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Professional development of early-career researchers at the *South African Journal of Science*

Significance:

To take the scholarship forward is one of the key responsibilities of any academic journal including the *South African Journal of Science (SAJS)*. One way in which the *SAJS* takes the scholarship forward is by offering Associate Editor mentorship opportunities in fields represented in the Journal. In this Commentary, the current Associate Editor Mentees of the Journal reflect on the value of this opportunity to them.

Introduction

Mentorship involves an experienced individual sharing their acquired knowledge, proficiency, skills, values, expertise, perspectives, known resources, attitudes, and professional competence to facilitate the development of less experienced individuals.^{1,2} Through the *South African Journal of Science (SAJS)* Associate Editor Mentorship Programme (AEMP), an opportunity is given to early-career researchers who are interested in acting in an editorial role. The duration of the *SAJS* mentorship is flexible, with a minimum of one year to be considered as completed, and there is no set limit on the number of mentees in any given year. The AEMP was initiated in 2018, with two mentorships offered each year up to 2022; from 2023 onwards, the number of mentorships offered has been based on the capacity of the Associate Editors.

The Associate Editor Mentee role involves mentees acquainting themselves with the entire editorial process from manuscript submission by an author until the manuscript is rejected or accepted for publication in the Journal. The AEMP allows a researcher to understand the long and stringent vetting procedure a manuscript goes through before being accepted for publication. The Mentee is shown the importance of their role as guardian to ensure only high-quality scholarly knowledge enters the scholarly record. The AEMP requires the Mentee to be open-minded and to critically review the quality of each submitted manuscript based on content and the ethical requirements of the field and of the Journal. Notwithstanding that the Mentee works in consultation with their Associate Editor Mentor, the editorial role undertaken by mentees carries a big responsibility. The Mentee, together with their mentor, determines the suitability of a manuscript for the next level of peer review after submission, and selects appropriate scholars in the field to review the manuscript and give their unbiased opinions on the scientific accuracy of the paper and the novelty of the research. Depending on the Mentee's professional experience and the reviewer comments received, the Mentee may propose the next steps to take regarding acceptance or rejection of a manuscript to the Associate Editor Mentor.

A mentorship process is expected to develop the intellectual, psychological, and moral characteristics of the mentee. The main aim of the AEMP is to equip mentees with the skills needed to perform the breadth of tasks generally assigned to journal editors so that they can in the future work independently as journal editors.^{3,4}

Testimonials from past mentees

Past mentees who had completed at least one year of the *SAJS* AEMP were invited by the *SAJS* to provide feedback on their experience of their mentorship term. Their non-anonymised feedback could take any form. Out of a total of 10 past and current mentees, there were eight (8) respondents whose responses were independently considered and summarised by the current *SAJS* Associate Editor Mentees.

Overall impressions of the SAJS mentorship programme

The respondents described the mentorship as an enriching experience with a very supportive, patient, and encouraging editorial team. The most common feedback from respondents was that this mentorship was their first exposure to the editorial process and that they had little or no experience as reviewers. Their learnings about and their involvement in the editorial process cultivated in them confidence as an editor. Their editorial participation gave them exposure to the whole review process, from screening manuscripts for suitability for review to assessing reviewer reports and making editorial decisions based on these reports.

Some respondents described how their mentorship gave them a new appreciation for the challenges that come with successfully running a journal of the magnitude of *SAJS*. They also noted how their perspectives on the fundamental role that scientific journals play in the scientific landscape were shaped. The importance of having a strong and comprehensive network of peers and collaborators in the same scientific field was acknowledged. The commitment of the *SAJS* to fostering excellence in science and supporting the growth and development of the next generation of editors in South Africa was recognised and appreciated.

Career development opportunities emanating from the SAJS mentorship programme

Participation in the AEMP was cited for contributing to academic opportunities, such as acting as reviewers and serving as editors on the editorial boards of other local and international journals, becoming student supervisors, involvement in other prestigious programmes like the New Generation of Academic Mentorship Programme (nGAP), receiving researcher recognition through a National Research Foundation (NRF) rating and obtaining professorship. Two past *SAJS* mentees took over the reins as associate editors in their respective portfolios – Organismal Biology

and Archaeology, Anthropology and Palaeontology. One respondent was inspired to publish a book review in the *SAJS* and, in so doing, contributed to the knowledge economy of South Africa.

Learnings from the SAJS mentorship programme

The primary learnings from the programme included a greater understanding and appreciation for the role of an editor and the challenges the role presents. Respondents learned how to navigate this role and developed their skills in evaluating, reviewing and editing manuscripts. In addition, academic writing skills were acquired and refined and subsequently applied to the structuring and synthesis of ideas in the writing of the mentees' own manuscripts and grant applications. The mentorship programme taught some respondents how to work collaboratively with other editors and the Editor-in-Chief, and they were equipped with the skills to deal with conflicting reviews and opinions from other editors. Another learning that was emphasised was the ethical responsibilities that are attached to being an editor. Testimonials alluded to the ethical handling of manuscripts and general ethical conduct in scientific publishing to ensure a fair and transparent system.

Challenges faced during the mentorship term

The main challenge that the past mentees identified was finding willing and available reviewers. This challenge is not unique to the *SAJS*.⁵ Finding suitable reviewers for manuscripts can be an arduous task because editors have to meticulously select reviewers who are independent, have no conflicts of interest and are appropriately qualified in the subject of interest. A major driving force behind the difficulty of finding reviewers is the pressure that universities put on their staff to publish a high number of papers, which means an increase in the number of submissions and reviews.⁶ Attending to manuscripts methodically naturally becomes more demanding when submission volumes are high.

Another challenge that was identified by the past mentees was managing the workload between editorial duties and their primary academic responsibilities at their place of primary employment (usually a university). One mentee indicated that submissions in their portfolio – social sciences and humanities, in particular, education – were at that time very few. They felt that the limited number of submissions denied them the relevant experience in their field that they sought with this mentorship. As a multidisciplinary journal, the number of submissions to *SAJS* differs among portfolios and also between years, with the number of submissions ranging between 3 and 40 and the average number of submissions being 25. In addition, the type of manuscripts submitted to a particular portfolio may vary from time to time.

General comments

Overall, the respondents described their experience of the *SAJS* AEMP as being dependent on several factors, primarily the mentee–mentor relationship, prompt assistance and support from the editorial office, and an open communication channel with the Managing Editor and the Editor-in-Chief. In addition, the respondents reported that the mentorship was complemented by the opportunity for mentees to participate in all the Journal's activities and meetings where they could add their voices and contribute to the continual growth and development of the Journal. This foundation of support is a testament to a strong editor mentorship programme that develops and transforms mentees into independent editors. Taken together, the impressions from past mentees are that the AEMP helped them to develop their agency as researchers and engendered an academic citizenship that they plan to sustain in their academic careers. The respondents were unanimously grateful to the *SAJS* for the mentorship programme and its capacity-development endeavours.

Developmental opportunities nested within the SAJS mentorship programme

The AEMP provides numerous opportunities for the growth and academic development of mentees. Growth opportunities are in various forms, including participation in and presentation at writing and peer review workshops. To that effect, a workshop on 'Peer Review in Scholarly Journals' was hosted by *SAJS* on 13 September 2023. Shane Redelinghuys, a mentee from the University of the Witwatersrand,

presented on 'What authors should know about peer review'.⁷ The workshop was designed to share ideas regarding the nuances vital in peer reviewing, including but not limited to the manuscript's quality before it can be considered for peer review and whether the manuscript's argument is clear, methodologically coherent, focused, etc. During the same workshop, Nathi Madondo, a mentee from Mangosuthu University of Technology, presented on 'What reviewers should know about peer review'.⁷ Nathi's talk was framed around the idea of taking scholarship forward; in other words, unsubstantiated claims or sweeping statements cannot contribute to the scholarship. Another mentee, Thywill Dzigbewu, presented in the workshop 'Writing with Integrity' on 5 June 2024. His presentation was on 'Deciding on authorship',⁸ and he stated that authorship has to do with substantial intellectual contributions to a publication and is the currency for getting recognition in academia, including but not limited to attracting research grants. During this workshop, another mentee, Lindah Muzangwa, spoke on how data curation was crucial for any scientist and the need to manage the data for traceability and make it digestible for readers. She spoke of the context, usability and storage of data, which are all vital considerations when using data. She also explained the difference between data cleaning and data manipulation.⁹

Besides participating in workshops hosted by *SAJS*, during which mentees are afforded an opportunity to participate and develop in the context of scholarly publishing, mentees are also involved in the monthly *SAJS*-hosted 'Journal Writing and Peer Review Forum' and the Academy of Science of South Africa (ASSAf)'s Annual National Scholarly Editors' Forum (NSEF). The monthly writing and peer review forum is hosted virtually by the *SAJS* and is an open forum designed for emerging researchers in all disciplines. Emerging researchers like mentees are supported and guided in writing, peer reviewing, and publishing journal articles, and also provide this support to other emerging researchers through the Forum. Another great opportunity provided through *SAJS*, in collaboration with ASSAf, is when mentees are invited to be part of the Annual NSEF. To this effect, Nathi Madondo, on behalf of the *SAJS*, led a discussion during the Annual NSEF Meeting, which was hosted virtually by ASSAf on 11 April 2024.

In summary, the mentoring programme contributes immensely to the development of the mentees' agency in enhancing the knowledge, skills and practices valued in reviewing, academic writing and leadership associated with editorial work. Such development is conducted in a nuanced manner, given the enabling structural and cultural environment that is provided by the mentorship programme. By structure, we mean the programme itself, and by culture, we mean beliefs and ideas associated with mentoring, such as those identifiable in the discussion above. Consequently, as mentees, we believe that the programme has, in profound ways, on a continuous basis, taught us to be efficient, effective and ethical journal editors. In this way, we have learned and continue to learn how to discern good/excellent quality work from the manuscripts sent to the *SAJS*.

The challenges and future possibilities of the SAJS mentorship programme

Reflection and critical review of the mentorship programme have highlighted several challenges, competencies, and avenues for future consideration. These include editorial competency, competition with established voices, linguistic barriers, baseline skills development, communication skills, mentor roles, and continuous learning. These elements are crucial for scaffolding growth at the mentee level and ensuring continued development thereafter. Highlighting these aspects is valuable as many emerging researchers aspire to take on editorial roles, and the challenges discussed here may be common for those wishing to do so. Below, we offer a perspective on these challenges and future possibilities. It is by no means a comprehensive outline but one that hopefully assists with shifting the praxis of mentoring editorial interns and provides insight for those intending to become more involved on an editorial board.

Scaffolding skill sets is challenging at the mentor level.¹⁰ Mentees at *SAJS* are a diverse group of emerging researchers from various academic and



social backgrounds. The programme's demographic thus captures a wide spectrum of the South African scientific community, with varied competencies, approaches, and pre-existing skills. Previous mentees have emphasised the importance of the mentor–mentee relationship, although it is not without challenges. Both mentors and mentees face increased time commitments and administrative responsibilities. However, this partnership is crucial as it forms the foundation of the mentee's learning experience. Studies have shown that mentorship programmes can significantly enhance mentee performance in contexts where efficient and positive communication is present.¹¹ Building a relationship on this premise creates a vital partnership pathway and is likely to foster more efficient scaffolding of skill development.

A strong mentor–mentee relationship that incorporates skills transfer and growth addresses the immediate challenge facing mentees: completing tasks related to the editorial process, which is new to most. Previous mentees credit the programme for immersing them in various editorial tasks, providing them with a comprehensive understanding of the entire editorial workflow. These tasks include managing initial submissions, identifying potential reviewers, negotiating with authors, reviewing submissions, and handling conflicting feedback. Many mentees aim to gain broad exposure to these processes, sharpen their technical skills, and navigate the complexities of academic publishing with confidence and efficiency. However, the range of tasks presents a steep learning curve involving the understanding of nuance and disciplinary discourse, ensuring integrity, maintaining high standards, being digitally proficient, and working dynamically in a team. Training sessions help ensure a smooth process and provide a foundation for learning, but ultimately, the development of necessary skills depends on the mentees and their mentors.

Equitable task distribution across portfolios also appears to be a challenge. Creating opportunities for all mentees to experience the full spectrum of editorial activities is crucial. This is one of the programme's strengths: offering comprehensive exposure to various editorial-related tasks. The editorial team manages the balancing of activities by assigning tasks to mentees, but mentees must also communicate their concerns to the editorial team to ensure fair workloads and exposure. At the beginning of the mentee's term, mentors ideally discuss envisioned objectives, allowing mentees to identify their goals for the programme. These crucial discussions help chart a path for the mentee's learning experience. Ensuring future mentees receive a uniform learning experience is important for all mentees to benefit from the extensive opportunities available in editorial work. This objective could be achieved by incorporating a communication framework for the mentor–mentee pair to ensure a mutually beneficial relationship between the pair.

Networking is another considerable challenge. A diverse and robust network of academics is vital in the journal landscape, enabling mentees to invite reviewers or seek assistance and advice. Facilitating these networks might help overcome this challenge, and the SAJS, along with ASSAf, hosts regular online engagements to assist in this regard. Structured networking events, alumni networks, and collaborative projects could also foster a growing academic network. Online resources, such as those provided by the Council of Science Editors¹², offer additional support and help create formal and informal professional relationships, benefitting the mentee cohort.

Recognising challenges and proposing solutions is essential, but must consider mentor and mentee time management. Balancing multiple responsibilities, including personal research, university administration, providing reviews, teaching, supervising, and offering editorial assistance, is difficult. Time management training, mentorship in time management, project management tools, consistent deadlines, and flexible work plans are several approaches that can help. Many of these options are in place at SAJS and are supported by peer and mentor support systems. These are not challenges unique to SAJS; other journals might also want to consider the suggested approaches.¹³

Innovative responses positioned within the mentee cohort can meet these challenges. Ultimately, the mentorship programme coordinators should ask themselves: where has it worked, where has it not, and

what more can be done? From this reflection, the programme's future can be plotted, and necessary shifts in praxis can be enacted. Taken together, a communication framework for the mentor–mentee pair, time management training, assistance with project management tools, frequent formal meetings between the mentor and mentee and the editorial office, and a formal timeline for the current AEMP goals may help increase the effectiveness of the mentorship programme.

Concluding remarks

The SAJS Associate Editor Mentorship Programme, which has run since 2018, has significantly impacted the professional development of early-career researchers. The programme affords mentees the opportunity to gain hands-on experience in the editorial process, from manuscript submission to final publication decisions. Under the structured mentorship of senior associate editors, participants acquire essential skills, such as the evaluation of scientific content, adherence to ethical standards and managing the peer review process. The effectiveness of the programme lies in its provision of a supportive environment in which mentees engage deeply with the editorial process and contribute meaningfully to scholarly publishing, including making presentations on scientific writing skills. The mentees have faced challenges, such as balancing editorial duties with academic responsibilities and finding willing reviewers, but these are mitigated through the collaborative efforts of the editorial team and structured mentorship. The testimonials from past mentees highlight the role that the programme has played in enhancing the participants' confidence as editors and fostering an appreciation for the challenges of journal management. In conclusion, the programme's focus on continuous improvement and adaptation to the evolving landscape of academic publishing will ensure that it remains a cornerstone for developing capable professionals in scientific research and editorial work.

Declarations

All authors are current SAJS Associate Editor Mentees. There are no competing interests to declare. There is no AI or LLM use to declare.

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