mozgovoy, M. 2008. An evaluation of web plagiarism detection system for student essays. *Paper presented at the 16th International Conference on Computers in Education*, Virginia.
- Khoza, S.B. 2015. Can Turnitin come to the rescue: From teachers' reflections? *South African Journal of Education*, 35(4): article 1152. <https://doi.org/10.15700/saje.v35n4a1152>
- King, L., Jorgensen, M., Lussier, A., Fichten, C., Havel, A., Amsel, R. & Poldma, T. 2017. *Student and professor perspectives on exemplary practices in the use of information and communication technologies (ICTs) and e-Learning in colleges. Modified version of report for the Fonds de recherche du Quebec - Societe et culture (FRQSC) and the ministere de l' Education et de l' Enseignement superieur (MEES)*. Montreal, Quebec: Reseau de Recherche Adaptech.
- Kiriakidis, P. 2012. Mandatory use of Turnitin: The effects of a policy on reducing unoriginal writing in online classes. *Postmodern Openings*, 3(1): 81–105.
- Kuzma, J., Wright, W. & Henson, R. 2012. Implementation of online submission and marking in Worcester Business School. *Worcester Journal of Teaching and Learning*, 1(6): 1–4.
- Lingard, G. 2009. Embedding copy detection within an automated submission system for programming assignments. *Paper presented at the 4th Asia Pacific Conference on Educational Integrity (4APCEI)* 28–30 September, University of Wollongong.
- Mann, L., Dall'Alba, G. & Radcliffe, D. 2007. Using phenomenography to investigate different ways of experiencing sustainable design. *Paper presented at the American Society for Engineering Education (ASEE)* 13–17 July, Honolulu, Hawaii.
- Mashau, T.S., Mutshaeni, H.N. & Maphosa, C. 2014. Overcoming learner diversity: A teacher education perspective. *South Africa. Journal of Social Sciences*, 41(3): 395–401. <https://doi.org/10.1080/09718923.2014.11893374>

- Mphahlele, N., Simelane, S. & Selepe, C. 2011. The effective use of Turnitin software in dealing with E-plagiarism. *Journal for New Generation Sciences*, 8(1): 177–189.
- Osadebe, P.U. & Ojukonsin, T. 2018. Assessment of computer studies teachers' constrains in the use of information and communication technology. *International Journal of Advanced Research*, 6(7): 246–277. <http://dx.doi.org/10.21474/IJAR01/7360>
- Noraziah, A., bin Aziz, A., Herawan, T., Mohd Sidek, R., Handrizal & Mohamad, F.J.K. 2011. Learning management system through assignment box alert. *Procedia-Social and Behavioral Sciences*, 28: 226–230. <https://doi.org/10.1016/j.sbspro.2011.11.044>
- Padayachee, I., van der Merwe, A. & Kotze, P. 2016. Virtual learning system usage in higher education – A study at two South African institutions. *South African Computer Journal*, 57: 32–57. <https://doi.org/10.18489/sacj.v0i57.324>
- Quteishat, A., Al-Mofleh, A., Al-Mefleh, M., & Al-Batah, M. 2011. Module for online assignment submission. *Paper presented at the 4th International conference on Modeling, Simulation and Optimization*, 19–21 April 2011, Kuala Lumpur, Malaysia. IEEE. <https://doi.org/10.1109/ICMSAO.2011.5775475>
- Ramnarain-Seetohul, V., Abdool-Karim, J. & Amir, A. 2012. A case study of an online submission system at UOM. *International Journal of Social, Behavioural, Educational, Economic, Business and Industrial Engineering*, 6(8): 2175–2177.
- Stamouli, I. & Huggard, M. 2007. Phenomenography as a tool for understanding our students. *Paper presented at the International symposium for Engineering Education*, Dublin City University.
- Stoltenkamp, J. & Kabaka, M. 2014. Turnitin adoption and application at a HEI: A developmental approach. *Creative Education*, 5: 1043–1052. <http://dx.doi.org/1010.4236/ce.2014.512118>.
- Swart, A.J. 2014. Using online assignment submissions at an open distance learning institute to predict future Internet traffic for a higher educational institution! *Paper presented at the Southern Africa Telecommunication Network and Application Conference (SATNAC)*, 31 August until 3 September 2014, Nelson Mandela Bay, South Africa.
- Wahab, R.A. & Al Alaiwat, S. 2015. Students' attitudes towards online assignment submission at College of Health Sciences, University of Bahrain. *Paper presented at the Fifth International Conference on e-Learning*. <https://doi.org/10.1109/ECONF.2015.44>
- Wang, X., & Wang, J. 2014. Design and accomplishment of BS-based supervisory system for student assignment online. *Paper presented at the 2nd International Conference on Teaching and Computational Science (ICTCS)*. 29–30 July 2014, Shenzhen, China. <https://doi.org/10.2991/ictcs-14.2014.20>
- Xiong, W., Litman, D. & Schunn, C. 2012. Natural language processing techniques for researching and improving peer feedback. *Journal of Writing Research*, 4(2): 155-176. <https://doi.org/10.17239/jowr-2012.04.02.3>
- Yildirim, O.G., Erdogan, T. & Cigdem, H. 2017. The investigation of the usability of web-based assignment system. *Journal of Theory and Practice in Education*, 13(1): 1–9.