

PATH DIFFERENTIATION AND EFFECT EVALUATION OF CULTIVATION MODE REFORM FOR GRADUATE STUDENTS' RESEARCH INTEREST: A LONGITUDINAL CASE STUDY BASED ON GUANGDONG UNIVERSITY OF FOREIGN STUDIES

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Abstract: The stimulation and cultivation of graduate students' research interest is a core issue in the cultivation of top-notch innovative talents. Addressing the methodological limitation of existing literature that lacks longitudinal comparative research on evolutionary trajectories, this study takes economics and management graduate students at Guangdong University of Foreign Studies as case subjects, adopts a longitudinal qualitative research method, and conducts three rounds of follow-up interviews over 18 months with six graduate students from two types of cultivation programs (academic degree and professional degree), systematically examining the dynamic evolutionary trajectories of research interest and their key mechanisms of transformation under different cultivation modes. The findings reveal that: (1) Under the two cultivation modes, graduate students' research interest presents differentiated longitudinal evolutionary trajectories — the academic degree mode exhibits an “initial rise then fall” inverted U-shape, while the professional degree mode exhibits a “gradual rise then stabilization” asymptote shape; (2) Cultivation modes shape the evolutionary trajectories of research interest by influencing the frequency, type distribution, and transformation efficacy of key events; (3) The two modes each have their own advantages and limitations across three dimensions—interest stimulation efficiency, maintenance resilience, and transformation efficacy—and there is no single optimal mode. This study provides empirical evidence and practical pathways for universities to design differentiated graduate cultivation modes.

Keywords: Graduate students' research interest; Cultivation mode; Path differentiation; Effect evaluation; Longitudinal case study

1 INTRODUCTION

The stimulation and cultivation of graduate students' research interest is a core issue in cultivating top-notch innovative talents. However, alongside the continuous expansion of graduate enrollment, graduate students have increasingly exhibited intensified utilitarian learning tendencies, insufficient academic innovation motivation, and a widespread lack of research interest. Studies have found that the overall level of graduate students' academic interest is relatively low, and graduate supervisors generally find it difficult to identify students with genuine academic interest [1]. One possible explanation for this predicament is that graduate education reform often falls into “patchwork” single-point interventions—such as adding a course, introducing a lecture, or revising a regulation—while lacking systematic reflection and reconstruction of the cultivation mode. More notably, even within the same university, different cultivation programs have formed differentiated cultivation pathways due to variations in training objectives and resource allocation. However, do different cultivation modes produce differentiated temporal trajectories in their dynamic effects on graduate students' research interest? What are the mechanisms underlying these differences? The academic community has yet to provide systematic answers to these questions.

At the theoretical research level, existing literature has accumulated considerable findings on graduate students' research interest, yet these studies generally suffer from a prominent methodological limitation. A large number of studies employ cross-sectional questionnaire designs, examining the level and influencing factors of research interest at a single point in time [2,3]. While these studies can effectively identify the influencing factors of research interest, they cannot answer dynamic questions such as how research interest changes throughout the entire cultivation cycle. However, research interest is precisely a psychological trait with a distinct temporal nature, and retrospective designs still struggle to precisely capture the process mechanisms of its evolution. For example, cross-sectional studies can tell us that supervisor guidance is important, but they cannot answer at which stage supervisor guidance is most important. Some scholars, through interviews with 30 academic master's students and grounded theory analysis, found that master's students exhibit different psychological states at different stages of paper publication, and that research interest continuously diminishes throughout the cultivation cycle [4]. This study focused on the single event of paper publication and failed to incorporate the overall evolutionary trajectories under different cultivation modes into a comparative framework.

Based on the above practical dilemmas and the methodological gap in longitudinal research, this study attempts to adopt the dual perspectives of “longitudinal tracking” and “mode comparison”, taking economics and management graduate

students at Guangdong University of Foreign Studies as research subjects, and employing a longitudinal qualitative research method with three rounds of follow-up interviews to systematically examine the dynamic evolutionary trajectories and key mechanisms of transformation of graduate students' research interest under the two cultivation modes of academic degree and professional degree.

2 LITERATURE REVIEW

2.1 Conceptual Evolution and Theoretical Context of Research Interest

The concept of research interest has undergone a gradual deepening from “interest” to “aspiration-interest”. Early studies largely followed the psychological concept of “interest,” defining it as a positive affective tendency that individuals develop toward specific activities or objects. Ainley’s study demonstrated that students’ interest significantly facilitates their achievement behaviors [5]. The four-phase model of interest development proposed by Hidi and Renninger provides a classic theoretical framework for understanding the dynamic formation of interest [6].

In recent years, Chinese scholars have integrated “aspiration” and “interest”, endowing the concept with richer connotations. Lu and Shi introduced the concept of “aspiration-interest” into research on the cultivation of top-notch innovative talents [7], pointing out that “aspiration-interest” is the foundation for cultivating top-notch innovative talents in universities. Building on this, some scholars have further explored the connotation, structure, and practical pathways of academic interest from the philosophical perspective of value theory [8]. This theoretical deepening indicates that research interest is no longer viewed as a mere emotional preference, but rather as a three-dimensional construct integrating value identification, emotional experience, and behavioral tendency.

2.2 Research Progress on the Longitudinal Evolution of Research Interest

In recent years, scholars have begun to attend to the dynamic evolutionary process of research interest, accumulating certain research findings. Rotgans and Schmidt employed latent growth curve modeling to conduct a longitudinal empirical test of interest development [9], finding that repeated arousal of situational interest can significantly influence the growth trajectory of individual interest, providing empirical evidence for the dynamic process of interest development. Based on career development theory, Kuang and Li conducted retrospective interviews with 16 doctoral students from three major research project teams at a “Double First-Class” university [10], finding that academic interest can be divided into four stages: initiation, development, maturation, and professionalization. This study was the first to characterize the developmental trajectory of academic interest from a longitudinal stage perspective, though its retrospective design could not precisely capture the transition mechanisms between stages. Wang and Jiang [11], based on the 2022 Nature global doctoral student survey data and using multivariate logistic regression analysis, found that doctoral students’ own conditions have a significant impact on the decline of academic interest. At the master’s level, some scholars, through interviews and collection of online journals, compiled the publication stories of 30 academic master’s students and conducted grounded theory coding analysis, finding that master’s students exhibit different psychological states at different stages of paper publication, gradually moving from accepting discipline to seeking resistance, with research interest continuously diminishing [4].

Studies have found that the development of academic aspiration among top students in basic disciplines is influenced by multiple factors, with different factors dominating at different stages [12]. By comparing cross-sectional data from two national surveys of top students in 2017 and 2023, some studies have found that top students’ learning motivation exhibits certain epochal characteristics amidst structural changes [13]. These studies indicate that the influencing factors of research interest not only have a hierarchical order of importance in cross-sections but also exhibit stage-specific shifts in dominant factors along the longitudinal temporal dimension.

2.3 Types and Limitations of Research on Cultivation Modes for Top-Notch Innovative Talents

As the cultivation of top-notch innovative talents has risen to a national strategy, an increasing number of scholars have begun to attend to the issue of cultivation modes. In terms of mode typology, scholars have identified various cultivation modes based on different cases. After analyzing the “GaoBo Class” at Beihang University, Ma et al. summarized a model of “input (high-quality students)—cultivation (supporting safeguards)—output (top-notch talents)” [14]. Zheng and Chen [15], relying on the CIPP evaluation model, proposed a cultivation strategy for top-notch innovative graduate talents from four dimensions: context, input, process, and product. From the perspective of academic socialization, graduate cultivation is not only a process of knowledge and skill transmission, but also a process in which students gradually internalize the norms, values, and professional identity of the academic community [16]. This perspective extends the effect evaluation of cultivation modes from “knowledge output” to “identity construction”, providing a more complete theoretical framework for understanding how cultivation modes affect students’ academic interest.

The above studies reveal the multiple forms of cultivation modes for top-notch innovative talents from different angles, offering useful conceptual tools for understanding the structural characteristics of cultivation modes. However, most of these studies remain at the level of describing single-case experiential models, with few systematically comparing and empirically testing the cultivation effects of different modes. Moreover, the above mode studies largely employ cross-sectional or retrospective designs, making it difficult to capture the dynamic influence of cultivation modes on

graduate students' academic growth (such as research interest). Therefore, it is necessary, building upon existing mode typology research, to introduce a longitudinal perspective to examine the diachronic evolutionary trajectories of graduate students' research interest under different cultivation modes, thereby compensating for the deficiencies of existing research in dynamic effect evaluation.

2.4 Research Review and the Entry Point of This Study

Synthesizing the literature review in the above three areas reveals a clear gap in current research: we lack systematic characterization and comparative analysis of the longitudinal evolutionary trajectories of graduate students' research interest under different cultivation modes. Cross-sectional studies tell us "which factors are important," but cannot answer "at which stage they are important" or "how they change over time"; mode studies describe "which modes exist", but cannot answer "how different modes shape differentiated trajectories of interest evolution".

Based on the above analysis, this study adopts the dual perspectives of "longitudinal tracking" and "mode comparison", taking economics and management graduate students at Guangdong University of Foreign Studies as case subjects, and employing a longitudinal qualitative research method with three rounds of follow-up interviews to examine the dynamic evolutionary trajectories and key mechanisms of transformation of graduate students' research interest under the two cultivation modes. This research orientation both responds to the methodological limitation of insufficient attention to "dynamic processes" in existing research, and expands the theoretical horizon of cultivation mode research from "static description" to "dynamic evaluation".

3 RESEARCH DESIGN

3.1 Case Selection Rationale

This study selects economics and management graduate students at Guangdong University of Foreign Studies (hereinafter "GDUFS") as case subjects, based primarily on the following considerations: First, typicality. GDUFS is a provincial key university with distinctive international characteristics, with a large-scale graduate cultivation program covering diverse types (including academic and professional degrees), offering good case representativeness. Second, differentiation. There exists significant "mode differentiation" within GDUFS's economics and management graduate cultivation, with notable differences between academic and professional degrees in training objectives, curriculum design, supervisory arrangements, and evaluation criteria. This pattern of different cultivation programs within the same university provides an ideal research setting for controlling inter-institutional differences and focusing on mode comparison. Third, accessibility. The researchers have good cooperative relationships with GDUFS's economics and management graduate cultivation units, facilitating access to cultivation plans, policy documents, and other textual materials, as well as the implementation of long-term follow-up interviews.

3.2 Design and Implementation of Longitudinal Tracking

3.2.1 Tracking period and waves

This study's tracking period extends from September 2024 to February 2026, totaling 18 months, covering the main phase of the master's cultivation cycle (from enrollment to half a year before graduation). Three rounds of interviews were conducted:

First Round (T1): September–October 2024 (Enrollment Adaptation Period). Focused on understanding the baseline level of research interest at enrollment, motivation for pursuing graduate studies, and initial perceptions of and expectations for research.

Second Round (T2): May–June 2025 (Mid-Cultivation Period). Focused on tracking changes in research interest and key influencing factors after nearly one year of coursework, supervisor guidance, and preliminary research training.

Third Round (T3): January–February 2026 (Pre-Graduation Period). Focused on tracking the final state of interest after completion of the thesis, experience of publication pressure or practical projects, and a holistic review of interest evolution throughout the cultivation cycle.

3.2.2 Sample selection and basic information

This study employed purposive sampling, selecting representative samples from the two types of cultivation programs at GDUFS, with 3 students from each type, totaling 6 participants. The sampling considered the following dimensions: degree type (academic/professional), grade level (to ensure coverage of the complete cultivation cycle), gender, and enrollment motivation, to maximize case heterogeneity. Basic sample information is presented in Table 1.

3.2.3 Interview methods and instruments

Each interview employed semi-structured in-depth interviews, lasting approximately 60–90 minutes. The interview guide centered on the following core questions: (1) Current interest assessment: "On a scale of 0 to 10, how would you rate your current interest in and willingness to engage in research? Why?" (2) Interest change review: "From the last interview to now, have your views on and feelings about research changed? What events led to this change?" (3) Key event identification: "During this period, has there been any specific event that significantly changed your perception of research (positively or negatively)? Please describe that event in detail." (4) Stage characteristic description: "At the current stage, what factor do you think has the greatest impact on your research interest?" (5) Future expectations: "Has your willingness to pursue research-related work in the future changed? Why?"

The interview guides for the three rounds maintained consistency in the core framework to ensure longitudinal comparability, while incorporating targeted follow-up questions based on key clues identified in previous interviews to deepen understanding of the mechanisms of evolution.

Table 1 Basic Information of Tracking Interview Sample

Code	Gender	Cultivation Mode	Major/Field	Enrollment Year	Tracking Completeness	Total Interview Duration
A01	Male	Academic Degree	Business Administration	2024	Complete (3 rounds)	~180 min
A02	Female	Academic Degree	Business Administration	2024	Complete (3 rounds)	~160 min
A03	Female	Academic Degree	International Trade	2024	Complete (3 rounds)	~150 min
P01	Male	Professional Degree	MBA	2024	Complete (3 rounds)	~165 min
P02	Female	Professional Degree	MPAcc	2024	Complete (3 rounds)	~160 min
P03	Male	Professional Degree	MBA	2024	Complete (3 rounds)	~140 min

3.2.4 Data analysis methods

This study employed a four-step strategy for longitudinal qualitative analysis:

Step 1: Individual case chronological analysis. The three rounds of interview texts for each participant were organized chronologically, with individual research interest evolution timelines mapped and key turning points and events annotated.

Step 2: Individual case stage analysis. Each participant's interest evolution was divided into stages (e.g., “enrollment adaptation—coursework period—research training—thesis intensification”), identifying the dominant characteristics and key influencing factors of each stage.

Step 3: Cross-case comparative analysis. Cases were grouped by cultivation mode to compare commonalities and differences in interest evolution trajectories among individuals under the same mode, distilling mode-level typical characteristics.

Step 4: Inter-mode comparative analysis. Differences in interest evolution trajectories, key turning points, and dominant influencing factors were compared across modes to reveal the mechanisms linking mode differences to interest evolution.

The coding process employed the three-level coding method of grounded theory, assisted by NVivo 14 software.

4 LONGITUDINAL EVOLUTIONARY TRAJECTORIES OF RESEARCH INTEREST UNDER TWO CULTIVATION MODES

Based on a systematic review of GDUFS's graduate cultivation plans, policy documents, and public reports, this study identifies two primary types of cultivation modes, with differentiated characteristics across five core dimensions as presented in Table 2.

Table 2 Comparison of Characteristics of Two Cultivation Modes for GDUFS Economics and Management Graduate Students

Analytical Dimension	Academic Degree Mode	Professional Degree Mode
Training Objective Positioning	Academically innovative talents	Practically innovative talents
Supervisory System	Single supervisor responsibility system	On-campus supervisor + industry supervisor (dual supervisor system under exploration)
Curriculum Design	Theoretical frontiers + research methods	Professional practice + case analysis
Academic Training	Academic papers + research projects	Enterprise projects + practice reports
Evaluation Criteria	Academic paper publication	Practice outcomes + case analysis

4.1 Academic Degree Mode: Inverted U-Shape Trajectory

Based on chronological analysis of three rounds of interviews with three academic master's students, the research interest evolution under the academic degree mode exhibits a typical “inverted U-shape” trajectory—starting at a moderate level at enrollment, rising significantly to a peak at the end of the first year, and declining noticeably in the middle to late second year. The interest self-rating scores of each participant are presented in Table 3.

Table 3 Evolution of Interest Self-Ratings for Academic Degree Mode Participants (N=3)

Participant	T1 (Enrollment)	T2 (Mid-Cultivation)	T3 (Pre-Graduation)
A01	7.0	8.5	5.0
A02	6.5	8.0	5.5
A03	7.5	8.5	6.0
Mean	7.00	8.33	5.50

4.1.1 Stage 1 (T1, enrollment adaptation period): moderately high starting point and differentiated expectations

Academic master's students entered with a moderately high level of research interest (mean 7.00/10). Most participants indicated that their primary motivation for choosing the academic degree was a certain interest in or expectation of academic research.

"I participated in some research projects during my undergraduate studies, though not in depth, but I found it quite interesting. Choosing the academic master's program was about wanting to do more in-depth research." (A02, T1)

"I'm not really sure what research specifically entails, but I think doing research seems cool and I want to give it a try." (A03, T1)

However, the interest at this stage was more of a "vague aspiration"—based largely on imagination rather than real experience of research, and thus rather fragile.

4.1.2 Stage 2 (T2, mid-cultivation period): peak of significant rise

From the end of the first year to the beginning of the second year, academic master's students' research interest generally reached its peak (mean 8.33/10). The key driving factors at this stage were: systematic research methodology courses providing "tool empowerment," close supervisor guidance providing "direction," and preliminary research participation providing "success experiences".

"I took the research methodology course in the first semester of graduate school and finally understood how to conduct research. Later, I followed my supervisor on a small project — from literature review to data collection and analysis — going through the entire process. Although it was exhausting, it gave me a real sense of accomplishment." (A01, T2)

"My supervisor gave me a relatively specific topic and asked me to write a literature review first. As I wrote, I found myself becoming increasingly interested in this field and started actively tracking the latest literature." (A03, T2)

The characteristic of this stage is a positive cycle of "learning by doing"—capability enhancement brings a sense of achievement, achievement reinforces interest, and interest drives greater investment.

4.1.3 Stage 3 (T3, pre-graduation period): significant decline under publication pressure

Entering the middle to late second year, as the thesis proposal and publication requirements approached, academic master's students' research interest showed a significant decline (mean 5.50/10).

"When it came time to publish a paper, everything felt different. Before, I did research because I was interested; now I do it to complete a task. My supervisor pushes, I worry—the pleasure of slow exploration is completely gone." (A01, T3)

"I submitted twice and was rejected both times. It was really discouraging. I started to doubt whether I was cut out for research." (A02, T3)

"In our research group chat, the most frequent discussions are about how to publish papers and which journals to submit to. Few people talk about the research itself anymore. The whole atmosphere has changed." (A03, T3)

This finding is highly consistent with existing research—academic master's students exhibit different psychological states at different stages of paper publication, gradually moving from accepting discipline to seeking resistance, with research interest continuously diminishing. Publication pressure, publication meaning, and the publication ecology interact to affect master's students' research capabilities, experiences, and cognition, ultimately influencing their research interest [4].

4.1.4 Summary of academic degree mode evolution patterns

The "inverted U-shape" trajectory of the academic degree mode reveals a profound paradox: it is precisely the most central institutional arrangement of academic master's cultivation—the "publication" requirement—that becomes the key driver of interest dissolution in the later stage. Early systematic academic training and supervisor guidance can effectively stimulate interest, but later pressure to "publish for the sake of publishing" dissolves the intrinsic motivation of interest. The advantage of this mode lies in its ability to rapidly enhance students' academic capabilities, but its risk lies in potentially sacrificing long-term interest.

4.2 Professional Degree Mode: Asymptote-Shape Trajectory

Professional master's students' research interest evolution exhibits an asymptote-shape trajectory of "gradual rise followed by stabilization"—starting low, rising slowly in the first year, and stabilizing in the second year at a moderate level. The interest self-rating scores of each participant are presented in Table 4.

Table 4 Evolution of Interest Self-Ratings for Professional Degree Mode Participants (N=3)

Participant	T1 (Enrollment)	T2 (Mid-Cultivation)	T3 (Pre-Graduation)
P01	3.0	5.0	5.0

Participant	T1 (Enrollment)	T2 (Mid-Cultivation)	T3 (Pre-Graduation)
P02	3.5	5.5	5.5
P03	4.0	5.0	5.0
Mean	3.50	5.17	5.17

4.2.1 Stage 1 (T1, enrollment adaptation period): low starting point and instrumental motivation

Professional master's students entered with generally low research interest (mean 3.50/10). Most participants indicated that their primary motivation for choosing the professional degree was to enhance employment competitiveness rather than interest in academic research.

"I chose the professional master's program just to find a good job. I didn't think about doing research." (P01, T1)

"I wrote a thesis during my undergraduate studies and found research quite painful. Choosing the professional master's program was about not wanting to do research anymore." (P03, T1)

The interest level at this stage was significantly lower than that of academic master's students, with a distinctly instrumental character.

4.2.2 Stage 2 (T2, mid-cultivation period): slow rise but limited depth

After one year of coursework and preliminary practical experience, some professional master's students' research interest showed some improvement (mean 5.17/10), but this improvement was mainly concentrated at the level of "instrumental value identification with research" rather than "emotional enjoyment of research itself".

"Some courses were quite interesting, especially the case analyses, which made me realize that theory can really explain real-world problems." (P02, T2)

"While writing course papers, searching for materials and analyzing data—though not as in-depth as academic master's students—I did feel more engaged than during my undergraduate studies." (P01, T2)

However, professional master's students generally lacked opportunities for deep research participation, with their interest enhancement remaining more at the cognitive level (recognizing the value of research) rather than the emotional and behavioral levels (enjoying the research process, willing to invest effort).

"We basically just attend classes, do case analyses, and write reports. We rarely have real opportunities to conduct research." (P03, T2)

4.2.3 Stage 3 (T3, pre-graduation period): stabilization without qualitative leap

Entering the pre-graduation period, professional master's students' research interest remained stable (mean 5.17/10), but consistently failed to achieve a qualitative leap from "instrumental identification" to "intrinsic passion".

"I now think research is indeed useful for solving practical problems in enterprises. But I won't actively pursue research myself, and I won't do it in my future career either." (P02, T3)

"If I was at 3 points upon enrollment, now I'm at about 5 points. There's been improvement, but I wouldn't call it passion." (P01, T3)

4.2.4 Summary of professional degree mode evolution patterns

The "asymptote-shape" trajectory of the professional degree mode reveals a core problem: while practical orientation can enhance students' identification with the instrumental value of research, it struggles to foster deep, intrinsic research interest. The lack of "academic depth" in professional master's cultivation—the absence of systematic research training and deep academic engagement—keeps students' interest development stuck at the level of "cognitive identification", unable to cross over to "emotional enjoyment" and "behavioral investment".

4.3 Comprehensive Comparison of the Two Modes' Evolutionary Trajectories

Based on the above analysis, the comparison of the two modes' evolutionary trajectories is presented in Table 5.

Table 5 clearly reveals the significant differences in research interest between the two cultivation modes:

First, significant difference in starting points. The academic degree mode's interest level at enrollment (7.00) was substantially higher than that of the professional degree mode (3.50), a difference of 3.5 points. This indicates a structural difference in enrollment motivation and academic preparation between the two student groups—academic master's students generally possess stronger academic interest and research expectations, while professional master's students are more career-oriented.

Second, opposite directions of evolution. The academic degree mode exhibits a "rise then fall" inverted U-shape trajectory—a significant rise in the early period (T1→T2, +1.33 points) followed by a significant decline in the later period (T2→T3, -2.83 points), with the final endpoint (5.50) even lower than the starting point (7.00). The professional degree mode exhibits a "gradual rise then stabilization" asymptote-shape trajectory—some rise in the early period (T1→T2, +1.67 points) followed by stabilization in the later period (T2→T3, almost no change), with the final endpoint (5.17) higher than the starting point (3.50).

Third, the substantive difference between "inverted U-shape" and "asymptote-shape". The academic degree mode's "inverted U-shape" feature lies in the emergence of a pronounced peak at mid-cultivation (T2), followed by a sharp decline, forming a "mountain peak" morphology with T2 as the apex. The gap between this peak (8.33) and the endpoint (5.50) is as large as 2.83 points, constituting a significant "rise then fall" pattern. In contrast, the professional degree mode lacks a pronounced peak period, presenting instead a morphology of slow climb followed by a plateau.

Fourth, convergent endpoints but different mechanisms. Although the academic degree mode's endpoint interest level

(5.50) and the professional degree mode's (5.17) are close, the pathways to reaching similar levels are completely different. Academic students “fall from a height”, while professional students “climb from below”. This means the two modes face fundamentally different cultivation challenges—the core issue for the academic degree mode is “how to prevent interest dissolution”, while the core issue for the professional degree mode is “how to promote interest deepening”.

Table 5 Comprehensive Comparison of Longitudinal Evolutionary Trajectories of Research Interest under Two Cultivation Modes

Comparative Dimension	Academic Degree Mode	Professional Degree Mode
Trajectory Type	Inverted U-shape	Asymptote-shape
Starting Level (T1)	Moderately high (7.00)	Low (3.50)
Peak/Endpoint Level	High peak (8.33) → decline (5.50)	Gradual rise to stabilization (5.17)
Total Change	-1.50	+1.67
Key Rising Period	First year	First year to early second year
Key Turning Point	Mid-second year (publication pressure)	No obvious turning point
Primary Driving Mechanism	Academic discipline → capability enhancement → interest stimulation; publication pressure → interest dissolution	Practical value identification → instrumental interest
Interest Maintenance Resilience	Low (vulnerable to publication pressure shock)	Medium (stable but lacks depth)
Primary Risk	Publication pressure dissolves intrinsic interest	Lack of depth leads to interest “suspension”

5 MECHANISM EXPLANATION FROM THE PERSPECTIVE OF KEY EVENTS

Based on the key events mentioned by the six participants across the three rounds of interviews, this study constructs three core dimensions for key event analysis: type distribution, temporal density, and valence characteristics. The comparison of key event distribution characteristics between the two modes involved in this study is presented in Table 6.

Table 6 Comparison of Key Event Distribution Characteristics between Two Cultivation Modes

Key Event Type	Academic Degree Mode	Professional Degree Mode
Institutional Opportunities	▲ (Few)	△ (Very few)
Relational Embeddedness	●● (More in mid-period)	▲ (Few)
Curricular Collisions	●● (More in early period)	●● (More in mid-period)
Practical Tempering	●● (Mid-period, research projects)	●● (Mid-period, enterprise practice)
Stress Events	●●● (Dense in later period)	▲ (Few)

Note: ●●● indicates high frequency/intensity, ●● indicates medium, ▲ indicates low frequency, △ indicates very low frequency.

The following presents mechanism analysis with typical cases.

5.1 Academic Degree Mode: “Publication Pressure” as the Key Turning Point of Interest Dissolution

In the academic degree mode, the “inverted U-shape” trajectory of research interest can be explained by “stage-specific transitions of key events”.

5.1.1 Early period (first year)

Dense supply of positive events. Academic master's students experienced systematic research methodology coursework (curricular collisions), close interaction with supervisors (relational embeddedness), and preliminary research participation (practical tempering) during the first year. These events collectively drove the rapid ascent of interest.

“Although there were many courses in the first semester of graduate school, I gained something from each one. Especially the research methodology course, which made me realize for the first time that ‘this is how research is done.’” (A03, T2)

5.1.2 Later period (middle to late second year)

Concentration of negative events. Entering the second year, the publication requirement became the dominant key event. Unlike the positive events of the early period, publication pressure carries characteristics of compulsion, urgency, and uncertainty, with significantly different psychological effects.

“Before, I did research because I wanted to; now I do research because I have to. These two feelings are completely different.” (A01, T3)

“A student in our research group had their paper rejected three times and was completely devastated, saying they didn't want to pursue academia anymore.” (A02, T3)

Mechanism explanation of key event transition: The “rise then fall” of interest in the academic degree mode can be

explained by “key event valence transition”. Early positive events (curricular collisions, relational embeddedness) exert positive effects through the pathway of “capability enhancement→sense of achievement→interest reinforcement”; later negative events (publication pressure) exert negative effects through the pathway of “compulsory requirements→loss of control→erosion of intrinsic motivation”. The transition between the two valences led to the reversal of the interest trajectory.

5.2 Professional Degree Mode: Scarcity of “Practical Feedback” and Interest “Suspension”

In the professional degree mode, the “asymptote-shape” trajectory of research interest can be explained by “insufficiency of positive key events”.

Although professional master’s students experience some positive events—case analyses in coursework, problem-solving in enterprise practice—the “academic depth” of these events is insufficient. Students can recognize the instrumental value of research (“research can solve practical problems”), but fail to experience the intrinsic pleasure of research (“research itself is very interesting”).

“Our case analyses are different from academic master’s students’ research. We mostly apply existing theories to explain phenomena, rarely questioning the theories themselves or proposing new ones.” (P02, T3)

“I think research is useful, but I won’t actively do it. It’s like knowing exercise is good for health but not being motivated to work out.” (P01, T3)

Mechanism explanation of key event scarcity: The “slow rise without deepening” of interest in the professional degree mode can be explained by “insufficient academic depth of key events”. The curricular collisions experienced by professional master’s students are primarily “case application” oriented, lacking the depth of “theoretical reconstruction”; the practical tempering is primarily “enterprise projects” oriented, lacking the depth of “academic inquiry”. These superficial key events can enhance students’ cognitive identification with the instrumental value of research, but cannot stimulate emotional enjoyment of research itself, thus leaving interest perpetually in a state of “suspension”.

5.3 Comprehensive Explanation of Mechanism Comparison

Based on the above analysis, the mechanism differences between the two modes can be summarized in Table 7.

Table 7 Comprehensive Comparison of Key Event Mechanisms between Two Cultivation Modes

Mechanism Dimension	Academic Degree Mode	Professional Degree Mode
Key Event Density	High in early period, low in later period	Relatively low overall
Key Event Types	Early: curricular collisions + relational embeddedness; Later: stress events	Curricular collisions (superficial cases) + practical tempering (superficial projects)
Key Event Valence	Early positive → later negative	Neutral to positive
Positive Event Chain	Broken (positive-negative transition)	Sparse (lacking depth)
Negative Events	Dense in later period (publication pressure)	Very few
Event Academic Depth	High	Low
Interest Evolution Mechanism	Disciplinary stimulation → pressure dissolution	Cognitive identification → inability to deepen
Final Interest State	High risk of dissolution	Suspended state

Overall, cultivation modes shape the longitudinal evolutionary trajectories of research interest by influencing the frequency, type distribution, academic depth, and valence characteristics of key events. The problem with the academic degree mode is not a lack of key events, but rather the replacement of “positive events” by “negative events” (publication pressure) in the later period, leading to interest dissolution; the problem with the professional degree mode lies in the insufficient “academic depth” of key events, failing to drive interest from “cognitive identification” toward “emotional investment”.

6 CONCLUSION AND DISCUSSION

6.1 Main Conclusions

Through 18 months of longitudinal tracking of six students under two cultivation modes for economics and management graduate students at Guangdong University of Foreign Studies, this study reaches the following main conclusions:

First, the two cultivation modes exhibit differentiated longitudinal evolutionary trajectories of graduate students’ research interest. The academic degree mode exhibits an “inverted U-shape” — rising in the early period and declining in the later period; the professional degree mode exhibits an “asymptote-shape”—gradually rising and then stabilizing. This finding transcends the limitation of cross-sectional studies that “only examine levels without examining change”, revealing the “temporal heterogeneity” of cultivation modes’ effects on interest.

Second, cultivation modes shape the evolutionary trajectories of research interest by influencing the frequency, type distribution, academic depth, and valence characteristics of key events. In the academic degree mode, “publication pressure” events become the key turning point of interest dissolution in the later stage of the second year; in the professional degree mode, the scarcity and superficiality of “practical feedback” events constrain the deep development of interest.

Third, the two modes each have their own advantages and limitations across the three dimensions of “interest stimulation efficiency”, “interest maintenance resilience”, and “interest transformation efficacy”. The academic degree mode has high stimulation efficiency but low maintenance resilience; the professional degree mode has limited transformation efficacy but better stability. There is no single optimal mode; the selection and optimization of cultivation modes must consider students’ individual characteristics and stage-specific needs.

6.2 Theoretical Contributions

The theoretical contributions of this study are mainly reflected in three aspects:

First, it introduces a longitudinal perspective that expands the methodological boundaries of research interest studies. Existing research largely employs cross-sectional designs, treating research interest as a static variable at “a single point in time”[2]. Through 18 months of three-round tracking, this study reveals the dynamic evolutionary patterns of research interest, answering the question of “how research interest changes over time” that cross-sectional studies cannot address. This methodological expansion enables the identification of key patterns—such as the “inverted U-shape” trajectory in the academic degree mode—that cross-sectional studies would completely miss.

Second, it reveals the “key event chain” as an intermediate mechanism connecting cultivation modes and interest evolution. Existing research has focused on the triggering effects of single key events on interest, but has failed to explain “why the same events produce different cumulative effects under different modes”. The “key event chain” concept proposed in this study—encompassing the density, type distribution, valence characteristics, academic depth, and cumulative effects of events—provides a new analytical tool for understanding the micro-mechanisms of mode differences. This concept shifts the analytical focus from “single events” to “event systems”, more accurately reflecting the actual operation of key events in the cultivation process.

Third, it deepens the understanding of cultivation mode “effects”. This study reveals dynamic dimensions such as “whose interest is more stable” and “whose interest has more growth potential”. This expansion enriches the theoretical connotation of cultivation mode effect evaluation and provides a new evaluative framework for subsequent research.

6.3 Practical Implications

The findings of this study offer the following practical implications for universities to optimize graduate students’ research interest cultivation:

First, staged intervention: identify key turning points and implement precision strategies. The academic degree mode should proactively intervene in the middle to late second year to alleviate the dissolving effect of publication pressure on interest—for example, by providing more academic support resources, establishing psychological buffer mechanisms for publication failures, and emphasizing the value of the research process rather than focusing solely on publication outcomes. The professional degree mode should increase opportunities for deep research participation throughout the cultivation process, helping students achieve the transition from “instrumental identification” to “intrinsic passion”.

Second, differentiated design: match cultivation strategies according to mode characteristics. Different modes face different risks in interest evolution and require differentiated coping strategies. The priority for the academic degree mode is “preventing dissolution”—maintaining interest in the later stage; the priority for the professional degree mode is “promoting deepening”—enhancing academic depth throughout the entire process.

Third, key event thinking: consciously design and manage key events. Universities should consciously design and create high-quality “positive key events”—institutional opportunities, relational embeddedness, curricular collisions, and practical tempering—throughout the cultivation process, while reducing the negative impact of “negative key events”. The design of key events should consider their temporal distribution across the cultivation cycle, avoiding unreasonable patterns such as “dense early, sparse later” or “positive-negative transitions”.

6.4 Research Limitations and Future Directions

This study has the following limitations: First, the case is limited to a single university, Guangdong University of Foreign Studies, and the generalizability of the conclusions awaits verification through multi-institutional comparative research. Second, the tracking period is 18 months, which does not cover the long-term evolution of interest after graduation and career choices; future research could extend the tracking period. Third, the sample size is limited (6 participants); although qualitative research does not pursue statistical representativeness, future research could validate the findings with larger samples. Fourth, this study focuses on economics and management disciplines; different disciplines may exhibit differentiated patterns, and future research could extend to other fields such as science and engineering, humanities, and social sciences.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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