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## **Overcoming educational inequalities associated with online learning in light of a pandemic: A private higher education approach**

*Keshni Nana, Villioti Fashion Institute*

*Carla Roos, Villioti Fashion Institute*

### **Abstract**

The COVID-19 pandemic has been declared a global pandemic forcing many countries into a widespread lockdown. In South Africa, contact higher education institutions were forced to develop and introduce online learning and teaching platforms. Considering the fourth industrial revolution, patterns of digital access are unequal across South Africa whereby rural areas are likely to be most disadvantaged. Students who returned home during the national lockdown may not have been equipped for online learning due to a lack of resources.

Through the lens of a contact, private, Fashion, higher education institution's online learning management system, progress issues among Diploma of Fashion students were noted within the virtual classroom setting due to a possible lack of student social presence. To counter for this, an At-Risk Programme was developed, with reference to the Community of Inquiry model, to address government's pressure for students to have an equal opportunity to complete the 2020 academic year. For the purpose of this study, the social presence was considered as a possible reason for the disconnects found within the online learning environment, in terms of Diploma of Fashion students joining and participating in the virtual classroom.

A quantitative study grounded within the post-positivist paradigm was undertaken. A cross-sectional, exploratory design was implemented to address the study's aim: investigating the outcome of an At-Risk Programme on student progress, due to a possible lack of social presence among at-risk Diploma of Fashion students within an online learning environment, in order to ensure 'no student gets left behind'. The study population consisted of at-risk Diploma of Fashion students who had poor attendance and a low rate of assessment submission, for the duration of the online learning period, within a first-year practical course, Visual Studies 1. Non-probability, purposive sampling was used for identifying the at-risk students within this study, according to specific inclusion criteria.

Following the At-Risk Programme, data was collected from 14 participants who were registered for the Visual Studies 1 course in the Diploma of Fashion programme and attended the At-Risk Programme over a two-week period. The student portal was used to extract the data to determine an improvement or lack thereof, in the at-risk students' results. Findings indicated an overall success rate of student passes. As this study was explorative, the findings contribute to future research by informing the implementation of an At-Risk Programme to possibly assist, and offer a second chance to, at-risk students and suggestions for enhancing students' experience within an online learning environment.

**Keywords:** COVID-19, educational inequalities, private higher education, online learning

## Introduction

The COVID-19 pandemic began in China, December 2019, and due to its widespread effect, the World Health Organization (WHO) declared it a global pandemic in March 2020 (Adnan & Anwar, 2020, pp. 45; Ojo, 2020, pp. 20-21). Globally, the spread of COVID-19 has led to profound changes in how we interact socially and within organisations, which means that higher education institutions (HEIs) have not been immune to its impact (Murphy, 2020, p. 492). Due to a lack of knowledge on the virus, many countries resorted to a lockdown in order to protect their citizens, resulting in negative implications for the global economy (Adnan & Anwar, 2020; Toquero, 2020). Numerous countries temporarily closed their schools and universities, bringing learning and teaching practices to a halt, as was the case in South Africa (SA).

The South African government's fear for the rate at which the pandemic has been spreading, motivated the declaration of this pandemic as a national state of disaster with regards to the Disaster Management Act (Mhlanga & Moloji, 2020, p. 3). The widespread effect of COVID-19, in addition to the disruption of everyday life, forced the South African government to enact a national lockdown, resulting in the closure of schools and universities (Mhlanga & Moloji, 2020; Motala & Menon, 2020). Upon announcement of the national lockdown, all private and public HEIs in SA were pressured to put in place alternate measures to continue with core practices, as well as the prioritisation of the academic year (Motala & Menon, 2020, p. 81).

### *Impact of COVID-19 on higher education institutions in South Africa*

The majority of SA's contact HEIs received government pressure to ensure that students have equal opportunity to complete the academic year, with the Department of Higher Education, Science and Technology declaring that "no single student or institution will be left behind" (Mhlanga & Moloji, 2020; Ojo, 2020; Asma, 2020). With this announcement, several HEIs had to adapt and place learning and teaching online with faculty having no prior experience or training for online delivery (Hedding, Greve, Breetzke, Nel & Jansen Van Vuuren, 2020, p. 1). Contact HEIs were therefore forced to develop and introduce online learning and teaching platforms, for the delivery of both theoretical and practical courses and assessments (Hedding, et al., 2020, p. 1). In a brief span of time, academic staff had to familiarise and up-skill themselves with the pedagogy of online teaching and delivery (Hedding, et al., 2020, p. 1).

While focus has been on hosting learning and teaching online, the neglected 'elephant in the room' is that prior to the emergence of the COVID-19 pandemic, SA's higher education (HE) Sector was already dealing with an existing learning crisis as evidenced by a high risk of learning poverty (Mhlanga & Moloji, 2020, pp. 1).

### *Digital exclusion within demographically diverse South African higher education institutions*

During the apartheid era, SA integrated ideas around race, social-class and political power (Leibowitz & Bozalek, 2014, pp. 94). These racial categories remain a significant identifier of social background, and decades after the end of apartheid, an indicator of social privilege (Leibowitz & Bozalek, 2014, p. 94). Scholars view post-apartheid SA as embedded in an enduring cycle of segregation and class struggle (Kronenberg, Kathard, Rudman & Ramugondo, 2015, p. 1).

As such, preparing students for an evolving society in the twenty-first century is challenging given the demands of a diversifying student demographic (Patel & Lynch, 2013, pp. 223). Scholars define diversification as a process by which an environment becomes more varied in its operations, positioning and student body regarding ethnic and cultural diversity (Varghese & Püttmann, 2011; Takwate, 2016). The diversification of student demographics in SA could be due to a broad influx of

students from disadvantaged backgrounds into HE landscapes (Wingate, 2015; Tkachenko, Bratland & Johansen, 2016).

Amidst this transformation, one must consider the HE student demographic, who may have travelled home prior to the national lockdown. As per the objectives of government's White Paper 3, to ensure equity, redress, democracy, autonomy, and efficiency, the South African HE system has been under pressure for quality education delivery (Elliott, 2005; Vandeyar, 2010). In order to resolve equity issues and allow greater student diversity, HEIs have been admitting students from previously disadvantaged backgrounds (Smit, 2012, p. 367). However, patterns of digital access are discerned and unequal across South Africa whereby rural areas are likely to be most disadvantaged (Timmis & Muhuro, 2019, p. 4).

Information and communication technology (ICT) has infiltrated all aspects of our globalised society with a drastic growth in its adoption within the HE learning and teaching environment (Saifuddin & Lykkegaard, 2020, pp. 614-615). Information and communication technology may be in the form of online resources and virtual learning environments with many universities investing in a Learner Management System (LMS) and video conferencing to offer a virtual learning and teaching experience (Saifuddin & Lykkegaard, 2020, p. 615). That being said, all students have not benefited from ICT as certain individuals experience limitations when dealing with digital technologies; in a global context, this divide has been termed 'digital exclusion' (Saifuddin & Lykkegaard, 2020, p. 615).

Post-apartheid SA is still dealing with unequal distribution of income and educational resources, such as poor connectivity and a shortage of funds for data, resulting in a digital divide (Nyahodza & Higgs, 2017, p. 40). Known causes of the digital divide in South African HE includes inadequate ICT infrastructure and skills and low, expensive bandwidth, especially within certain communities (Nyahodza & Higgs, 2017, p. 40). Timmis and Muhuro (2019, p. 2) argue that HEIs are not equipped to support students from rural contexts given restrictions caused by technological infrastructure. As a result, students' home environments may not have been suited for online learning due to an existing lack of resources (Ojo, 2020, p. 21), as was found by a contact,<sup>1</sup> private, Fashion HEI situated within Johannesburg, Gauteng.

#### *Investigating a lack of social presence within a private higher education Institution amidst COVID-19*

The specific Fashion HEI went online using a LMS known as Moodle. Lessons were created combining a range of resources, such as electronic books, pre-recorded video content, and a virtual classroom setting that enabled lecturers and students to remotely communicate via audio, video and chat tools. Attendance issues were however, noticed among students within the virtual classroom component. Upon investigating students' online activity logs on the LMS, it was found that students were still accessing downloadable resources and had attempted submissions, but in their own time.

The research study thereby, employs an integrated model for online education as its theoretical framework, known as the Community of Inquiry (CoI) model. This model is conducive to online, active learning environments whereby lecturers and students share ideas, information, and opinions (Picciano, 2017, p. 173). The CoI model is based on three presences, namely a cognitive, social, and teaching presence (Garrison, Anderson & Archer 2000, pp. 88). For the purpose of this study, the social presence was investigated through online learning for a Fashion HEI, as a disconnect was found within the online learning environment, in terms of students joining and participating in the virtual classroom.

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<sup>1</sup> A contact Institution is where learning and teaching takes place on-site and face-to-face.

The research problem involved the possible lack of a social presence among a group of at-risk, Diploma of Fashion students within an online learning environment, due to possible educational inequalities. The aim of this study is to investigate the outcome of an At-Risk Programme on student progress, due to a possible lack of social presence among at-risk Diploma of Fashion students within an online learning environment. The study's main objective was to develop an At-Risk Programme to counter for the learning missed due to possible educational inequalities and assess student results following the At-Risk Programme.

### *Theoretical underpinning*

Garrison, Anderson, and Archer (1999) proposed the CoI model to foster critical thinking with a collaborative online learning experience (Junus, Suhartanto, R-Suradijono, Santoso & Sadita, 2019, p. 1). The CoI model suggests that critical thinking within online learning is most beneficial when it embodies three presences, namely 1) cognitive presence, 2) social presence and 3) teaching presence (Junus, Suhartanto, R-Suradijono, Santoso & Sadita, 2019, p. 1). The three critical aspects are illustrated in Figure 1.

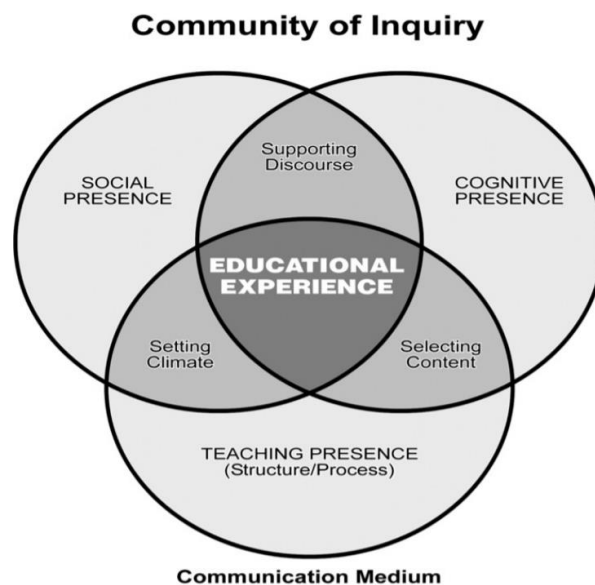


Figure 1: Community of inquiry model (Garrison, et al., 2010, pp. 6)

The cognitive presence is vital to success in HE as it involves critical thinking (Garrison, et al., 2000, p. 89). The social presence involves participation and social interaction whereby personal characteristics from learners are presented (Garrison, et al., 2000, p. 89; Kreijns, Van Acker, Vermeulen & Van Buuren, 2014, p. 8). The social presence indirectly supports the critical thinking process in its effectiveness for collaboration and knowledge construction and may be a direct contributor to the success of the educational experience (Garrison, et al., 2000, pp. 89; Kreijns, et al., 2014, p 8). The final presence, teaching, is the responsibility of the lecturer who organises and delivers course content, along with developing learning activities and assessments and facilitating the programme, which as a result, supports and enhances the social and cognitive presence for the purpose of realising educational outcomes (Garrison, et al., 2000, p. 89).

Garrison, Anderson, and Archer (2010, p. 5) formulated the CoI model to support learning and teaching within an online learning environment with regards to 'human issues'. These authors emphasise that the value of the model lies within the specific context of online learning in HE as opposed to a traditional distance education perspective that assumes students work independently from one another (Garrison, et al., 2010, p. 6).

## *Research methods and design*

### *Research design*

A quantitative study grounded within the post-positivist paradigm was undertaken. An experimental, cross-sectional, exploratory design was implemented to address the study's aim: investigating the outcome of an At-Risk Programme on student progress due to a possible lack of social presence among at-risk students within an online learning environment, in order to ensure 'no student gets left behind'. As this study was explorative, the findings will contribute to future research by informing the implementation of an At-Risk Programme possibly to assist at-risk, Diploma of Fashion students, registered for the Visual Studies 1 course, and suggestions for enhancing students' experience within an online learning environment.

### *Research setting*

The research setting of this study was an urban fashion HEI situated within Johannesburg, Gauteng. The focus of this study was on fashion students identified to be at-risk during the national lockdown. Data was collected from student results and attendance that were virtually captured via the online LMS, Moodle. This platform serves as the student portal that hosted virtual classrooms and lessons during the lockdown period.

### *Study population and sampling strategy*

The study population consisted of at-risk, Diploma of Fashion students who had poor attendance and a low rate of formative assessment<sup>2</sup> submission in the Visual Studies 1 course, for the duration of the online learning period. The following inclusion criteria applied for students to be invited to attend the At-Risk Programme:

- Less than 80% attendance for the individual course;
- Two or more nil submissions for the individual course; and
- Active student logs (to verify students' attempts of trying to access the online lessons).

Non-probability, purposive sampling was used for identifying the at-risk, Diploma of Fashion students within this study according to the specific inclusion criteria.

### *Data collection*

Visual Studies 1 is a first-year course in the Diploma of Fashion programme at the Fashion HEI, which provides students with the tools to express unique ideas and acquaint students with step-by-step techniques of fashion illustration. Fourteen students were identified as failing profiles in Visual Studies 1 due to not making their Formative Duly Performed mark. The private HEI had initially identified 18 at-risk students however, four students did not attend due to deregistration or non-payment of fees. For a student to achieve their Formative Duly Performed mark, it is a pre-requisite to achieve a 50% formative average in practical courses, such as Visual Studies 1. As a result, these students would have had to re-register and redo the course in the following year.

To counter for this, data that was initially extracted from the student portal, assisted in flagging the at-risk, Diploma of Fashion students, in order to develop an At-Risk Programme. The At-Risk Programme was designed to run on-site at the Fashion HEI, over a two-week period. Prior to the At-Risk Programme, a letter was sent to students and parents informing the opportunity being offered for students to improve their attendance and complete their Formative Assessments that were never submitted, in the presence of their lecturers and peers at the Fashion HEI. The Fashion HEI's COVID-

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<sup>2</sup> Formative Assessment determines where students are in terms of the specific outcomes for each course to assist students and lecturers with determining which work will have to be revisited. Formative assessments are important for students to monitor their progress and their readiness to partake in Summative Assessments.

19 protocol was also sent to parents and students whereby students were requested to complete a health declaration upon attending the At-Risk Programme.

During the At-Risk Programme, the Registrar informally met with the 14 attending, at-risk participants individually, to inquire on the reasons for their lack of participation observed during online learning. This discussion supported the relevance of hosting the At-Risk Programme and input gained served as anecdotal evidence to the study. Students received the opportunity to complete their Formative Assessments within a social presence, which stems from the CoI model to support the social experience possibly lacking within a virtual classroom setting.

On completion of the two-weeks allocated for the At-Risk Programme, the Formative Assessments were graded by the lecturer and the marks allocated with feedback on the LMS, Moodle. The student portal was then used to extract data to determine an improvement or lack thereof, in the attending, at-risk participant results for Visual Studies 1.

### *Ethical considerations*

Ethical standards were maintained during the informal meeting whereby students were met with privately by the Registrar of the private HEI; responses were noted with no misrepresentation or deception. All possible measures to ensure confidentiality of information were applied. Approval from the Fashion HEI was gained to make use of student data. The researchers, Registrar and the Administrator of the Fashion HEI were the only individuals who had access to the data, thereby minimising undue risks. Throughout the research, participant anonymity was maintained.

### *Data analysis*

Data was analysed via the LMS's 'Record of Achievement', extracted via Microsoft Office Excel, to track student progress. Using Microsoft Office Excel's functions, student marks could be highlighted to indicate results. Prior to the At-Risk Programme, the Exam Committee had analysed the excel spreadsheets for Visual Studies 1 which included student attendance, all formative results (including classwork) and the students final Formative Duly Performed mark. Students with two or more nil submissions for Formative Assessments were flagged in addition to students not making the 50% Duly Performed mark required for the practical course. These identified students were extracted and discussed within the Exam Committee to create a separate risk assessment profile for each student.

Following the At-Risk Programme, the Exam Committee had extracted the same set of results for the identified at-risk students to determine if students had improved their Formative Duly Performed marks following the At-Risk Programme. The Exam Committee analysed results to determine the status of at-risk students within the course and communicated whether these students gained access into their Summative Assessment<sup>3</sup> or whether they would need to go into an Intensive Programme<sup>4</sup> to gain access to the Summative Assessment.

### *Findings and discussion*

Upon reviewing input from the informal, private meetings held by the registrar, students attending the At-Risk Programme indicated that the following were hindrances to their progress in the Visual Studies 1 course: a lack of data, poor connectivity, and network coverage in their area, technical challenges, unplanned power outages, family responsibilities, and a shortage of equipment during the

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<sup>3</sup> Summative Assessments are the evaluation of a culmination of learning in accordance with the level of the course in the form of a formal examination.

<sup>4</sup> An Intensive Programme is a specific programme created for each student in order for them to attain the competencies lacking in a specific course should they not make the 50% Formative Duly Performed mark.

course. These responses were self-reported by students and therefore served as anecdotal evidence. From the fashion HEI's point of view, this investigation was necessary to understand all contributing factors that negatively impacted students' presence online.

Following data analysis, students Formative Duly Performed marks had improved in some instances as illustrated in Table 1. Students 12 and 14 did not submit additional work on completion of the At-Risk Programme, and as such their Formative Duly Performed marks remained the same. The cohorts Formative Duly Performed average for Visual Studies 1 was 33% prior to the At-Risk Programme and 50% following the At-Risk Programme. As such, the At-Risk Programme allowed for a 17% increase in the Formative Duly Performed average for Visual Studies 1.

Table 1: Student Formative Duly Performed prior to and following the At-Risk Programme

At-risk students	Initial formative duly performed mark	Updated formative duly performed mark
Student 1	33%	58%
Student 2	10%	70%
Student 3	47%	63%
Student 4	43%	55%
Student 5	47%	67%
Student 6	22%	43%
Student 7	31%	41%
Student 8	37%	44%
Student 9	45%	47%
Student 10	38%	44%
Student 11	12%	42%
Student 12	31%	31%
Student 13	31%	61%
Student 14	36%	36%

As per the fashion HEI's Assessment and Moderation Policy, all courses are signed off for Summative Assessment access dependant on the student's Formative Duly Performed mark. Following the At-Risk Programme, five students achieved results that gained them access into the Visual Studies1 Summative Assessment. Following the Summative Assessment period, three out of the five students who wrote the Summative Assessment had passed the course.

Nine students had to complete an Intensive Programme to gain access into their Supplementary Summative Assessment as their Summative Duly Performed marks were below 50%. Following the Intensive Programme period, nine students made their Summative Duly Performed mark and gained access into the Supplementary Summative Assessment. Following this, eight out of the nine students passed the Supplementary Summative Assessment. The reason why one student did not pass was due to the student not attending the Supplementary sitting. The supplementary was done on-site at the Fashion HEI due to the hindrances previously experienced with online learning. In total, 11 out of the initial 14 students who attended the At-Risk Programme passed Visual Studies 1 as opposed to having to redo the course.

Stemming from the Col model, the initial intent of the research considered the lack of a social presence within the virtual classroom setting. However, during the informal meetings held by the registrar with

students, it was revealed that social presence was not the only factor contributing to a lack of participation in the virtual classroom. Additional factors from the findings included digital exclusion and social responsibilities. The findings in this paper further indicate the importance of each aspect within the CoI model as opposed to only 'social presence'. As evidenced by this study, an At-Risk Programme is a viable option to counter for failing profiles among students in an online learning environment. An At-Risk Programme would be best suited for students accustomed to contact learning who experience a lack of digital access thus hindering online participation.

## Conclusion

In light of the pandemic and its impact on contact learning and teaching, the online experience was compromised as the priority for HEIs was to save the academic year. The initial premise of the study outlined the lack of a social presence possibly contributing to poor attendance and formative assessment submissions in the Visual Studies 1 course. However, the findings revealed technological and sociological inequalities to be the actual hindrances to online learning. Although the At-Risk Programme proved to be beneficial to students in terms of their results, the shift back to the classroom during the At-Risk Programme, where the focus was on interaction and individual support, may have been the main contributor to the improvement of student results.

### *Limitations*

The students' lack of participation within the virtual classroom setting was not explored in-depth, thereby the lack of social presence could not be considered as the core reason for students' poor attendance and low formative assessment submission. Furthermore, students' lack of resources and home environments could not be evidenced as it was not within the scope of the study.

An additional limitation to the study involved the COVID-19 restrictions following the national lockdown. Students may not have felt safe to attend the At-Risk Programme as it was held on-site. However, all 14 students attended the At-Risk Programme with the exception of four students who deregistered or were suspended for non-payment of fees.

### *Recommendations for future developments*

Further research may investigate a lack of student social presence in an online setting with consideration to technological and sociological deterrents that they may experience. Lecturers may investigate whether social presence in their online lesson is lacking due to technological attributes, such as the tools chosen to navigate the LMS, or the social groups using those tools. Furthermore, teaching factors, such as the pedagogical methods chosen and how these methods support social presence among students, could be investigated.

Suggestions for enhancing students' social presence within an online learning environment may include the revision of assessments to become group work, wherein discussions among the students and lecturer may take place on platforms such as the virtual classrooms 'breakout rooms'<sup>5</sup> or chat forums. In addition, allowing students a few minutes before a lesson to join the virtual classroom and communicate among themselves to bring in a social element to the virtual classroom. Gamification may be used in an online environment to create a healthy competition among students, to be able to track each other's progress and activity completions.

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<sup>5</sup> 'Breakout rooms' is a setting within the virtual classroom where rooms are created to separate and create smaller groups of participants for the purpose of group work, workshops, individual meetings, among others.



The lack of students' presence cannot only be attributed to a lack of social presence as other factors that came to light may be further investigated by government by better equipping communities with internet connection and affordable data rates to accommodate for digital exclusion. Further study is recommended on how conducive students home environment are for having online lessons remotely in terms of their physical surrounding and familial responsibilities.

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