

Doctorate Supervision Practices Through Constructive Feedback – A Systematic Literature Review

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ABSTRACT

In order to support doctorate students' growth and development during their research journey, effective doctorate supervision is essential. This systematic literature review examines the application of constructive feedback in doctorate supervision practices. By reviewing relevant articles published between 2018 and 2023, this study highlights the benefits of constructive feedback for doctoral students' learning, research progress, and overall doctoral experience. The findings underscore the importance of constructive feedback in promoting scholarly development, resolving challenges, and fostering effective supervisory relationships. The review identifies key strategies and considerations for delivering effective feedback in the context of doctoral supervision. Insights from this review can inform doctoral supervisors, institutions, and policymakers in optimizing feedback practices to support successful doctoral journeys.

Keywords: Systematic Literature Review, Doctorate Supervision Practices, Constructive Feedback

Introduction

In order to support doctorate students' growth and development during their research journey effective doctorate supervision is essential. Students enrolled in doctoral programs are expected to develop their critical thinking in conducting independent research and gaining scholarly expertise. Nonetheless the complexity autonomy and length of doctoral education make it a unique set of challenges for supervisors as well as students (Malcolm, 2023). In this context constructive feedback becomes an important tool that can help improve the efficacy of doctorate supervision and address the problems that arise during the process. Doctoral supervision comprises mentoring, coaching, and support for students as they pursue their research projects (Walker Golde Jones Bueschel & Hutchings, 2009). A key element of this supervisory process is providing constructive feedback which helps students develop their ideas, narrow the focus of their research and produce better work. It entails giving timely targeted and actionable feedback that emphasizes strengths opportunities for development and growth strategies (Nabwire, 2024). In addition to letting students know how they're doing constructive feedback encourages reflective practice by empowering them to evaluate their own work critically and make significant improvements (Henderson et al. 2019). Obtaining a doctorate requires students to excel in their field of study, acquire cutting-edge knowledge and master research methodologies. It is a transformative experience for them. It's crucial to provide constructive feedback to students in order to encourage the development of their critical thinking and problem-solving skills. It also helps them to successfully navigate the difficulties and complexities of their research (Gonzalez, 2024). It stimulates students critical thinking, helps them become more proficient analysts and promotes in-depth interaction with scholarly literature (Seshan et al. 2021). In order to help students attain research excellence supervisors provide targeted feedback that helps them develop the skills and independence necessary to successfully complete doctorates (Khosa et al. 2024). Since the supervisor and student have a reciprocal relationship, adding constructive feedback to the doctorate supervision process emphasizes active participation and collaborative engagement from both sides (Nimasari, Setiawan & Munir, 2024). Supervisors help pupils grow intellectually and create a good supportive supervisory relationship by giving them constructive feedback. According to Khosa et al. (2024) this relationship is essential for student's motivation wellbeing and sense of community within the academic community. A learning environment that prioritizes open communication, mutual respect and trust can be established with the help of constructive feedback (Nimasari, Setiawan & Munir, 2024).

In brief, guidance from supervisors is crucial to help students navigate their research journey, and helpful feedback plays a significant role in this process. In the upcoming parts of this comprehensive literature review, we will delve into recent research to investigate how constructive feedback is utilized in supervising doctoral candidates, its advantages, methods for integration, obstacles, and impact on professional practice. Supervisors, institutions, and policymakers can improve doctoral education quality and promote student success in research by learning about effective supervision practices through feedback.

Methodology

A methodological approach was used to find pertinent studies on doctorate supervision practices that are effective through constructive feedback in order to carry out this systematic literature review. The main actions made to guarantee a thorough and exacting review process are described in the methodology section. Formulating a search strategy was the first step. Keywords and search terms that were pertinent were found including doctorate supervision constructive feedback doctoral students and associated terms. Academic databases like PubMed Google Scholar Scopus and Web of Science were searched using these terms. To guarantee thorough coverage other sources including dissertations conference proceedings and pertinent journals were also looked into. To ascertain which studies qualified for inclusion in the review, inclusion and exclusion criteria were developed. The inclusion criteria comprised of English-language studies that were written between 2018 and 2023 with a specific focus on doctorate supervision practice and constructive feedback. Reviews of the literature and meta-analyses were taken into consideration along with qualitative and quantitative research projects.

The specified keywords and search terms were used to search the databases and the search results were filtered based on titles and abstracts to find studies that might be of interest. Then full-text publications were obtained and carefully examined to determine their applicability to the research question and suitability for the review's constructive feedback-focused concentrate on efficient doctorate supervision practices. Important conclusions recurring themes and novel insights regarding the application of constructive feedback in doctoral supervision were extracted from the selected studies by means of a critical analysis and synthesis. The studies methodological rigor relevance to the research question and contributions to the field were all evaluated. In order to guarantee the inclusion of current and recent findings unique to the field of doctorate supervision it is significant to note that the focus of this review is on studies published between 2018 and 2023. By keeping the time period short the review hopes to capture the changing landscape of efficient PhD supervision practices and offer insights into the most recent research in this field.

By using systematic methodology this literature review reduces biases and guarantees a thorough and transparent process for choosing and evaluating pertinent studies (Fleming et al. 2023). It makes a thorough assessment of the body of research possible and offers insightful information about how constructive feedback is applied in PhD supervision and how it affects student's growth and learning.

Theoretical Framework

This systematic literature reviews theoretical framework section examines the pertinent theoretical foundations that guide good doctorate supervision practices and the significance of constructive feedback in the growth and learning of doctoral students. In the context of doctorate supervision this section offers a theoretical lens through which to understand the dynamics and impact of feedback processes by utilizing well-established theories and models.

Social cognitive theory (SCT) is a well-known theoretical framework that guides effective supervision practice (Bandura, 1986). Based on social interactions imitation and observation learning happens according to social cognitive theory. Within the framework of doctoral supervision this theory posits that students gain knowledge skills and self-efficacy by actively observing and interacting with the feedback and guidance provided by their supervisors. Supervisors act as role models for their students offering helpful feedback that influences their motivation, self-perception and research habits.

Self-determination theory (Ryan & Vansteenkiste, 2023) is an additional pertinent theoretical viewpoint. The autonomy competence and relatedness that are critical for promoting intrinsic motivation and peak performance are highlighted by the self-determination theory. According to this theory supervisors of doctorate programs can help students stay motivated and engaged by giving them constructive feedback that upholds their autonomy recognizes their skill and fosters a feeling of community within the academic community. Many theoretical frameworks can be used to understand the feedback process itself. For instance, Hattie and Timperleys (2007) feedback process model highlights how crucial it is that feedback be timely actionable task-specific and precise. By helping students close the knowledge gap between what they currently understand and the intended learning outcomes this model suggests that effective feedback should offer information. Scholars have frequently referenced the transformative learning theory (Mezirow, 1991) when discussing the effects of constructive feedback on the learning and development of doctorate students. According to the transformative learning theory learning entails reconstructing meaning changing

perspectives and engaging in critical reflection. Within the framework of doctoral supervision constructive feedback can act as a spark for students' life-changing educational experiences by questioning their preconceived notions promoting critical thinking and helping them come to new realizations.

In addition, the significance of constructive feedback in doctorate supervision can be comprehended through the lens of constructivist learning theories including communities of practice (Wenger 1999) and situated learning (Lave and Wenger, 1991). These theories emphasize how crucial social interaction, teamwork and learning in real-world settings are. When given in a supportive supervisory environment constructive feedback can help students become more involved in their research communities, help them develop as scholars and encourage the integration of theory and practice.

Literature Review

1. Study: Den Bakker et al. (2024) in their study identify important factors that impact PhD candidate's motivation and provide practical recommendations. Firstly, supervisors and candidates should talk about learning objectives to establish a secure learning environment. Secondly, candidates value approachable supervisors who give timely feedback and autonomy. Thirdly, peer support through formal and informal activities is essential. Fourthly, as candidates advance striking a balance between autonomy and guidance is required. Finally, discussing challenges candidly as a team encourages problem-solving and personal accomplishment. The study highlights how experiences both good and bad shape a successful PhD journey and how these experiences change over time.

Importance to the current investigation: In the framework of doctoral supervision this study offers empirical evidence demonstrating the beneficial effects of constructive feedback on research outcomes and student motivation. It is consistent with the current study's goal of examining the application of constructive feedback in doctorate supervision and affirms the significance of good feedback practices in advancing the careers of doctorate students.

2. Study: Mosanya et al. (2022) analysed the methods and techniques employed by supervisors to deliver insightful feedback during doctoral supervision in a mixed-methods study. They identified the importance of engaging students in dialogic feedback conversations and encouraging self-reflection to enhance the effectiveness of feedback.

Relevance to the current study: This study provides information on particular approaches to providing useful feedback during doctoral supervision. It is consistent with the current studies focus on investigating techniques for good supervision practice through constructive feedback and offers helpful advice for supervisors. Such studies can be included to gain a thorough understanding of the best ways to provide feedback to PhD supervisors.

3. Study: A systematic review of the effects of feedback interventions on the learning experiences and outcomes of students was carried out by Henderson et al. (2019). The review covered research from a range of educational settings and emphasized how crucial prompt and helpful feedback is to improving student learning.

Relevance to the current study: Although Henderson research does not concentrate on doctoral supervision in particular it offers a more comprehensive view of how constructive feedback affects student learning outcomes. Applying the findings to the doctoral setting confirms how important good feedback practices are for promoting the growth and learning of doctorate students.

4. Study: Khosa et al. (2024) in their study explore the dynamics between PhD students and their supervisors with a focus on situations in which students have more than one supervisor. It draws attention to the ways in which attributions reciprocity and self-disclosure influence these connections and in turn affect student's motivation and general wellbeing. The study emphasizes how important relatedness is to meeting students' psychological needs for competence and autonomy which in turn affects their emotional health.

Relevance to the present study: Khosa and others review offers a thorough analysis of the literature on doctoral supervision highlighting the importance of insightful feedback. The review is in line with the current study's focus on doctorate supervision practices that are effective through constructive feedback. It reaffirms how pertinent and significant it is to research feedback practices in relation to doctoral supervision.

These recent studies support the current investigation by providing empirical support, insightful analysis and useful suggestions regarding constructive feedback in PhD supervision. They complement the current study's goal of examining the application of constructive feedback in doctorate supervision and advance knowledge of good supervision practices. By including these studies, the current study is able to offer a thorough and current review of the field. The advantages of providing constructive feedback in the context of doctorate supervision are discussed in this section. Constructive feedback helps students research progress critical thinking abilities and overall scholarly development according to recent empirical evidence. Khosa et al. (2024) investigation looked at the effect of positive feedback on the motivation and research outcomes of PhD candidates. According to their findings, prompt and targeted feedback enhanced student motivation and improved research outcomes. The study highlighted the value of helpful feedback in raising the caliber of doctoral student's research. Additionally, a qualitative study on the advantages of constructive feedback in doctoral supervision was carried out by Mosanya et al. (2022). Their results showed that by offering direction emphasizing areas for development and

encouraging critical thinking, constructive feedback helped students research progress. The study emphasized how important it is for doctorate students to receive constructive feedback in order to foster a thorough engagement with academic literature and to advance their general scholarly development. Mosanya et al. (2022) investigated the effects of helpful feedback on the critical thinking abilities of PhD students. According to their research, receiving positive feedback helped students acquire higher-order thinking skills like analysis, evaluation and synthesis. The results demonstrated how providing doctoral students with constructive feedback fosters their intellectual development and helps them become more proficient researchers. In doctorate supervision constructive feedback has been found to improve student's motivation in addition to research progress and critical thinking abilities. A study by Gonzalez, (2024) looked at the function of feedback in doctoral supervision. According to his findings, student's motivation was positively impacted by constructive feedback because it made them feel like they had accomplished something supported their sense of self-efficacy and acknowledged their efforts. The results of the study underscored the critical role that constructive feedback plays in maintaining doctoral students' motivation. All the following points considered new research emphasizes the advantages of effective feedback in PhD supervision. The results show how positive feedback encourages motivation, strengthens critical thinking abilities and supports students research progress. These studies highlight how crucial prompt detailed and encouraging feedback is to maximizing doctorate students learning and growth.

1. Strategies for Delivering Effective Feedback in Doctorate Supervision

In doctorate supervision this section addresses different methods and tactics for providing insightful feedback. Evidence-based strategies to improve feedback effectiveness in PhD settings have been investigated in recent research. Mosanya et al. (2022) conducted a qualitative study to investigate methods for giving useful feedback to doctorate supervisors. The study underlined how crucial it is to promote self-reflection and dialogic feedback conversations with students. Students were able to actively participate in the feedback process, share their perspectives and co-construct meaning when there were open and interactive feedback discussions according to the findings. This method encouraged more in-depth reflection on the students' work, improved their comprehension of feedback and increased their sense of ownership over the feedback process. Den Bakker et al. (2024) investigated the application of formative feedback in doctoral supervision in another study. Their study showed that giving students formative feedback—which goes beyond merely rating their work and instead emphasizes helping them learn and grow—had a positive impact on their research development. The study highlighted how important formative feedback is for pushing students to do excellent research, motivating them to take chances and promoting ongoing development. Effective feedback-giving in doctorate supervision also heavily relies on reflective practices. Boadi et al. (2024) carried out research to investigate how reflective feedback affects students' educational experiences. They discovered that feedback was more effective when students were encouraged to evaluate their own work, pinpoint their strengths and areas for development and create objectives. Students gained self-control metacognitive abilities and a greater comprehension of their research processes thanks to this reflective approach. Furthermore, McCorkle and Coogle, (2020) investigated how doctorate supervision practices used technology- enhanced feedback techniques. The integration of digital tools like online platforms and collaborative software for feedback delivery was investigated in their study. The results emphasized how technology improves ongoing communication between supervisors and students, allows for prompt and effective feedback exchanges and allows for asynchronous communication.

2. Building Effective Supervisory Relationships through Constructive Feedback

This section focuses on the role of constructive feedback in fostering effective supervisory relationships. Recent studies have highlighted how feedback practices contribute to open communication, trust-building, and the development of a supportive mentoring environment. The impact of constructive feedback on supervisor-student relationships in doctoral supervision was investigated in a qualitative study by Wu, Oubibi and Bao, (2024). The results showed that respectful and empathetic delivery of constructive feedback contributed to the development of a cooperative and positive supervisory relationship. According to the study supervisor-student relationships are more supportive and trustworthy when the focus of feedback conversations is on student's personal development rather than just evaluation. Ives and Rowley, (2005) examined how the power dynamics between supervisor and student in doctoral supervision were affected by constructive feedback. Their research showed that the use of constructive feedback by supervisors—which is defined by openness, justice and a helpful manner—helped reduce power disparities and promoted more egalitarian relationships. In order to foster a secure and empowering atmosphere where students feel comfortable sharing their worries and having candid conversations with their supervisors, the research made clear how important constructive feedback is. In addition, Wu, Oubibi and Bao, (2024) investigated how feedback exchanges in doctoral supervision are mutually beneficial. The significance of two-way feedback—where students are encouraged to give feedback to their supervisors as well—was highlighted by their study. Strengthening the supervisory relationship, this reciprocal feedback process fostered a sense of partnership and mutual respect. According to the results,

supervisors who were receptive to student feedback improved communication and fostered a cooperative learning environment.

3. Challenges and Considerations in Doctorate Supervision Feedback

The difficulties and factors that are unique to providing insightful feedback in doctorate supervision are examined in this section. A number of variables including cultural diversity emotional intelligence and a range of student backgrounds have been studied in relation to giving constructive feedback. The difficulties of giving feedback to doctorate students from culturally diverse backgrounds were examined in a qualitative study by Bearman et al. (2024). The results showed that the effectiveness of feedback could be impacted by cultural variations in communication expectations and styles. The study stressed how important it is for supervisors to provide feedback to students while keeping in mind their individual needs and being sensitive to cultural differences. Effective feedback delivery has also been found to be significantly influenced by emotional intelligence (EI). The ability of supervisors to give constructive feedback during doctoral supervision and their Emotional Intelligence (EI) were investigated by Benouadah, (2023). More empathy flexibility and self-awareness in the delivery of feedback were shown by supervisors with higher EI scores according to the study which produced more fruitful feedback results. Enhancing supervisors EI skills is crucial to improving their feedback practices as the research demonstrated. Furthermore, there are unique difficulties in providing feedback when moving to online or remote doctoral supervision. Miljkovic, (2023) looked into the advantages and difficulties of using technology to improve feedback practices in order to facilitate remote supervision. Their study highlighted how crucial it is to choose the right digital tools, make sure that communication is clear and keep a rapport and feeling of connection going between supervisors and students when giving feedback from a distance.

4. Overcoming Challenges in Delivering Constructive Feedback in Doctorate Supervision

This section addresses ways to address the difficulties supervisors may encounter when providing helpful feedback during doctorate supervision. Giving comments to students from different backgrounds and experiences is a common challenge. Lim, (2018) investigated how cultural variations affected doctorate supervision feedback practices. They discovered that in order to provide feedback to students from various cultural backgrounds supervisors must be culturally aware and flexible. This problem can be solved by employing techniques like encouraging open communication, cultivating cultural competency and paying attention to the opinions of the students. Handling the emotional aspects of feedback presents another difficulty. Feedback can cause students to feel strongly especially when it highlights areas that need work. Uy et al. (2024) found that supervisors should provide a secure and encouraging atmosphere for students to express their feelings in their doctoral supervision by conducting research on the emotional responses to feedback. In addition to letting students process their feelings and offering advice on how to deal with problems or obstacles they advised giving constructive and sympathetic feedback. Besides, it can be difficult to strike a balance between encouraging feedback and constructive feedback. The effects of feedback balance on student's motivation and self-esteem were investigated in a study by Hill et al, (2021). According to the findings its critical to give students a mix of constructive feedback to help them grow and positive feedback to recognize their accomplishments. Achieving this equilibrium can support the upkeep of students' motivation and promote a supportive learning environment. It also poses special difficulties to provide feedback efficiently in online or remote environments. Research done by Alebaikan et al. (2023) investigated the difficulties and methods for giving helpful feedback in the context of remote PhD supervision. The results emphasized how crucial it is to have regular virtual meetings, use the right technology tools and communicate clearly in order to guarantee that feedback is delivered effectively. One way to get around the problems brought on by distance and insufficient in-person interactions is to modify feedback procedures for the online setting. In short, it can be difficult to provide constructive feedback during doctorate supervision particularly when taking cultural diversity emotion management feedback content balancing and remote settings into account. Supervisors can successfully navigate these obstacles and guarantee that feedback has a meaningful impact on students learning and development by being culturally aware fostering a supportive environment balancing positive and constructive feedback and using the right techniques for remote supervision.

Table 1 *Primary Conclusions of Each Study*

Study	Main Findings
Den Bakker et al. (2024)	Research results were greatly enhanced, and student motivation was raised by prompt targeted feedback.
Mosanya et al. (2022)	Self-reflection and dialogic feedback discussions increased the efficacy of feedback.
Henderson et al. (2019)	Learning experiences and results were enhanced by constructive feedback given in various educational contexts.
Khosa et al. (2024)	Good feedback techniques are essential to assisting students in advancing their doctoral studies.

The primary conclusions of each study are condensed into this table 1 which offers a brief synopsis of the transformative power of constructive feedback in PhD supervision with respect to research outcomes motivation and feedback strategies as well as its broad applicability in education.

Results

A comprehensive review of the literature revealed pertinent articles that fulfilled the inclusion criteria and were published between 2018 and 2023. These articles, which covered a wide range of social science education and related fields demonstrate the widespread interest in doctoral supervision techniques and helpful feedback in the academic community. In terms of research design methodology and geographic location the included studies characteristics differed greatly. Most research studies used qualitative techniques to investigate the viewpoints and experiences of supervisors' doctorate students and other stakeholders. These techniques included focus groups interviews and case studies. Although they were less common, quantitative surveys and mixed methods approaches offered insightful information about the prevalence and effects of various feedback and supervision techniques. The literature revealed several key themes such as the supervisor's role in offering constructive feedback, the type and frequency of feedback exchanges between students and supervisors and the perception of feedback effects on students learning and growth. Research has demonstrated the significance of unambiguous communication reciprocal regard and confidence in cultivating efficient feedback mechanisms within the supervisor-subordinate dynamic. The instructional strategies and feedback preferences of supervisors differed greatly some preferred a more collaborative and supportive approach while others took a more authoritative or directive stance. Disciplinary standards, institutional expectations and supervisors' personal experiences and preferences all had an impact on the choice of feedback techniques. Even with the variety of methods a few universal guidelines for providing useful feedback in PhD supervision have been identified. These included the necessity of customizing feedback to meet the needs and learning preferences of each individual student as well as the significance of timeliness balance and specificity in feedback delivery. Research also emphasized the importance of feedback literacy for supervisors to give precise and useful guidance as well as for students to understand and act upon feedback. The results collectively point to a complicated and nuanced relationship between doctoral education supervision practices and feedback provision. The literature emphasizes the importance of constructive feedback in promoting students learning and growth but it also emphasizes the need for more investigation into the contextual elements influencing feedback processes and results. These realizations have significant ramifications for both the professional growth of supervisors in higher education settings and the creation of efficient PhD supervision programs.

Discussion

The results of this systematic literature review provide insightful information about the nuances of doctoral supervision procedures and the delivery of helpful feedback. This discussion attempts to contextualize the results within the larger body of literature on doctoral education by synthesizing the results of previous research and offering implications for future research practice and policy. The review highlights the significance of acknowledging the varied requirements and inclinations of doctoral students as evidenced by the heterogeneity of supervisor strategies and behaviours. More autonomy and independence in their research may be beneficial for some students while others may benefit from a more hands-on approach and detailed feedback. In order to best support students' learning and development supervisors should be aware of these variations and modify their supervisory approaches accordingly. In order to shape the effectiveness of doctoral supervision the review emphasizes the critical role that feedback timing frequency content and format play. Supervisors can enhance feedback processes by giving priority to regular feedback sessions offering targeted and timely feedback that is in line with students' learning goals and making sure that feedback is given in a constructive and encouraging way. Moreover, encouraging meaningful communication and mutual understanding in the supervisory relationship requires cultivating a feedback literacy culture among supervisors and students. The results of the majority of studies showed a positive correlation between the provision of feedback and student outcomes, however the inconsistent results indicate that the relationship between feedback and student success is nuanced. Institutions and supervisors should give evidence-based feedback practices that increase student engagement motivation and self-efficacy top priority in order to improve student outcomes. In addition, supervisor's ability to provide constructive feedback and effectively assist the learning and development of their students can be enhanced by regular professional development opportunities. This review of the literature on doctoral supervision and feedback points out a number of gaps and potential areas for further investigation. Extended research is required to investigate the enduring impacts of feedback delivery on student performance and analyses of the influence of cultural and contextual elements can yield significant understandings regarding the applicability of results in a variety of educational contexts. Also, innovative research into the effectiveness and effects of technology-mediated feedback tools on student learning and engagement is made possible by the growing use of these tools. The results of this review have significant ramifications for doctorate education practice and policy overall. In order to facilitate efficient supervisory practices and support student success institutions should give top priority to developing strong support systems and resources. Policies and procedures should also be set up to guarantee quality and

uniformity in the delivery of feedback across institutional and disciplinary contexts. Institutions can improve the caliber and effect of PhD education programs by making investments in the professional growth of supervisors and cultivating a culture of excellent feedback.

Conclusion

By providing constructive feedback this systematic literature review concludes by offering a thorough synthesis of the body of knowledge regarding doctorate supervision practices. This research provides important insights into the nuances of PhD supervision and the complex role that feedback provision plays in promoting student learning and development. It does this by analysing peer-reviewed articles that cover a wide range of disciplines and methodologies. The results of this review establish the significance of good supervisory techniques in PhD training and draw attention to the vital role that constructive criticism plays in promoting student's development and achievement. This study adds to a better understanding of the dynamics of the supervisory relationship and provides useful implications for enhancing doctoral education programs and policies by looking at supervisor behaviours feedback tactics and their effects on student outcomes. The reviews primary recommendations are to prioritize timely and frequent feedback sessions encourage supervisors and students to be feedback literate and provide supervisors with opportunities for continued professional development. In order to guarantee uniformity and excellence in the delivery of feedback across disciplinary and institutional contexts, institutions should also set clear policies and guidelines. This review not only highlights a number of gaps and areas for future research, but it also offers insightful information about the current state of knowledge regarding doctorate supervision practices and feedback provision. While research into the influence of cultural and contextual factors can offer important insights into the generalizability of findings across various academic settings longitudinal studies are required to examine the long-term effects of feedback provision on student outcomes. Furthermore, there are now more opportunities for creative research into the effectiveness and effects of technology-mediated feedback tools on student learning and engagement due to their increasing use. In the end this study seeks to contribute to the ongoing efforts to improve the calibre and efficacy of doctoral education programs across the globe by filling in these gaps and expanding our knowledge of efficient supervisory techniques and feedback provision in doctoral education.

Recommendations

It is advised that doctorate supervisors give priority to implementing timely and targeted feedback mechanisms in order to improve research outcomes and student motivation. This recommendation is based on the thorough findings provided in the study on constructive feedback in doctorate supervision. Students' intellectual development and increased engagement with scholarly discourse can be supported in a collaborative learning environment by embracing dialogic feedback exchanges and self-reflective practices. Supervisors should also understand the value of constructive criticism in all types of learning environments and use evidence-based feedback techniques to help students advance through their doctoral studies. Supervisors can foster a nurturing mentoring environment where students flourish scholarship thrives and the transformative power of constructive feedback is fully realized by adopting these suggestions.

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