

An Analysis of the Factors Influencing the Quality of Doctoral Education by the Relationship Between University Supervisors and Students

Lan Li

School of Public Administration, Sichuan University, Chengdu 610064, China

Abstract: In the current higher education system, the quality of doctoral student training has received attention from all sides. Especially the relationship between mentors and doctoral students plays a crucial role in determining their research outcomes and career development. This paper will systematically analyze how this relationship shapes the academic journey and career trajectory of doctoral students, and then explore how to improve the overall quality of doctoral education by improving the mentor-student relationship.

Keywords: Mentor-student relationships; Doctoral students; Training quality; Influence factors

In today's rapidly developing world of globalization and information, the scientific research environment is becoming increasingly competitive, and doctoral students are facing increasing challenges and pressures. Research has shown that effective mentor support can significantly improve doctoral students' research productivity, innovation ability, and the rate of academic article publication. At the same time, the emotional and psychological support of mentors greatly helps students overcome difficulties in the research process and maintain a positive academic attitude.

1. Research on the connotation of teacher-student relationship in doctoral education

1.1 Mentorship relationship

In doctoral education, the interaction between teachers and students is the core of the training process. This relationship is not only academic guidance and communication, but also a deep embodiment of educational value and academic value. The core of the mentorship relationship lies in its two-way and interactive nature. Excellent guiding teachers can not only impart knowledge, but also stimulate students' academic interest and research potential through heuristic teaching methods, promote students' ability to think independently, and enable them to play an active and creative role in academic exploration.

1.2 Cooperative relationship

In modern higher education, the teacher-student relationship is no longer just a one-way knowledge transmission, but has evolved into a collaborative partnership of participating in research projects, learning together, and growing together. In this collaborative model, mentors are providers of knowledge and experience, as well as leaders in student thinking patterns and research skills. Through in-depth interaction with students, mentors aim to promote students' academic development, while also obtaining opportunities for growth and reflection in teaching and research practice. Students, under the guidance of their mentors, actively engage in research or experimental design, and exercise their research and innovation abilities by solving practical problems in the execution process.

1.3 Employment relationship

The evolution of the teacher-student relationship in the doctoral education system shows a shift from the traditional master-apprentice model to the modern employment model. This change partly reflects the profound changes in social values and social structure, especially under the promotion of utilitarianism, where the teacher-student relationship is regarded as an employment or contractual relationship. The interaction between mentors and students is more based on pragmatic considerations of completing research

tasks or achieving project goals. This relationship model may lead to the interaction mechanism between teachers and students being too utilitarian, thereby ignoring the essence of education and the purity of academic exploration.

2. Factors Influencing the Quality of Doctoral Training by University Mentor-Student Relationship

2.1 Mentor's guidance style

In the post-epidemic era where global technology competition is intensifying and the socio-economic situation is in urgent need of recovery, doctoral education, as an important part of the national innovation system, shoulders the core mission of cultivating high-level talents. As an academic link between the training units of the department and individual doctoral students, mentors play a crucial role in promoting the internalization of academic professional identity among doctoral students and ensuring the quality of talent cultivation. The academic interests, professional competence, and research abilities of doctoral students all require mentors to invest sufficient time and energy to build a positive teacher-student interaction. Therefore, the scale of mentor guidance is directly related to the depth and quality of doctoral research training. Deviating from the appropriate scale may make the quality of doctoral education worrying. For the current higher education, the teaching strategy of school mentors is very important for the academic progress and personal development of students. Generally speaking, authoritative doctoral supervisors tend to focus more on defining research topics and methods, setting clear standards, and providing students with a clear path and a good learning environment during the research process. However, such an approach would limit students' creativity and independent learning ability. For *laissez faire* mentors, they will participate in student research to the minimum extent, giving students greatest autonomy and freedom to explore, which is more suitable for students who have clear research goals and strong autonomy. However, for students with weak professional foundations who require planning and guidance, a lack of feedback may lead to confusion and frustration on their academic path. The guidance style of a mentor is also influenced by their personal experience, academic background, and educational beliefs, which determine whether they tend to prioritize theoretical exploration or practical skill development, which greatly affects the academic performance and career preparation of doctoral students.

2.2 Communication frequency and communication methods

The effectiveness of communication is the core of knowledge transfer and skill development, which greatly promotes students' academic confidence and independent problem-solving ability. In the process of continuous communication, mentors can help students better carry out academic research and overcome difficulties in research. Generally speaking, communication between doctoral students and supervisors is in the form of email, face-to-face conversations, online videos, telephone discussions, etc. These efficient communication methods can help supervisors promptly identify problems encountered by students in research, further enhancing students' involvement and enthusiasm for the project. However, when choosing communication methods, mentors need to consider students' acceptance and preferences in order to balance the efficiency and effectiveness of communication. Written feedback is more suitable for guiding complex technical issues, while informal dialogue tends to stimulate students' innovative thinking and alleviate their academic pressure. Regardless of the methods used, ensuring high-quality and appropriate communication is crucial for the academic achievement of students.

2.3 Academic support and resource provision

In the modern academic field, the interaction between university supervisors and doctoral students significantly affects the quality of education. The academic support of mentors mainly manifests in in-depth guidance on doctoral research topics and imparting research techniques. In the process of selecting research topics and directions, doctoral students often rely on the insight and experience of their supervisors. Experienced mentors can accurately evaluate the cutting-edge and practical value of research topics, leading students in selecting topics that are conducive to their academic progress. In addition, the role of mentors in research methods and technical guidance cannot be ignored. Through comprehensive methodological training and practical guidance, mentors not only assist doctoral students in mastering complex research skills, but also enhance their ability to solve academic problems, which is crucial for students to independently conduct scientific research work. In terms of resource provision, the support of mentors is also indispensable. This includes providing experimental equipments, database access, and fund for academic conferences. Adequate resource support enables doctoral students to conduct experimental operations and data collection more smoothly, significantly promoting research progress. By utilizing academic network resources, mentors provide students with opportunities to engage in cutting-edge international research and lead or fund their participation in domestic or international academic conferences. This not only broadens their research horizons but also enhances their academic communication ability.

2.4 Psychological counseling and emotional support

In the process of conducting academic research, doctoral students often encounter various problems such as unstable experimental results, unclear research directions, and obvious differences between results and expectations. These problems can have an impact on their physical and mental health, leaving them a huge psychological burden. In such a situation, the mentor's responsibility shifts towards providing emotional comfort and psychological support to students. Mentors can fully understand students' psychological state and research progress through regular communication, help them solve problems, provide encouragement and strategic advice. The emotional support provided by mentors mainly includes their concerns for students' personal lives and helping students when facing challenges. This kind of mentor-student interaction can better enhance the connection between each other and make students feel secure. At the same time, mentors should also encourage students to participate in some social activities outside of school, help them establish connections with society and create a safe environment for students to actively express their feelings, and answer questions during discussions.

Conclusion

In summary, the relationship between supervisors and students plays a crucial role in the process of doctoral guidance. A harmonious relationship between supervisors and students can promote the physical and mental health of doctoral students and effectively cope with problems from learning, living and employment as other aspects. Over time, the mentor's responsibility has evolved from simple academic guide to a guide and leader of student on career paths. In this role, the mentors need to provide academic resources and professional guidance, and more importantly, help students face academic pressure through psychological and emotional support, so as to promote their growth in all aspects.

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