

Assessing mentorship of undergraduate students at the University of Johannesburg: A Case-study

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Abstract

The Faculty of Engineering and the Built Environment (FEBE) at the University of Johannesburg (UJ) has used mentoring to support students at the institution. In 2024, these initiatives were centralised and expanded to an integrated mentorship programme across the Faculty. All first-year students in the Faculty are allocated mentors drawn from volunteer senior students who wish to give back to their student community. The study explores the experiences of mentees and mentors in the programme to identify expected and experienced value. Furthermore, it explores and identifies challenges encountered and opportunities for further developing and refining the programme. A survey was conducted, inviting all the mentees and mentors who participated in the mentor programme during 2024. The survey was designed to elicit experiences on the programme from the perspective of the mentees and the mentors. This study presents the findings from the survey and provides insights that could be used to design mentorship programmes in similar contexts. The study also highlights the challenges experienced when implementing a Faculty-wide programme.

Keywords: mentoring, undergraduate, engineering, student success

1 Introduction

1.1 Background

South African higher education is characterised by high attrition and low completion rates in minimum time (CHE, 2022) despite the admission of top school leavers (Smit & Wolmarans, 2010). The system also frequently marginalises those from low socioeconomic backgrounds (Vosloo & Blignaut, 2010). There is also a disparity between secondary schools; fewer than 20% of students at the University of Johannesburg originate from high-performing schools. To mitigate the challenges encountered by first-year students, Tinto advocates for institutional responsiveness (Lim et al., 2017)

Smit & Wolmarans (2010) suggest that first-year students, even those from top-performing schools, struggle as they adjust to the divide between high school and university. First-year students frequently feel overwhelmed by the curriculum, workload, academic integration, and adapting to the environment. These students seek direction and understanding regarding the expectations of higher education (Larose, 2013). Although every student requires support to adapt to university, students who perform poorly require that assistance to an even greater extent (Gibbs, 2012). Mentoring can inspire mutual growth, learning, and development and transform individuals, groups and their broader community (Ragins and Kram, 2007). Peer mentoring aims to provide intentional assistance to first-year students encountering numerous difficulties during their shift from high school to university.

The Faculty of Engineering and the Built Environment (FEBE) has used mentoring to support students at the institution. In 2024, these initiatives were centralised and expanded to a fully integrated mentorship programme across the Faculty. All first-year students in the Faculty are allocated to a mentor. The mentors are drawn from volunteer senior students who wish to give back to their student community. Mentors are trained, and various mechanisms are in place to track progress and receive feedback. There are currently 216 volunteer mentors in the programme, with a ratio of one mentor for every ten mentees.

1.2 Purpose of the study

This study aims to understand how mentoring plays out in the UJ context to identify the value that students extract from the programme and where opportunities lie for further refinement and development. The objectives of the study are to explore:

- The experiences of mentees in the programme and identify the expected and experienced value

- The experiences of mentors in the programme and identify the expected and experienced value
- Challenges experienced and opportunities for further developing and refining the programme.

2 Literature review

2.1 Structure of peer mentoring

Peer mentoring programs are designed to establish a relationship between a more experienced student (or peer mentor) and one who is less experienced (the mentee) and typically involve senior students acting as mentors to younger counterparts (Mullen & Klimaitis, 2021). The responsibilities of mentors can take on various forms, including that of a guide, friend and role model, as they provide tailored support to their mentees (Mullen & Klimaitis, 2021).

2.2 Benefits of peer mentoring

Mentoring programs can increase student engagement, learning and achievement of student outcomes (Abrahamson et al., 2019). Academic improvement is one of the most significant benefits of students who actively engage in mentoring programs (Miller, 2019). The structured support from a mentor can enable mentees to understand better complex concepts and topics, learning approaches and academic culture. Mentors can also show mentees where to access additional resources to reinforce the subjects taught. Mentoring can also support developing or reinforcing good study habits (Mullen and Klimaitis, 2021). Conversely, reflection on study habits that are not working can help the mentee learn from past errors and determine what learning strategies could be adopted instead.

The supportive environment and the relationships fostered through mentoring can also assist with developing personal and social skills (Messmann et al., 2022). Mentors can play an active role in increasing the confidence and motivation of mentees (Carvalho and Santos, 2022). Additionally, skills such as effective communication, active listening, and teamwork can be fostered when peers can discuss academic concerns and collaborate on problem-solving in academics within a social context (Abidjanova, 2024). Such benefits are critical because those who succeed academically often also possess strong social skills (Umarov, 2024). Fostering resilience is particularly important as it can promote mental health and success in other areas.

One significant component of a mentoring relationship is the mental and emotional support a mentor can provide to the mentee (Hill et al., 2022). Mentors can provide a safe space for their mentees to express their concerns and issues they are struggling with, either academically or personally (Miller, 2019; Sarabipour et al., 2022). Personal stresses can include dealing with demanding classes and fulfilling family expectations. For this to happen, the relationship must involve a level of trust where mentees feel comfortable sharing problems they are experiencing, and mentors must strive to be empathetic, compassionate, patient, and supportive. This can improve stress levels and coping strategies (Hammoudi et al., 2023).

In addition to benefits for the mentees, mentors report that mentoring enables them to develop themselves as their relationships with their mentees evolve (Carvalho & Santos, 2022). Mentors often report emotional benefits from being a mentor, such as enjoyment, pride, and personal growth (Chandrasekera et al., 2024; Seery et al., 2021).

2.3 Challenges

Peer mentoring programs are not without their challenges. (Mullen & Klimaitis, 2021). Both students and staff can be resistant to their implementation. Staff can view students as unsuitable mentors due to insufficient knowledge or personal skills or insufficient time due to their own study workloads (Mullen and

Klimaitis, 2021). Staff can also indicate that they personally have inadequate time and/or resources to support students (Miller, 2019). This suggests that, for peer mentoring to be effective and sustainable, safeguards and support structures need to be put in place to protect the welfare of the mentors (Collier, 2023) and improve the sustainability of the programme.

However, not everyone is quick to embrace their role in these mentoring programs. Participants may be held back by common concerns such as fear of judgment, reluctance to take on a mentor role, or a lack of confidence in helping others. (Hill et al., 2022) These concerns can prevent the formation or cause the early termination of mentoring relationships. Educators need to understand these concerns and take steps to alleviate them (Miller, 2019). Recruitment and the idea of becoming a peer mentor are also important. It is recommended that the starting point is introducing the mentoring concept in general and showcasing the benefits through peer testimonials, success stories or quantitative data (Collier, 2023). Furthermore, starting with receiving help by bringing up the concept of being a mentee before asking students to become mentors can alleviate fear (Collier, 2023). It is also critical to foster a culture of inclusivity, diversity and respect, as relationships should be formed in a safe space where students do not feel intimidated or judged. (Zachary and Fain, 2022)

2.4 Measuring effectiveness

Evaluating the effectiveness of peer mentoring relationships can be difficult. Relationship quality, personal growth, and similar benefits are often overlooked as they can be challenging to measure. Traditional assessment methods that target quantitative outcomes may not thoroughly evaluate or monitor the subtle and diverse benefits of a peer mentoring relationship. It is, therefore, recommended that both quantitative and qualitative data be used (McGorry et al., 2022). Eliciting the experiences of mentors and mentees can provide a more transparent view of the actual benefits and challenges (Anderson et al., 2021).

3 Method

3.1 Context

This study was conducted at the University of Johannesburg (UJ) within the Faculty of Engineering and the Built Environment (FEBE). The faculty consists of 12 departments, three engineering science programmes at the Kingsway Campus, and nine engineering technology programmes at the Doornfontein Campus. The peer mentorship programme was purely voluntary and aimed to assist undergraduate students with adjusting to their new environment and navigating university life, thus reducing student dropout and boosting student success and throughput. The faculty appointed a coordinator to manage and oversee the programme. The faculty coordinator was responsible for facilitating and monitoring the recruitment process, organising training and reflective sessions for the mentors, consolidating the feedback from mentors and providing feedback on the programme's progress to the faculty and the institutional mentorship forum.

The faculty anticipates an annual intake of over 2000 first-year students and aims to reach all students through the mentorship programme. As such, 216 students were selected as mentors, and each mentor was allocated a minimum of 6 students and a maximum of 10 mentees. The recruitment of the peer mentors was voluntarily, meaning that all students who showed interest in the programme were well aware that they would receive no compensation for being mentors. It was also communicated to them that they will receive a certificate of recognition upon completion of the programme at the end of the year. The selected mentors were therefore allocated first-year students in their respective departments. This enabled the mentors to assist with their module content if needed. Two training sessions and two reflective sessions were arranged for the mentors; the training sessions were conducted at the beginning of each semester, and the reflective sessions were held towards the end of each semester.

The mentors were also provided with a booklet comprising general and easily accessible information on mentoring. The booklet also touches on planning for effective mentoring, the various aspects of mentors' and mentees' activities, expected roles and responsibilities and the mentoring processes. It also provides valuable, practical guidelines and tips to assist them with planning and implementing their respective mentoring programmes from an informed position. Additionally, WhatsApp was used for daily communication between mentors and mentorship coordinators.

3.2 Data collection and analysis

The first phase of this study elicited the experiences of mentors and mentees in the programme during 2024. Both mentors and mentees were invited to participate in a qualitative survey. A Qualitative survey is a research method used to collect non-numeric data, often through open-ended questions that allow the participants to share their thoughts, feelings and their experiences in detail. The goal is to gain a deeper understanding of participants' perspectives and insights. Qualitative research focuses on the meanings, concepts, definitions, attributes, metaphors, symbols, and descriptions of objects. Essentially, when gathering and evaluating data, qualitative research prioritizes meanings (words) over frequencies and distributions (numbers). Furthermore, qualitative research tends to be inductive rather than deductive, which generates theory from the interpretation of the data (Leedy and Ormrod, 2010). The qualitative approach is more exploratory in nature and typically entails enumerating the voices of the participants through the identification of recurring themes. The survey included a combination of closed-ended and open-ended questions. The survey included questions in five groups: 1) general questions about the number of mentees, meeting times and mentor and mentee details such as year of study and degree studying towards, 2) expectations and understanding of the mentoring process, 3) general topics discussed during mentoring sessions, 4) perceived personal development of the mentoring process, 5) challenges experienced and suggestions for improvement. 62 (n=138) mentees and 28 (n=1360) mentors completed the survey. Participants were not asked to share personal details about themselves, their mentors, or their mentees. Questions also asked for general feedback and not specific confidential information related to any particular mentor-mentee relationship. Ethics clearance was obtained for the study.

The data for the first group of questions were analysed and presented using descriptive statistics to provide context and an overview of the study participants. The open-ended questions for groups two to five were analysed using thematic content analysis. The researcher read the participants' responses, and themes were identified to answer the research question. The emergent themes are discussed in the findings section and supported by participant quotes.

4 Discussion of Findings

4.1 Introduction to the findings

The mentors were spread across degree programmes and years of study. There was one second-year mentor, twenty third-year mentors, five fourth-year mentors and one postgraduate studies mentor. Most mentors indicated meeting with their mentees at least once a week. Some mentors met bi-weekly or monthly, while others stated that they met two or three times per week. Regarding the mode chosen for meeting with mentees, 14 mentors met exclusively in-person with their mentees, four met only online, and the balance used a mixed approach with meetings sometimes taking place on-campus and other times online. Sessions lasted, on average, for one hour, with some mentors reporting meetings that lasted 30 minutes and others that lasted up to two hours. Mentors indicated that they adopted a mixed approach to meeting arrangements, with some group sessions taking place and others taking place one-on-one. Seven mentors indicated they exclusively used group meetings, while five indicated they only met individually with their mentees.

The mentees were also asked to share their experiences of the programme. Of the 62 respondents, 20 indicated that they were never allocated a mentor, that they do not remember being assigned a mentor or that they were allocated a mentor but the mentor never met with them or was unresponsive when they tried to make contact. Of the remainder, eight respondents indicated that they interacted irregularly with their mentors, while 33 said they regularly met with them. For those who interacted with their mentors, most met in person, six met exclusively online, and one indicated a mixed approach. Most mentees stated that they met in groups with their mentors, while seven met exclusively in-person, and 10 had a mixed approach with online and in-person meetings. The following two sections will present and discuss the experiences of the participants, first the mentors, followed by the mentees.

4.2 Mentors' Experience of the Mentorship Programme

Most mentors shared that their understanding of being a peer mentor meant guiding their mentees and assisting them with navigating the transition into their new environment. When asked what motivated them to become mentors, most students expressed that they wanted to share their experience with others, assist the first-year students in adapting to university life, and assist them with challenges they may encounter with their academics. Some mentors indicated that they had a positive experience as mentees in their first year of study, and they wanted to share their knowledge and offer the same assistance they received through the programme to other students. Some indicated they wanted to acquire skills that will better equip them for their personal and professional journey. The mentors indicated that the topics covered during their mentorship sessions included tips on adjusting to university life, managing their time as first-year students, and studying tips and techniques.

"In my mentoring sessions with first-year students, we typically discussed adjusting to university life, managing coursework, and developing effective study habits. I also provided guidance on setting academic goals, exploring extracurricular activities, and building time management skills. Additionally, we often talked about overcoming challenges, staying motivated, and making the most of available campus resources"

Although some mentors indicated that they experienced no challenges throughout the programme, most participants have outlined challenges they encountered as peer mentors. These challenges commonly included reluctance from mentees to participate or engage during their sessions, poor attendance from mentees and challenges with balancing their mentoring duties and other academic responsibilities. The mentors expressed that some mentees showed little or no interest in the mentoring programme. As such, they had to build trust with their mentees by creating a safe space for them to express their challenges and concerns. They shared their experiences with their mentees, engaged them on private platforms and not only on WhatsApp groups, and had regular check-ins with the mentees, especially those who were less interactive during their sessions. The mentors also focused on building meaningful relationships with their mentees, allowing first-year students to share their concerns and ask questions during their sessions while actively listening to them. Furthermore, the mentors established and maintained a sense of community and belonging by encouraging open communication and creating a welcoming environment, which contributed significantly to the success of the mentoring relationship.

"Yes, I encountered some challenges as a mentor. One challenge was engaging mentees who were initially hesitant to open up or actively participate in sessions. To address this, I focused on building trust by being approachable, empathetic, and sharing my own experiences."

"Another challenge was balancing mentorship responsibilities with my own academic workload. I tackled this by staying organized, setting clear boundaries, and effectively managing my time. I viewed these challenges as opportunities to grow and adapt as a mentor."

The mentors have reported significant improvements in their mentees. Most felt that their mentees developed increased self-confidence, improved communication skills and were better at managing their time than at the beginning of the programme.

Moreover, when the mentors were asked how the mentorship programme had contributed to their well-being, most mentors expressed that they experienced an increased sense of fulfilment and purpose and improved self-awareness. Some other skills they reported to have acquired are effective communications, strong leadership, improved time-management, and enhanced problem-solving skills. The mentors have further learnt to be kind and patient, developed a sense of empathy towards other students and people in general and learnt the importance of fostering meaningful relationships.

“Over the mentoring period, I noticed significant growth in my mentees. Many became more confident in navigating university life, managing their time effectively, and setting clear academic and personal goals. They also grew more comfortable seeking help when needed and utilising campus resources.”

Regarding the suggestions on improving the mentorship programme, some mentors highlighted the importance of providing more structured training for mentors and mentees at the beginning of the programme. They also expressed the significance of having regular feedback sessions with mentors to share their experiences and challenges. Some suggested that the sessions be held monthly or at least once each term. The mentors further highlighted the importance of notifying the first-year students about peer mentorship and allocating them mentors during the orientation week. Some mentors also felt that the mentorship programme should be made compulsory for first-year students.

4.3 Mentees' Experience of the Mentorship Programme

The overall feedback received from the mentees regarding the mentorship process was positive. Most mentees suggest having significantly benefited from the programme. In contrast, others proved to have not benefited at all because they were not allocated any mentors. The mentees generally have a similar understanding of what mentorship entails and the role played by the mentor. They have expressed their knowledge of a mentor in their context as a senior student who provides guidance and support and assists them in navigating through their personal and academic challenges. The data reveals that mentees mostly received educational assistance from the mentorship process. When asked to describe ways their mentors have assisted them, most mentees indicated having received a lot of support and guidance regarding their specific academic content.

“He assisted me with my studies especially with difficult modules, helped me with time management and getting the appropriate study material when needed”

“He helped us with getting used to our campus, he showed us around campus during orientation, was very nice and approachable. He helped us with past papers and schoolwork, he also gave us online textbooks he used the year before. He advised us of what we should expect from our lecturers. I have managed to get a distinction because of her””

Most of the mentees revealed that they learnt a lot from their mentoring experience. Some have learned that it is okay to ask for help, while some have learnt how to receive assistance from others. Moreover, based on the experiences that were shared with them, the mentees have also learned how to work smart and have gained a deeper understanding of how to navigate through academic and personal challenges effectively. Regarding their well-being, some mentees attested that mentoring has assisted them in maintaining a balanced lifestyle, gaining self-confidence and developing healthy and sustainable coping mechanisms. However, some mentees have expressed that they have not experienced any noticeable or significant change to their well-being.

“Having a mentor has positively impacted my personal well-being by providing a sense of direction and reassurance. Her constant support has helped me manage stress, stay motivated, and build resilience in the face of challenges. This guidance has boosted my confidence and helped me maintain a balanced approach to both personal and academic growth”

While some of the mentees have indicated they have not experienced any difficulties or challenges, most have shared some of the challenges they encountered in their mentoring process. Some mentees expressed their dissatisfaction with their mentors. They maintain that their mentors were sometimes unreachable and could not answer their requests or questions. They have also alluded that their mentoring sessions would sometimes be scheduled during class times and that they would not be able to attend them. Furthermore, they have suggested that mentors arrange virtual sessions that do not clash with their academic responsibilities. The mentees also indicated that the faculty does constant follow-ups to ensure the mentors are organising and attending their mentoring sessions. Another suggestion is that mentees be allocated their mentors before the commencement of the academic calendar so that they can know who to contact and how to contact them.

4.4 Limitations of the mentorship programme and the research study

This study focused solely on how undergraduate mentoring plays out in a specific South African context. The response rate from participants was relatively low and may not represent the whole experience of all mentors and mentees. Furthermore, it was apparent from the findings that many students responded to the survey because they had never successfully connected with their mentor or mentee. This is an interesting finding as it shows that it is possible for the coordinators of a programme not to know the extent to which certain aspects of a programme are ineffective. This further highlights the need to engage with the students and not to take for granted that they will voice their concerns if not prompted to do so.

5 Conclusions and Recommendations

The study revealed that mentoring can result in benefits for both the mentees and the mentors, as supported by literature. These benefits included those related to the development of social skills (Messmann et al., 2022; Carvalho and Santos, 2022), the transition to university and associated coping mechanisms (Mullen and Klimaitis, 2021), managing stress and well-being (Hammoudi et al., 2023; Hill et al., 2022) and resources to support academic achievement (Mullen and Klimaitis, 2021). The study also confirmed findings from the literature that peer mentoring can be beneficial to the mentors as well as the mentees (Carvalho and Santos, 2022). The study further revealed the value that can be obtained by eliciting the experiences of mentees and mentors on the programme (Anderson et al., 2021). The experiences confirmed that the peer mentoring programme has value and can be further leveraged by addressing the identified challenges.

Although many participants expressed that the programme had made a positive difference in their lives, a significant portion were disillusioned by the programme. It is not uncommon for mentoring programmes designed to support at-risk students to result in mentors and mentees who feel personally unfulfilled with their experiences (Moeyaert et al., 2021). The mentors of underprepared students at higher education institutions often express high levels of frustration and insecurity (Schwehn, 2022). In many of these cases, these experiences can be traced back to a lack of recognition, compensation and formal training and support (Carvalho & Santos, 2022; Merga & Mason, 2021).

In contrast to the existing literature on peer mentoring in higher education, which focuses on one-on-one or small group mentoring, this research suggests that peer mentoring of larger groups can also play an important role in assisting students to transition to higher education in engineering. The description of the program and benefits students derived from it offer other institutions with limited resources some ideas

about how a peer mentor program can be implemented. Peer mentoring is a powerful strategy to enhance student success and engagement in higher education. By connecting students with experienced peers, colleges and universities can foster academic achievement, boost retention rates, and create a strong sense of belonging.

For this case study, it is recommended that formal mechanisms be implemented to track all first-year students throughout the year to ensure that they have functioning access to a mentor. To address the initial anxiety first-year students experience when they first encounter the university environment, furthermore, peer mentors need to be incorporated into orientation day programs. To benefit the students even further, the peer mentor program should be implemented during the initial weeks of the academic year.

The findings revealed that many first-year students were not aware of the peer mentoring programme, and if they were, they did not know how to reach out if they did not have a mentor. Better marketing and communication need to be established so that students can easily reach out throughout the year. It is also recommended that more regular check-ins with mentors take place and that, through formal feedback and engagement, the programme is adapted throughout the year to address issues and challenges. Overall, the study has revealed that peer mentoring can make a difference in addressing the difficulties experienced by first-year engineering students at South African higher education institutions. The experiences of the participants can be used by other institutions to consider, design and implement their mentoring programmes.

6 References

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