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Analysis of the Dilemmas and Causes of "Supervisor-Counselor" Collaborative Education in Universities in the Context of AI

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Abstract: The deep application of large language model (LLM) technology has injected new momentum into the reform of graduate education while also posing profound challenges to the traditional "supervisor-counselor" collaborative education model. Based on synergy theory and game theory, and drawing on existing literature and typical practical cases, this paper systematically analyzes the practical dilemmas and underlying causes of "supervisor-counselor" collaborative education in universities. The study finds that the current "supervisor-counselor" collaborative education is mired in a triple "zero-sum game" dilemma, in which conceptual gaming leads to goal fragmentation, responsibility gaming leads to boundary ambiguity, and evaluation gaming leads to dispersed motivation. This paper further analyzes the deep logic of dilemma formation from the institutional, technological, and cultural dimensions. Breaking the zero-sum game of "supervisor-counselor" collaboration and moving toward a technology-empowered positive-sum game has become an urgent task for enhancing the management and service capacity of graduate education.

Keywords: Large language models, supervisor-counselor collaboration, collaborative education, zero-sum game, graduate education.

1. Introduction

Graduate education stands at the apex of the national education system and is the core link in implementing the fundamental task of fostering virtue through education. As the two most direct and critical forces in the graduate cultivation process, the collaborative effectiveness of supervisors and counselors directly determines the quality of high-level talent cultivation [1]. However, the persistent inertia of "valuing scientific research over ideological and political education" and the "supervisor full-responsibility system" in university graduate management has led to ambiguous responsibility boundaries between supervisors and counselors, insufficient information sharing, and formalistic collaboration, with the "two separate sheets of skin" phenomenon being quite prominent. At the same time, large language models represented by ChatGPT and Deepseek are profoundly reshaping the educational landscape. Their powerful capabilities in natural language understanding, multi-source data fusion, and intelligent decision support provide unprecedented technological leverage for solving the difficulties of "supervisor-counselor" collaboration [4]. This paper delves deeply into the deep-seated mechanisms underlying the generation of "supervisor-counselor" collaborative education dilemmas, aiming to provide an analytical foundation for the subsequent design of optimization paths.

2. Analytical Framework: An Integrated Perspective of Synergy Theory and Game Theory

This study is supported by synergy theory, human-machine symbiosis theory, and game theory, thereby constructing a three-dimensional analytical framework of "conceptual gaming – responsibility gaming – evaluation gaming."

Synergy theory, founded by physicist Hermann Haken, emphasizes that subsystems within a system can generate overall emergent effects through nonlinear interactions, namely the "1+1>2" synergistic effect [5]. Introducing this theory into the field of graduate education, the "supervisor-counselor" collaborative education system consists of the supervisor subsystem and the counselor subsystem, and the mode of interaction between the two determines the overall level of educational effectiveness. When the two parties have aligned goals, interoperable information, and coordinated actions, the system produces a positive-sum synergistic effect; conversely, it may fall into a zero-sum or even negative-sum game.

Game theory, in turn, provides an analytical tool for interpreting the strategic choices of both parties under the constraints of limited resources and differentiated evaluations. In the "supervisor-counselor" collaborative field, supervisors and counselors each face different assessment pressures, resource constraints, and role expectations, and their behavioral choices are not entirely driven by educational ideals but are largely shaped by the institutional incentive structure. When the institutional design fails to incorporate collaborative behaviors into positive incentives, the rational choice for both parties is inevitably to prioritize the completion of their respective core assessment indicators, marginalizing collaborative behavior.

Human-machine symbiosis theory further suggests that the entry of large language models as a new variable into the collaborative system may reshape the original gaming landscape: on the one hand, technology can provide an information-sharing infrastructure for both parties, reducing communication costs; on the other hand, technology may also be used to reinforce their respective "territorial" control, further solidifying responsibility boundaries.

3. The Triple Gaming Dilemma of "Supervisor-Counselor" Collaborative Education

3.1. Conceptual Gaming: Goal Conflict between Academic Priority and Holistic Development

The primary obstacle to "supervisor-counselor" collaboration lies in the lack of value consensus, the core of which is the persistent tension between the "academic priority" cultivation view and the "holistic development" education view. In graduate cultivation practice, the primary concern of the supervisor group is usually focused on students' academic output and research ability training, while ideological and political education, mental health care, and the like are regarded as "soft tasks" or relegated to the counselor's responsibility domain. Jiao Li's research points out a significant deviation in the role perception between supervisors and counselors, with supervisors tending to position themselves as "academic guides" while projecting the role expectation of "ideological guides" onto counselors [6]. Li Lijian et al.'s analysis of the medical graduate student population shows that clinical supervisors, burdened with heavy teaching duties, often narrow "transmitting the Way" to "transmitting skills," with limited cooperation regarding the medical humanities education carried out by counselors; the particularity of the disciplinary field further exacerbates the conceptual gap [7].

3.2. Responsibility Gaming: Boundary Ambiguity between Professional Guidance and Management Services

The unclear boundary between the responsibilities of supervisors and counselors is the second key crux of collaborative failure. In areas such as mental health care, career planning guidance, academic norm education, and daily behavior management, there are extensive overlapping domains of responsibility. Both parties tend to push responsibilities in these ambiguous zones to the other, believing that "this matter belongs to the other party," thereby creating a vacuum in education. There is no lack of such cases in practice: a graduate student experiences severe anxiety due to research setbacks; the supervisor believes this falls under psychological counseling and suggests the student seek support from the student affairs system; after taking on the case, the counselor finds it difficult to intervene precisely due to a lack of understanding of the student's specific research situation; the student is then tossed between the two sides without receiving effective help [2].

3.3. Evaluation Gaming: Standard Differences between Quantified Output and Process Empowerment

Supervisor assessment relies heavily on explicit academic output indicators such as paper publications, the level and funding of research projects, and patent applications; counselor assessment, on the other hand, emphasizes management performance indicators such as safety and stability, employment rates, and Party and Youth League building. The two evaluation systems operate independently of each other, and neither incorporates the "effectiveness of supervisor-counselor collaborative education" into the core assessment dimensions. From the perspective of game theory, under conditions where assessment indicators are mutually exclusive or at least non-overlapping, the rational behavioral choice of both supervisors and counselors is inevitably to prioritize the completion of their own strictly assessed "hard indicators." Collaborative education behavior—no matter how important it is in fact for student development—inevitably becomes an "extra burden beyond the eight-hour workday" as long as it is not included in the evaluation system [8]. Under the "Double First-Class" construction orientation, supervisors face increasingly intensified pressure for research output assessment, and the allocation of their time and energy naturally tilts toward quantifiable academic indicators; counselors' work focus is firmly anchored by the "safety baseline" mentality, where preventing incidents takes precedence over achieving excellence in education. As a result, both parties in collaborative education lack the institutional motivation to invest, and the independence and closure of the evaluation systems fundamentally lock in the zero-sum game pattern between "supervisors" and "counselors."

4. Practical Manifestations and Deep-Seated Causes of the Dilemmas

4.1. Practical Manifestations: A Concrete Presentation of the Fourfold Dilemma

4.1.1. The hollowing-out of the Collaborative Concept

Collaborative education remains at the level of document transmission and slogan advocacy, failing to be internalized into the action consciousness of supervisors and counselors. Chen Lei et al. point out that although most universities have mentioned "supervisor-counselor collaboration" in their institutional texts, they often lack supporting implementation rules and promotion mechanisms; the collaborative conceptis "written on paper and hung on the wall" and struggles to take root [2]. When collaboration remains in a suspended state as an administrative requirement, its actual effectiveness inevitably depends on individual consciousness, and consciousness without institutional guarantees is often unsustainable.

4.1.2. The Fragmentation of Collaborative Mechanisms

There is a lack of stable, institutionalized, and normalized communication channels and collaboration processes. Shi Weihua's research indicates that supervisor-counselor communication in most universities currently exhibits a distinct "event-driven" characteristic—only when students show obvious "problem signals" such as academic difficulties, psychological crises, or disciplinary violations do both parties passively initiate communication; daily information exchange and joint assessment are severely lacking [3]. The fragmentation of mechanisms is a direct reflection of responsibility gaming: precisely because there is no consensus on "who is responsible for a certain task," the collaboration process cannot be institutionalized and routinized.

4.1.3. The Isolation of Platform Resources

The educational administration management system, graduate student information platform, student affairs system, and mental health platform are divided into silos and are not interconnected, forming separate data islands. The student data visible to the supervisor end (course grades, thesis progress) and the student data held by the counselor end (daily

behavior, psychological assessments, social practice) cannot be merged, and any judgment made by either party based on partial information is likely to be inaccurate. The application of intelligent technologies such as large language models also remains at the level of sporadic exploration, lacking systematic platform support and unified norms.

4.1.4. The Involution of Collaborative Utility

Limited collaborative behaviors often remain at the superficial level of exchanging transactional information—such as reporting student leave or disciplinary violations—failing to touch upon the organic integration of in-depth academic guidance and value leadership. Supervisors and counselors belong to the academic field and the administrative field, respectively; if their collaboration remains at the level of information notification without joint assessment of student cultivation plans, they fall into the involution dilemma of "cooperation without collaboration" and "communication without consensus," consuming both parties' energy without generating genuine educational added value.

4.2. Deep-Seated Causes: The Triple Overlay of Institution, Technology, and Culture

The above dilemmas are not execution deviations at the operational level but rather a structural outcome of the long-term intertwining and layer-by-layer superposition of institutional, technological, and cultural factors.

4.2.1. At the Institutional Level

normative deficiency and implementation attenuation. There has long been a lack of operational normative documents specifically targeting "supervisor-counselor" collaborative education within graduate education management. Although relevant Ministry of Education policies have set forth overall requirements for supervisors' duty to foster virtue and the construction of counselor teams, they lack detailed guidance on "how to collaborate specifically," making it difficult for universities to find clear institutional leverage during implementation. There is a significant transmission attenuation effect from national policy to university regulations and then to departmental implementation rules. Kang Xinxing clearly points out that the absence of collaborative assessment indicators is the core institutional root of mechanism failure [8].

4.2.2. At the Technological Level

platform lag and data barriers. The existing construction of campus informatization mostly follows the path of "department-led, separate construction"; the Academic Affairs Office, Graduate School, Student Affairs Department, and Information Center each develop or procure systems, and the technical architectures and data standards are mutually incompatible. The long-established pattern of "data departmental ownership" means that even technically feasible data integration faces numerous obstacles in organizational coordination. The introduction of large language model technology has further exacerbated the complexity—under the condition that the data foundation has not yet been integrated, the empowering effects of large language models are difficult to release. At the same time, ethical issues related to generative AI, such as privacy protection boundaries, algorithmic interpretability, and the attribution of human-machine responsibility, have yet to be clarified, leading universities to adopt a cautious, wait-and-see attitude in practice. Parker et al.'s research also reveals the dual uncertainties of technological adaptation and role positioning faced by graduate supervisors when using ChatGPT [9].

4.2.3. At the Cultural Level

cognitive biases and trust deficit. Supervisors and counselors belong to different professional communities, and the long-standing management tradition of "each managing their own section" has formed thick cultural barriers. The traditional supervisor-student relationship endows supervisors with considerable academic authority, leading some supervisors to hold an exclusive or dismissive attitude toward "non-academic personnel" intervening in the entire graduate cultivation process; the counselor group, due to a lack of disciplinary background, may lack confidence and discourse power in engaging in in-depth communication with supervisors. Wang Hui et al.'s investigation at an agriculture and forestry university vividly illustrates this trust deficit: some interviewed supervisors believed that counselors "do not understand the specialty" and harbored doubts about their effective participation in graduate cultivation; counselors, on the other hand, generally felt "three inches shorter" in front of supervisors, often limiting communication to transactional reporting and not daring to discuss cultivation concepts in depth [10]. Notably, the intervention of large language models may, in certain contexts, exacerbate the trust crisis—one party may worry that the other is "using AI tools to expand its own territory," causing the cultural gulf to further solidify under the catalysis of technological anxiety.

5. Conclusion and Discussion

This study demonstrates that although large language model technology has brought a powerful technological imagination for "supervisor-counselor" collaborative education, the current collaborative practice remains mired in the zero-sum game dilemma of conceptual gaming, responsibility gaming, and evaluation gaming, manifesting at the practical level as the hollowing-out of collaborative concepts, fragmented mechanisms, isolated resources, and involution of utility. The emergence of these dilemmas is not accidental but rather a structural consequence of the long-term intertwining and mutual reinforcement of insufficient institutional supply, lagging technological platforms, and a deficit in cultural trust. Breaking the zero-sum game between "supervisors" and "counselors" urgently requires a synergistic effort from the three dimensions of institutional reconstruction, platform integration, and cultural reshaping, guided by the values of precision, synergy, and integration, to construct a new positive-sum symbiotic educational ecosystem driven by large language models. Subsequent research can further focus on the differentiated manifestations of "supervisor-counselor" collaborative dilemmas in different types of universities and disciplinary fields, as well as the effectiveness and ethical boundaries of large language model technology in specific collaborative scenarios, providing a more adequate basis for the precise design of optimization pathways.

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