





## Influence of Student Research Mentoring on Research Publications Output During COVID-19 at One Higher Education Institution in Eastern Cape Province, South Africa

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### ABSTRACT

The study explored the influence of research mentoring on research publications output during COVID-19 in a selected Higher Education Institution (HEI) of the Eastern Cape Province as the incessant poor publications from the dissertations and theses of postgraduates upon completion of their studies prompted the researchers to want to understand the nature of the mentorship experiences during the COVID-19 pandemic. The study was situated within an interpretivist paradigm which aided in the interpretation of the facts and adopted a case study design within a qualitative research approach. The participants for the study comprised eight research supervisors, and eight master's and doctoral students purposefully selected as information-rich participants. Semi-structured interviews were utilised to collect data. Data collected were analysed thematically. Findings of the study revealed that there was a dearth of research mentoring by research supervisors that adversely affected research publication output in the rural HEI, especially during the COVID-19 era. Additionally, supervisors struggled with online supervision, which strained the relationship between supervisors and their students. Furthermore, the study revealed that both supervisors and students lacked skills and knowledge of paper writing. The study recommends that there should be a call for student mentoring and development in research seminars, article writing seminars, and writing for publication workshops to develop and promote academic success in higher education institutions. It is anticipated that a strengthened system of mentoring and development, which is cognizant of COVID-19, will help novice writers comprehend articles published through the holistic guidance of their mentors rather than mentors leaving them to sink or swim.

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## INTRODUCTION

Scientific publications are frequently used to disseminate research findings and, in most academic and research environments, to assess a researcher's suitability for hiring and advancement. As a result, researchers are urged to publish their peer-reviewed findings in order to communicate their study findings to the scientific community.<sup>1</sup> The Department of Higher Education and Training report indicates that though it was a time of the COVID-19 pandemic, most HEIs produced a high number of research publication outputs.<sup>2</sup> Empowering postgraduate students in scientific publishing contributes substantially to enlarging the authorship of academic writing and stimulating the process of the scholarship of academic writing and knowledge creation.<sup>3</sup> In our case, there is a relatively high number of masters and doctoral graduates that are produced by the selected rural HEI in comparison to the meagre research publications. Ideally, dissertations and theses do not translate into tangible publications. Even the young academics employed by the HEI and pursuing their academic careers display low performance in research publication from their theses and dissertations. The below-average rating in research publication output by the HEI under study can negatively impact the image of the institution as the decline can affect its research funding. Young researchers and academics are at risk of lacking skills in the field of research and publication. Yet, it has been observed that researchers have a responsibility to make their findings available to the public.

Research affords the generation of new knowledge critical to promote societal and economic development. It is further a source of third-stream income for many higher education institutions (HEIs). According to the Higher Education Policy Framework, the actual number of research graduates and the production of research publications determine an institution's research output for any funding year.<sup>4</sup> Research is essential for the growth and transfer of knowledge, which produces the development of new knowledge as well as the addition to already-existing knowledge. For this reason, postgraduate students should publish their work. The issue of research mentoring and its impact on institutions of higher learning is vital as academies are for knowledge creation and development.

The requirement for continuous, specialised mentorship that considers the difficulties experienced by early-stage investigators trying to establish research careers is particularly significant.<sup>5</sup> However, the outbreak of the COVID-19 pandemic in 2019 across the globe wreaked havoc and left many people shaken and filled with uncertainty about the future.<sup>6</sup> In a study to assess the development of research willpower in a low-research intensive HEI, Kariyana and Marongwe argued that inducing attractive incentives towards research might motivate staff to go the extra mile and work towards acquainting themselves with the crux of research. The same study then found that participants acknowledged the prevailing negative institutional research culture and suggested the need to become a learning institution, among other strategies, to promote the development of a strong campus research

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<sup>1</sup> O Ouwe-Missi-Oukem-Boyer, NS Munung, and L Vidal, "Do Students Eventually Get to Publish Their Research Findings? The Case of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome Research in Cameroon," *Annals of Medical and Health Sciences Research* 4, no. 3 (2014): 436, <https://doi.org/10.4103/2141-9248.133474>.

<sup>2</sup> Department Higher Education and Training, "Report On The Evaluation Of The 2019 Universities' Research Output," March 2021, <https://www.dut.ac.za/wp-content/uploads/2021/07/REPORT-ON-THE-EVALUATION-OF-THE-2019-UNIVERSITIES-RESEARCH-OUTPUT.pdf>.

<sup>3</sup> Kariyana Israel and Marongwe Newlin, "Developing Research Willpower at One South African University as a Strategy to Transform Higher Education Institutions: Experiences of the Mentees," *E-Bangi Journal of Social Sciences and Humanities* 18, no. 10 (2021): 50–64.

<sup>4</sup> Higher Education Policy Framework, *Report on the Evaluation of The 2014-2015 Universities Research Publication Output*. (Pretoria: Government Publishers, 2015).

<sup>5</sup> Mallory O. Johnson et al., "The Impact of COVID-19 on Mentoring Early-Career Investigators," *Medicine* 100, no. 40 (October 8, 2021): e27423, <https://doi.org/10.1097/MD.00000000000027423>.

<sup>6</sup> Kariyana, and Marongwe, "Developing research willpower at one South African university as a strategy to transform higher education institutions."

willpower.<sup>7</sup> In this study, the incessant poor publications from the dissertations and theses of postgraduates upon completion of their studies have prompted the researchers to understand the nature of the mentorship experiences during the COVID-19 pandemic.

The production and distribution of knowledge are compelling universities in South Africa to become more market-oriented, competitive, and entrepreneurial, as this knowledge creation can be achieved through research supervision of postgraduate students through their master's dissertations and doctoral thesis development. Phiri mentions that research is crucial for the growth and transmission of information, which is why postgraduate students should publish their work.<sup>8</sup> Research also helps to advance current knowledge. Although Wadesango identified mentoring as the key factor in the postgraduate research publication output process, the below-average publication output by the rural HEIs, especially during COVID-19 portrays that something needs to be done and that has intrigued the interest of the researchers to investigate the causes that are behind the poor output rate in rural HEIs of the Eastern Cape Province.<sup>9</sup> Undisputedly, the COVID-19 pandemic has forced social withdrawal and altered how education is provided.<sup>10</sup> The COVID-19 pandemic's consequences on the educational setting have already been extensively discussed,<sup>11</sup> but research into how the mentorship of research students was impacted is still in progress. By offering a case study on the COVID-19 mentoring experiences of postgraduate students at one research institution in South Africa, this paper aims to contribute to the body of work in this area. The study, therefore, sought to explore the influence of mentoring on postgraduate research publication output in the selected rural HEI of Eastern Cape province through the following objectives:

- To ascertain the importance of research publication output at the selected HEI.
- To identify ways of increasing research publication output at the selected HEI.
- To explore the influence of COVID-19 on student research mentoring.

## LITERATURE REVIEW

### Importance of research publication output

Publishing is the process of disseminating and spreading information and knowledge outside of the purview of its origin or source through the distribution of content, mostly in print and electronic format. Academic or scholarly publishing is one of three types of publications, along with general and commercial publications. The relevance of research mentoring and supervision may be seen in the fact that a significant portion of scholarly research output comes from master's and doctorate-level postgraduate theses and dissertations. A scholar is considered to be a learned person who may be an academic or someone participating in or engaging in analytical or knowledge-based activities, typically as a student, researcher, or teacher, according to Kerns.<sup>12</sup> The scholar's job or other activities are considered to be their scholarship. In order to improve teaching, learning, and research, research publishing would be an academic or research activity or work carried out or accomplished by a scholar

<sup>7</sup> Kariyana, and Marongwe, "Developing research willpower at one South African university as a strategy to transform higher education institutions."

<sup>8</sup> L.L. Phiri, "Mentee Perceptions of Beneficence of Faculty-Centered Academic Mentoring: Reflections from a Pilot Program," *South African Journal of Higher Education*, December 2019, <https://doi.org/10.20853/33-6-3007>.

<sup>9</sup> Newman Wadesango, "Publish or Perish: Impediments to Research Output and Publication," *International Journal of Educational Sciences* 6, no. 1 (January 25, 2014): 57–63, <https://doi.org/10.1080/09751122.2014.11890118>.

<sup>10</sup> Julie E. Speer, Max Lyon, and Julia Johnson, "Gains and Losses in Virtual Mentorship: A Descriptive Case Study of Undergraduate Mentees and Graduate Mentors in STEM Research during the COVID-19 Pandemic," *CBE—Life Sciences Education* 20, no. 2 (June 2021): ar14, <https://doi.org/10.1187/cbe.20-06-0128>.

<sup>11</sup> Shatakshi Lall and Nardev Singh, "COVID-19: Unmasking the New Face of Education," *International Journal of Research in Pharmaceutical Sciences* 11, no. SPL1 (April 17, 2020): 48–53, <https://doi.org/10.26452/ijrps.v11iSPL1.2122>; Edgar John Sintema, "Effect of COVID-19 on the Performance of Grade 12 Students: Implications for STEM Education," *Eurasia Journal of Mathematics, Science and Technology Education* 16, no. 7 (April 7, 2020), <https://doi.org/10.29333/ejmste/7893>.

<sup>12</sup> Williams Kerns, "The Process of Instructional Scaffolding: Practice Grounded in Research," *The Missouri Reader* 43, no. 1 (2019): 36–40.

using electronic media. Scholarly publication aims to further and support academic or learning endeavours, including research and scholarly work.

However, the reduced face-to-face contact between supervisors and their students during the COVID-19 pandemic affected student supervision experiences. Because of the considerable mental instability that has come from public lockdowns, the importance of kindness and compassion

Work has been significantly interrupted in the highly organised world of academics, leaving people unsure of how to proceed, how to handle issues brought on by the pandemic, and without a support network.<sup>13</sup>

### **Impact of student mentorship on research publications**

According to Munung, Vidal, and Ouwe-Missi-Oukem-Boyer, effective and relevant research mentorship greatly aids supervisors' and students' mutual pleasure and professional growth.<sup>14</sup> An essential part of high-quality research governance should be effective mentoring.<sup>15</sup> Mutula concurs that universities across the world are recognised as locations for knowledge creation, scholarship, and the development of highly skilled labour necessary for the nation's functioning intellectual economy.<sup>16</sup> Nwokolo and Anagbogu define mentoring as a process of creating opportunities and a suitable environment for personal, social, educational, and vocational development, as well as the growth of new young scholars. Mentoring helps young scholars to learn new ways of communicating information, making decisions, responding to the environment, and interacting effectively.<sup>17</sup> Evans states that mentoring is an integral aspect of education, particularly in the tertiary education system. In order for scientific research output to fall under the category of scholarly research output, it might be argued that scaffolding as a component of research mentoring and conveyors of such output needs particular standards, such as research quality and originality.<sup>18</sup> In scaffolded instruction, the teacher assesses the gap between what students can do on their own and what they can do with just a little more expert guidance, and then creates lessons that offer just enough scaffolding to enable students to participate in activities that are currently out of their reach.<sup>19</sup>

Using data on 40 000 scientists who collectively published 1 167 517 publications in biomedical journals between 1960 and 2017.<sup>20</sup> Ma et al.'s recent work in PNAS examined the link between mentors and protégés. The investigation produced three key conclusions: (i) Mentoring predicts the success of the protégé, (ii) Protégés often pioneer work in their fields, and (iii) Astoundingly, mentees succeed by studying novel themes unrelated to those of their mentors. The importance of this collaboration in the mentee's success has been stressed in several research on mentor-mentee relationships. Studies on the interactions between mentors and mentees have

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<sup>13</sup> Purna Bapat et al., "Mentoring during the COVID-19 Pandemic: A Perspective from Graduate Students in Biomedical Science Studies in India," *Proceedings of the Indian National Science Academy* 87, no. 2 (June 2, 2021): 320–23, <https://doi.org/10.1007/s43538-021-00002-z>.

<sup>14</sup> Munung, Vidal, and Ouwe-Missi-Oukem-Boyer, "Do students eventually get to publish their research findings?"

<sup>15</sup> Jili, Nokukhanya and Mfundo Mandla Masuku, "Supervision as a Tool for Producing Independent Researchers: Reflecting on Supervision Processes," *PONTE International Scientific Research Journal* 73, no. 8 (2017), <https://doi.org/10.21506/j.ponte.2017.8.25>.

<sup>16</sup> Stephen M. Mutula, "Challenges Of Postgraduate Research: Global Context, African Perspectives," *Key Note Address Delivered at the University of Zululand, 10th DLIS Annual Conference, from 9 - 10 September 2009*, 2009, <http://www.lis.uzulu.ac.za/2009/Mutula-UZ2009DLISPaper.pdf>.

<sup>17</sup> Mercy Aku Anagbogu and Chinyelu Nwokolo, "Preparing for Research Mentoring in Nigerian Colleges and Universities" (2018), [https://www.academia.edu/4257270/Preparing\\_for\\_Research\\_Mentoring\\_in\\_Nigerian\\_Colleges\\_and\\_Universities](https://www.academia.edu/4257270/Preparing_for_Research_Mentoring_in_Nigerian_Colleges_and_Universities).

<sup>18</sup> Joel Evans, "Roman Mentoring and Modern Universities," *Macquarie Matrix: Special Edition, ACUR*, 2013, 1–16, <https://paperzz.com/doc/9215412/roman-mentoring-and-modern-universities>.

<sup>19</sup> Phiri, "Mentee Perceptions of Beneficence of Faculty-Centered Academic Mentoring: Reflections from a Pilot Program."

<sup>20</sup> Bapat et al. "Mentoring during the COVID-19 pandemic," 320–323.

additionally demonstrated the connection between mentoring and job success.<sup>21</sup> According to Bapat et al., analysing the mentor-mentee relationship, good mentors exhibit the following traits and behaviours, and they do this through the following: (i) building trust and allowing mistakes; (ii) being open to receiving feedback from the mentee; (iii) learning from the mentee; (iv) setting realistic goals and expectations; (v) demonstrating feasibility; (vi) becoming a partner in problem-solving; (vii) working on shared projects and tasks; (viii) being aware of the limitations of mentoring; (ix) showing genuine concern for the mentee, (x) aid in the complete personality development of the mentee.<sup>22</sup>

Feedback from mentors and mentees who have always participated in virtual mentoring in a study on whether it can support mentor-mentee relationships suggested that their relationships were good to very good. Ninety-two per cent of respondents who switched from in-person to digital mentoring said the interactions were generally positive. Sixty per cent of respondents said that since the adjustment, their relationships had been better. Additionally, mentors and mentees' impressions of how their relationships have evolved as a result of working remotely were different, with a higher percentage of mentors suggesting an improvement in relationships than mentees.<sup>23</sup> As collaborative by nature, mentored research depends on communication involving mentors and mentees.

Many mentees who responded as undergraduates said they felt "lost" and stopped getting calls from their mentors due to a sudden end of in-person research. A lack of communication could be harmful, especially for people with disabilities or other underrepresented minorities who may have had prior negative experiences where they were given fewer active roles and tasks, although the mentors may have intended to lessen the workload of the mentees during a challenging time.<sup>24</sup> We agree with the above argument and hence argue for the need to mentor postgraduate students in research writing and publications within universities in a constructive manner.

The crucial focus of the foundation phase between the supervisor and the supervisee is the development of trust. Madue emphasises the significance of the supervisor's appreciation that the supervisory relationship progresses through time to prevent false expectations in supervisees.<sup>25</sup> According to Nwokolo and Anagbogu, the trainee's experience can affect how complex and confrontational the supervisory relationship is. In this sense, as the trainee develops more expertise, it is more likely that the supervisee will become the focus of supervision.<sup>26</sup> Kariyana and Marongwe argue that research as a discipline calls for controlled thought processes when dealing with information to suffice an argument.<sup>27</sup> As such, human performance when compiling research information depletes with increased concentration. It, therefore, depends on one's perception of research either as work or an enjoyable that determines the rate of one's adjustment to research-related activities. Yet, COVID-19 triggered a sudden displacement of the traditional student mentorship experiences, for which this article attempted to elicit the participants' experiences.

The importance of an ongoing friendship between the mentor and the responsibility cannot be underestimated. Mentoring contributes to human development, and human development can be

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<sup>21</sup> Yifang Ma, Satyam Mukherjee, and Brian Uzzi, "Mentorship and Protégé Success in STEM Fields," *Proceedings of the National Academy of Sciences* 117, no. 25 (June 23, 2020): 14077–83, <https://doi.org/10.1073/pnas.1915516117>; Sanjana Chetana Shanmukhappa et al., "Motivators and Barriers to Research among Doctors in the Indian Medical Scenario: A Cross-Sectional Study from Karnataka, India," *Journal of Family Medicine and Primary Care* 9, no. 8 (2020): 4053, [https://doi.org/10.4103/jfmpc.jfmpc\\_369\\_20](https://doi.org/10.4103/jfmpc.jfmpc_369_20).

<sup>22</sup> Bapat et al., "Mentoring during the COVID-19 pandemic," 321.

<sup>23</sup> Speer, Lyon, and Johnson, "Gains and Losses in Virtual Mentorship: A Descriptive Case Study of Undergraduate Mentees and Graduate Mentors in STEM Research during the COVID-19 Pandemic."

<sup>24</sup> Hervens Jeannis et al., "Full-Participation of Students with Physical Disabilities in Science and Engineering Laboratories," *Disability and Rehabilitation: Assistive Technology* 13, no. 2 (February 17, 2018): 186–93, <https://doi.org/10.1080/17483107.2017.1300348>.

<sup>25</sup> Stephens Mpedi Madue, "The Measurement of Research Output of Public Higher Education Institutions in South Africa: Hurdle or Handle?," 2007.

<sup>26</sup> Anagbogu, and Nwokolo, *Preparing for Research Mentoring in Nigerian Colleges and Universities*.

<sup>27</sup> Kariyana, and Marongwe, "Developing Research Willpower at One South African University as a Strategy to Transform Higher Education Institutions."

assured essentially through effective research mentoring. The goal of mentoring is to ensure that the appropriate ways of doing things are properly transmitted to new generations in such a way that best practices, continuity, and interest are maintained in young generations resulting in continuous development.<sup>28</sup> Another issue is that it appears as though both the purpose and role of supervision are unclear. The first thing is supervision, which is defined as the highest form of instruction,<sup>29</sup> critical conversation<sup>30</sup> and mentorship,<sup>31</sup> while in the second instance, supervisor motivations could include knowledge acquisition, collaborative publications, and self-esteem, with each motivation bringing with it a distinct set of demands on students. According to Wadesango, one of the most common grievances from research students is a scarcity of mentorship and inconsistent interaction with their supervisors, who might be overworked with administrative or teaching responsibilities, have too many students or be overwhelmed with administrative or teaching obligations or spend too much time away from the university.<sup>32</sup> As a result, the mentor should give all students equal access to knowledge, time, and effort. The mentor should also hold regular meetings with students.<sup>33</sup> The secret to successfully completing a graduate programme is consistent, considerate supervised supervision and availability.<sup>34</sup>

### **Research Supervision as a way to increase research publication output**

According to Jili and Masuku, supervision is a two-way interactive process in which the student and the supervisor must actively participate while maintaining a professional, respectful, collegial, and single-minded attitude.<sup>35</sup> Wisker asserts that it is widely acknowledged that supervision affects the standard of postgraduate work.<sup>36</sup> Research supervision, according to Abiddin and Ismail, is a challenging process that is affected by a variety of elements, including the social setting, the supervisor and the student's personalities, the relationship that develops, the supervisor's field of expertise, and the variations in difficulties among the students.<sup>37</sup>

The approach of supervisory inputs and their influence on the supervised depends on the understanding of the postgraduate and research supervisor. The importance of student-supervisor relationship and skills in supervision is an important point in achieving the desired outcome of increasing publication output by both parties. Proper research supervision might generate better results in terms of postgraduate students being able to publish their dissertations and theses. This was an exploratory study on how the COVID-19 pandemic affected academics' ability to adapt their in-person mentoring and research efforts to virtual workplaces, as well as how virtual mentoring involves the relationship between mentors and mentees.<sup>38</sup>

The pursuit of student supervision to publish their research, according to Jili and Masuku, is crucial in the academic realm as research is regarded as the core human learning activity.<sup>39</sup> There are many differences across institutional and departmental practices regarding research mentoring and

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<sup>28</sup> Wadesango, "Publish or Perish: Impediments to Research Output and Publication."

<sup>29</sup> Christine Winberg, Ncedo Ntloko, and Tabisa Ncubekezi, "'Don't Leave Before You Understand': Supporting Master's Candidates in Business Studies," *Critical Studies in Teaching and Learning* 3, no. 1 (June 2015): 1–20, <https://doi.org/10.14426/CRISTAL.V3I1.37>.

<sup>30</sup> Phiri, "Mentee perceptions of beneficence of faculty-centred academic mentoring."

<sup>31</sup> Sotco Claudius Komba and Sarah Vincent Chiwamba, "Towards Improving the Supervision of Postgraduate Students in Tanzanian Higher Learning Institutions," *International Journal of Research Studies in Education* 6, no. 2 (February 14, 2016), <https://doi.org/10.5861/ijrse.2016.1548>.

<sup>32</sup> Wadesango, *Publish or Perish: Impediments to Research Output and Publication*.

<sup>33</sup> Evans, "Roman mentoring and modern universities."

<sup>34</sup> Jili and Masuku, "Supervision as a tool for producing independent researchers," 339.

<sup>35</sup> Jili and Masuku, "Supervision as a tool for producing independent researchers," 339.

<sup>36</sup> Gina Wisker, *The Postgraduate Research Handbook: Succeed with Your MA, MPhil, EdD and PhD* (Palgrave: Macmillan Publishers, 2008).

<sup>37</sup> N Z Abiddin and Ismail Affero, "Attrition and Completion Issues in Postgraduate Studies for Student Development," *International Review of Social Sciences and Humanities* 1 (January 1, 2011): 15–29.

<sup>38</sup> Speer et.al. "Gains and Losses in Virtual Mentorship." 1–9.

<sup>39</sup> Jili and Masuku, "Supervision as a tool for producing independent researchers," 339.

supervision, and there does not seem to be any empirical data from which to make conclusions.<sup>40</sup> A high standard of postgraduate student supervision and mentorship is essential for timely and effective completion in addition to increased research publication capacity. To increase postgraduate throughput, higher education institutions need to pay close attention to the monitoring and mentoring students. Kerns argues that the process of empowering research supervisors to enhance academic researchers to participate in research publishing thereby contributing substantially not only towards enlarging the authorship of academic writing, but also stimulating the process of the scholarship of academic writing and knowledge creation.<sup>41</sup>

### **The Influence of COVID-19 on student mentorship**

Normal physical interactions have been disturbed by the COVID-19 epidemic in hitherto unheard-of ways.<sup>42</sup> The adoption of lockdowns, which disrupted routine university activity, is seen by academics and students as defeating the purpose of student group projects.<sup>43</sup> With university staff having multi-tasks ranging from academic-oriented to research-oriented, it would only become possible to successfully attain both or all based on one's ability to balance themselves in terms of controlling their energy expenditure.<sup>44</sup> With the onset of COVID-19, maintaining this balance was somehow disrupted.

A mentee, on the other hand, needs to: (i) trust the mentor and their approach or method of mentoring; (ii) accept constructive criticism well and work with it; (iii) work to develop practical plans; (iv) fully commit to the process; and (v) avoid having unreasonable expectations from the mentor because mentoring is a two-way process with equal contribution from both mentor and mentee.<sup>45</sup> However, graduate students were not given any instruction on how to guide undergraduates that lack access to wet lab equipment tools or face-to-face interaction. Continuing their own thesis study remotely may have also presented substantial difficulties for graduate students as well.<sup>46</sup> Graduate students frequently feel exhausted and burned out, and in the worst situations, they endure anxiety and depression.<sup>47</sup> Over the course of the epidemic, graduate students' indications of worry and despair have doubled.<sup>48</sup>

A more experienced researcher and a less experienced lab member can work together in a dynamic, collaborative, and developmentally focused partnership known as research mentoring. The team does research together, and both members function as learners.<sup>49</sup> However, with the start of COVID-19 and the ensuing lab closures, the demand for social isolation, and the demands of remote working, research mentorship was only kept up through virtual interactions (virtual mentoring). Instead

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<sup>40</sup> Komba, and Chiwamba, "Towards improving the supervision of postgraduate students in Tanzanian higher learning institutions."

<sup>41</sup> Kerns, "The process of instructional scaffolding: Practice grounded in research." 36-40.

<sup>42</sup> Ruth Gotian, "Mentoring during the COVID-19 Pandemic," *Nature*, April 3, 2020, <https://doi.org/10.1038/d41586-020-01028-x>.

<sup>43</sup> Bunmi Isaiiah Omodan and Olugbenga A. Ige, "Sustaining Collaborative Learning among University Students in the Wake of COVID-19: The Perspective of Online Community Project," *International Journal of Learning, Teaching and Educational Research* 20, no. 1 (January 30, 2021): 356-71, <https://doi.org/10.26803/ijlter.20.1.20>.

<sup>44</sup> Kariyana, and Marongwe, "Developing research willpower at one South African university as a strategy to transform higher education institutions."

<sup>45</sup> Bapat et. al. "Mentoring during the COVID-19 pandemic," 321.

<sup>46</sup> Speer et.al. "Gains and Losses in Virtual Mentorship." 1-9.

<sup>47</sup> Panagiota Koutsimani, Anthony Montgomery, and Katerina Georganta, "The Relationship Between Burnout, Depression, and Anxiety: A Systematic Review and Meta-Analysis," *Frontiers in Psychology* 10 (March 13, 2019), <https://doi.org/10.3389/fpsyg.2019.00284>.

<sup>48</sup> Chris Woolston, "Pandemic and Panic for US Graduate Students," *Nature* 585 (2020): 147-48.

<sup>49</sup> Carrie S. Hurst and Lillian T. Eby, "Mentoring in Organizations: Mentor or Tormentor?," in *Work and Quality of Life* (Dordrecht: Springer Netherlands, 2012), 81-94, [https://doi.org/10.1007/978-94-007-4059-4\\_5](https://doi.org/10.1007/978-94-007-4059-4_5); Christine Pfund et al., "The Merits of Training Mentors," *Science* 311, no. 5760 (January 27, 2006): 473-74, <https://doi.org/10.1126/science.1123806>; Richard McGee, "Biomedical Workforce Diversity: The Context for Mentoring to Develop Talents and Foster Success Within the "Pipeline,"" *AIDS and Behavior* 20, no. S2 (September 16, 2016): 231-37, <https://doi.org/10.1007/s10461-016-1486-7>.

of in-person communication, virtual mentoring employs virtual platforms (such as email, phone conversations, or video conferencing) to facilitate mentorship.<sup>50</sup> Nevertheless, if students are not adequately equipped to manage such social spaces in their home locations, implementing online collaboration tactics may not be beneficial.<sup>51</sup>

Research studies show that, like in-person mentoring, virtual mentoring fosters the development of technical and transferable abilities while offering social, intellectual, and career assistance. Additional advantages of virtual mentoring include greater flexibility in meeting times and locations, the ability to keep track of exchanges, and a more welcoming setting for mentoring interactions.<sup>52</sup> However, switching from face-to-face to online mentoring can be challenging and may take some time. Some difficulties include home technological access, privacy concerns, and a higher risk of misinterpretation of verbal and nonverbal indications.<sup>53</sup> For mentoring to be successful, whether in person or online, the mentor and mentee must work and learn together.<sup>54</sup>

## METHODOLOGY

A case study design was used in the study as part of a qualitative research strategy. According to Cekiso, Tshotsho, Masha, and Saziwa, a qualitative approach is a type of systematic empirical investigation into meaning.<sup>55</sup> The qualitative study, situated within an interpretivist paradigm, was deemed appropriate to explore the influence of student mentorship on graduate publishing output during the COVID-19 pandemic at one rural institution of higher learning. Purposive sampling was employed to draw participants. Student participants at master's and doctoral levels were drawn from a pool of enrolled postgraduate students provided by the relevant office. Similarly, supervisors for master's and doctoral students were purposively sampled from the availed list of supervisors to participate. The total number of participants was sixteen and comprised eight master's and postgraduate doctoral students and eight research supervisors. The study was undertaken in one faculty with many postgraduate students enrolled for master's and doctoral studies by comprehensive research as the requirement for their completion of qualifications. Semi-structured interviews and open-ended questionnaires were used to explore the influence of research mentoring on research publications output during COVID-19 at the selected HEI within its real-life contexts. While interviews were used to gather data from all supervisors and only five students who were available, the open-ended questionnaires were administered to all students. The students received the open-ended questionnaire through emails and it included questions asking them to describe their interactions with their supervisors during supervision. The interview guide also asked questions about the students' perceptions of the mentoring and supervision they received during the COVID-19 period. Most of the postgraduate students in the sample who attended the rural university were black, and they were all Xhosa speakers.

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<sup>50</sup> Speer et.al. "Gains and Losses in Virtual Mentorship."1–9.

<sup>51</sup> Omodan and Ige, "Sustaining collaborative learning among university students in the wake of COVID-19."

<sup>52</sup> Ellen A. Ensher, Christian Heun, and Anita Blanchard, "Online Mentoring and Computer-Mediated Communication: New Directions in Research," *Journal of Vocational Behavior* 63, no. 2 (October 2003): 264–88, [https://doi.org/10.1016/S0001-8791\(03\)00044-7](https://doi.org/10.1016/S0001-8791(03)00044-7); Kathryn Cantrell et al., "The Role of E-Mentorship in a Virtual World for Youth Transplant Recipients," *Journal of Pediatric Oncology Nursing* 27, no. 6 (November 21, 2010): 344–55, <https://doi.org/10.1177/1043454210372617>; Hazel D. Owen, "Making the Most of Mobility: Virtual Mentoring and Education Practitioner Professional Development," *Research in Learning Technology* 23 (2015): 1–14, <https://doi.org/10.3402/RLT.V23.25566>.

<sup>53</sup> Ensher, Heun, and Blanchard, "Online mentoring and computer-mediated communication: New directions in research." 264–288; Owen, "Making the most of mobility,"1–14.

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<sup>55</sup> M. Cekiso et al., "Supervision Experiences of Postgraduate Research Students at One South African Higher Education Institution," *South African Journal of Higher Education* 33, no. 3 (August 2019), <https://doi.org/10.20853/33-3-2913>.



## Ethical Considerations

After being ethically approved by Walter Sisulu University's Research Ethics Committee, the first author proceeded to carry out the study, ensuring that all necessary ethical protocols were observed for a morally sound research process. The protocols included provisions for participants' rights, informed consent, professionalism, secrecy, protection from damage, obtaining anonymity, and participants' vulnerability. Pseudonyms were allocated to the respondents for anonymity.<sup>56</sup> The researchers used member checking, a technique perfect for qualitative research since it examines if findings are consistent with participants' experiences, to assess the validity of research findings.<sup>57</sup>

## Data Analysis

Thematic analysis was utilised in the study to find patterns or themes in qualitative data.<sup>58</sup> The study's data were divided into pieces, coded, categorised, and thematically organised.<sup>59</sup>

## RESULTS AND DISCUSSIONS

The following section presents findings from the data generated. Findings of the study were presented through themes that were generated to answer the research question: What is the influence of student research mentoring on research publications output during COVID-19 at one rural Higher Education Institution in the Eastern Cape Province? For anonymity, pseudonyms were used to represent participants: PGSM1 referred to first master's postgraduate student participant, PGSD2 referred to second doctoral postgraduate student participant, and PS5 referred to the fifth supervisor participant. All responses were cited verbatim, so quotes were deliberately disregarded.

### Theme 1: Importance of Research Publication Output at the Selected HEI

When asked about how they viewed mentorship in their publications, participants indicated that they had not yet published dissertations because they had not been fully informed on how to publish. The students stated that their supervisors promised to assist in structuring their research papers but were busy with their work. Again, participants mentioned that their research supervisors took their work and never came back. The following excerpts support these statements.

*PGSM3: I am of the view that publication is very important at this university. However, I have not published yet, because I do not know where - I am not fully aware of all the steps in publishing.*

*PGSD1: As a doctoral student, I should be expected to publish in order to contribute to the community of my practice but the research supervisor did not make enough effort to make sure that students publish their work.*

*PGSM1: There is no university that should not publish. I am just surprised why there is no one enforcing that students publish before they graduate as that also helps the students, even if it is not easy.*

PGSD3 and PGSM5 agreed when they said, research publication is a requirement and good for both students and supervisors. I am also informed that it helps supervisors in promotion (PGSD3).

PGSM3 and PGSM4 were also in unison when they echoed that, *Research publication output is vital at this institution, like in all other institutions. We know the university gets money from publications.*

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<sup>56</sup> John W. Creswell, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* - John W. Creswell - Google Books, 3rd ed. (CA: Sage, 2012), [https://books.google.com/gh/books/about/Qualitative\\_Inquiry\\_and\\_Research\\_Design.html?id=OJYEBdtkxq8C&redir\\_esc=y](https://books.google.com/gh/books/about/Qualitative_Inquiry_and_Research_Design.html?id=OJYEBdtkxq8C&redir_esc=y).

<sup>57</sup> Linda Birt et al., "Member Checking," *Qualitative Health Research* 26, no. 13 (November 10, 2016): 1802–11, <https://doi.org/10.1177/1049732316654870>.

<sup>58</sup> Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (January 2006): 77–101, <https://doi.org/10.1191/1478088706qp0630a>.

<sup>59</sup> Creswell John and Creswell David, *Research Design : Qualitative, Quantitative, and Mixed Methods Approaches*, SAGE Publications, Inc. (US), 5th, illustrated, ed. (SAGE Publications, 2018), [https://books.google.com/books/about/Research\\_Design.html?id=s4ViswEACAAJ](https://books.google.com/books/about/Research_Design.html?id=s4ViswEACAAJ).

The supervisors' responses to questions about the value of mentoring revealed that they were cognizant of the contribution their job makes to enhancing research productivity in their institutions. Some of their responses were as follows:

*PS1: Research output is critical here. Through mentorship, it is important for their throughput /pass rate to receive recognition as good supervisors, Also, it is important for students to get motivated to pursue research for their lifespan.*

*PS3 and PS5: As important as it is, research publication demands time and supervisors have limited time as they have to do teaching or lecturing. As our students were used to face-to-face supervision, the COVID-19 pandemic made things worse, and we did not make enough effort to make sure that students published their work.*

*PS2: Postgraduates and supervisors need to devise means and take publication as an important element of research.*

*PS4: It should be a necessity that supervisors and their students publish. Other universities make it mandatory that no publication, no graduation, but not [yet] here.*

## **Theme 2: Ways to Increase Research Publication Output at the Selected HEI**

When respondents were asked how research publication outputs at the selected rural HEI could be improved, their responses showed many different strategies. However, some supervisors did not fulfil their promises to capacitate the students.

*PGSD2: He promised to assist me with structuring my paper but never did that, explaining that he was too busy. I have no information regarding publication. He kept on promising to invite me to a workshop, but he never did that.*

*PGSM2: Exposing supervisors and postgraduates to supervisors' workshops, mentoring and coordination in the form of being engaged in co-supervision, with training on research processes. Training should be provided on research publications and mentoring importance.*

*PGSM4: Undergraduates must be given opportunities as research assistants so that by the time they are postgraduates, they are fully equipped on what is required from them at that level; this will increase the chances of individually completing their research papers on time.*

*PS1: The research office should at least have two workshops a year on how to write for publications. Postgraduate students should be the first to register so that they start their research as early as possible. They must have proper training; they must get enough rewards like promotions and incentives timeously so as to encourage them to publish.*

*PS7: There should be more conferences conducted internally. Respondents' encouragement and motivation through incentives and promotions are required, including exposure to supervisor workshops, mentoring and skills in basic research processes.*

*PS8: It is necessary to publish.*

## **Theme 3: Influence of COVID-19 on Student Research Mentorship at the HEI**

There were varied responses relating to the experiences of mentors and mentees during mentorship in the COVID-19 era. For instance,

*PGSM3: I had a bad experience due to the pandemic as I lost contact with my supervisor because of the COVID-19 pandemic.*

*PGSD2: Yes, COVID-19 came and affected us as we experienced lots of communication problems with my supervisor.*

*PGSD1: From my side, it appears there was not much difference between being supervised before and during the pandemic. My supervisor is not always in touch and so that did not change.*

*PGSM4: We had a set timetable of feedback and meetings, if necessary, with my supervisor. So I am grateful my supervisor kept to our promise even during the COVID-19 pandemic, and so our relationship was not affected, if I may say.*

The responses from supervisors of the effect of COVID-19 painted almost the same picture as everyone was challenged. Some of their responses were:

*PS1: It was negative as the effects of the COVID -19 pandemic made things worse as our institution is rural, so we lost contact with our students.*

*PS3 and PS5: As our students were used to face-to-face supervision, the COVID-19 pandemic made things worse, and we did not make enough effort to ensure students published their work.*

## DISCUSSION

The study's findings showed that although supervisors understood the value of mentoring and supervising, they did not always use it. One reason was that they had to begin online sessions with students during the COVID-19 pandemic, which added to their already busy schedules. The relationships between mentors and mentees who had always taken part in virtual mentoring were good to very good, according to responses from those participants, which contradicts the conclusions of a study on whether virtual mentoring may support mentor-mentee relationships. Ninety-two per cent of the respondents who had switched from face-to-face to online mentoring said the interactions were generally positive. Sixty per cent of respondents said that since the adjustment, they had better relationships. Additionally, mentors and mentees' impressions of how their relationships have evolved as a result of working remotely were different, with a higher percentage of mentors suggesting an improvement in relationships than mentees.<sup>60</sup> A successful research project and publishing process are both dependent on the student and supervisor having a healthy working relationship. To oversee the progression of a postgraduate programme, an effective supervisor is crucial. By stepping up the research mentorship method, we can improve the study process and the output of research papers. Therefore, research supervisors might prepare to enhance skills in their professional practice about writing for publication and support this process in their postgraduate students based on the study's findings.

According to the study's findings, most postgraduate students just graduated and forgot about publishing because they did not have access to research mentoring. Furthermore, some individuals also lacked time to do it because their supervisors were unable to mentor them, particularly during the COVID-19 pandemic. Furthermore, postgraduate students asserted that their research mentors failed to sufficiently clarify the steps involved in publication because they graduated online and lost communication due to the pandemic. However, Wadesango states that research mentoring is the key to economic transformation in many aspects, as universities benefit financially by producing researched papers.<sup>61</sup> Additionally, research mentorship is not evident at certain rural institutions of higher learning. For instance, the rural institution where the study was conducted struggled to establish research mentoring, especially during the COVID-19 era. Regarding the ways to increase research publication, data showed that there was much work to be done to increase the publication output. Therefore, the study suggests that supervisors and postgraduate students should be exposed to publication workshops.

Hence, Winberg et al. points out that mentoring helps young scholars to learn new ways of communicating information, making decisions, responding to the environment, and interacting effectively and that mentoring is an integral aspect of education, particularly in the tertiary education system. Challenges such as the prohibition of face-to-face contact, online meetings, the workload on supervisors, and lack of communication affected the research output, especially in rural HEI had a negative influence on research outputs.<sup>62</sup> In addition, Winberg et al. point out that mentoring helps young scholars to learn new ways of communicating information, making decisions, responding to the environment, and interacting effectively and that mentoring is an integral aspect of education,

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<sup>60</sup> Speer et.al. "Gains and losses in virtual mentorship."1-9.

<sup>61</sup> Wadesango, *Publish or Perish, Impediments to Research Output and Publication*.

<sup>62</sup> Winberg, Ntloko, and Ncubukezi, "Don't leave before you understand,"1-20.

particularly in the tertiary education system.<sup>63</sup> The study, therefore, identified that there is more that needs to be done by the rural HEI to improve their research outputs.

## CONCLUSION AND RECOMMENDATIONS

The study concluded that while participants understood the value of mentoring, the dearth of research mentoring by research supervisors adversely affected research publication output in the rural HEI, especially during the COVID-19 era. It was also concluded that supervisors struggled with online supervision, which strained the relationship between them and their students. Furthermore, the study revealed that both supervisors and students lacked skills and knowledge of paper writing, as such, students' expectations were not completely met concerning some aspects of research publication. Nevertheless, postgraduate students required guidance concerning the overall planning and step-by-step process of research writing and publication and its approach, which, regrettably, their supervisors lacked. This article will serve as a gauge of the demands of graduate students as they proceed through the graduate publication phase. Students require assistance to manage juggling the demands of life. They also require passion, zeal, strength, and support to continue their studies. Therefore, proper guidance from supervisors is significant to these graduate students. Based on the conclusions, the study makes the following recommendations.

- Postgraduate students need research supervisors to refer them to other competent students or informed research supervisors in terms of writing for publication.
- Overworked supervisors should have their workloads reevaluated if they are to make a meaning and contribution towards guiding their postgraduate students.
- Part of the necessary support to advance research publications includes adopting a multi-model approach for the development of supervisor abilities for effective mentoring and supervision.
- Overall, there is a need for publication workshops for supervisors and postgraduate students, enhanced student support and motivation from the supervisors, as well as clear commitment from intrinsically-motivated students.

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<sup>63</sup> Winberg, Ntloko, and Ncubukezi, "Don't leave before you understand,"1-20.

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