

Case Study on the Dynamic Change of Research Motivation of Foreign Language and Literature Academic Master's Degree Candidates from the Perspective of Directed Motivational Currents

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Abstract—Graduate education is essential for cultivating innovative research talent, yet many academic master's students in Foreign Language and Literature show insufficient research capability and participation in scholarly activities. Research motivation plays a crucial role in sustaining graduate students' engagement in research and fostering academic development. However, little is known about how research motivation evolves dynamically over time at the individual level. In response to this underexplored area, this study examines the individual characteristics and typical dynamic characteristics of the research motivation of master's candidates in foreign language and literature. Guided by the directed motivational currents theory and employing retrodictive qualitative modeling method, the research identifies three key findings. First, the diachronic fluctuation trajectory of the student's research motivation presents the characteristics of directed motivational currents, which is a soft assembly of willingness, cognition, emotionality, and behavior. Second, it gradually internalizes along the trajectory of “external regulation—introjected regulation—failure avoidance—identified regulation”, and the degree of self-determination gradually strengthens. Third, in this process, the student's emotions and language competence are coordinated with and adapted to the guidance and assistance of the supervisor, promoting the dynamic development of her academic motivation. This study demonstrates the practical value of directed motivational currents in stimulating and maintaining research motivation, especially the positive role of emotional factors, which may have some inspiration for cultivating the research competence of master's candidate in foreign language and literature academic.

Keywords—directed motivational currents, academic master's candidate in foreign language and literature, research motivation, individual characteristics, typical dynamic characteristics

I. INTRODUCTION

As an integral component of higher education in China, graduate education plays a crucial role in cultivating innovative talents and enhancing the nation's overall research and innovation capacity. The development of research innovation ability constitutes the core of graduate students' innovative competence, and its cultivation has become a central mission of graduate education. In recent years, China's graduate education has entered a phase of rapid expansion, with a continuous increase in the enrollment of master's degree candidates in Foreign Language and Literature. However, the issue of insufficient research innovation ability among these students has become

increasingly prominent, as reflected in their limited participation in research practice activities and relatively low levels of academic output [1].

Research motivation serves as a fundamental internal driving force for the development of research innovation ability [2]. Understanding the nature and dynamics of research motivation among master's students in Foreign Language and Literature is therefore essential for uncovering the underlying causes of their insufficient research innovation ability and for informing strategies to foster innovative research talents.

Drawing on the framework of Directed Motivational Currents (DMCs) from the field of second language motivation research, the present study investigates the individual characteristics and dynamic patterns of research motivation among academic master's degree candidates in Foreign Language and Literature. It further explores the factors underlying motivational fluctuations over time. By doing so, this study aims to provide empirical evidence and pedagogical implications for the effective cultivation of research ability and the enhancement of research innovation among graduate students in this discipline.

II. LITERATURE REVIEW

A. Research Motivation

Research on motivation has long been a central topic in educational psychology [3]. Since the 1970s, scholars have sought to explain why and how motivation influences students' academic learning processes and outcomes. Early theoretical explorations were grounded in general motivational frameworks, such as Self-Determination Theory, Social Cognitive Theory, and Expectancy-Value Theory [4]. These frameworks emphasized the key roles of autonomy, competence, relatedness, and self-efficacy in sustaining learners' engagement and achievement across educational contexts.

In recent years, scholars have begun to examine research motivation—a higher-order form of academic motivation—particularly in the context of graduate education. Conducting research is cognitively demanding, uncertain, and often lacks external regulation, which makes internal psychological factors such as motivation crucial for initiating and maintaining research engagement. Drawing on both social-psychological and cognitive-psychological perspectives, researchers have explored how postgraduate

students' motivation operates in the context of autonomy, creativity, and resilience required for independent research [5].

From an applied perspective, studies have identified multiple influencing factors shaping research motivation, including personal interest, academic climate, and supervisory support [6]. Research motivation has been shown to correlate positively with research productivity, persistence, and psychological well-being [7]. However, most existing studies have adopted quantitative self-report methods, which risk measurement bias and fail to capture the dynamic and context-sensitive nature of motivational change [8].

In summary, although recent studies have investigated research motivation among students in science, engineering, and medical disciplines [9], research on master's students in Foreign Language and Literature remains scarce. Moreover, innovative frameworks developed in second language motivation research—such as Directed Motivational Currents (DMCs) and Retrodictive Qualitative Modeling (RQM)—have been rarely applied to this population, despite their potential to capture the longitudinal, dynamic, and goal-directed nature of research motivation [10]. This gap highlights the need for qualitative, contextually grounded investigations into how research motivation evolves among academic master's students in Foreign Language and Literature.

B. Directed Motivational Currents

Directed Motivational Currents (DMCs) refer to a motivational phenomenon characterized by a sudden surge and sustained high level of motivation directed toward a personally significant goal [11]. As an innovative concept in the field of second language (L2) motivation research, the DMC framework extends traditional motivational theories by adopting a Complex Dynamic Systems Theory (CDST) perspective. A DMC functions through three core components: a clear goal or vision, structured behavioral pathways, and a series of subgoals or habitual behaviors that maintain momentum and reinforce engagement. Empirical and theoretical studies have identified four defining dimensions of DMCs—goal/vision-orientedness, participant ownership, positive emotionality, and salient facilitative structure [12].

Since its introduction, DMC theory has been increasingly examined in international research. Studies have explored its dimensional validation, application to L2 learning and teaching contexts, and association with individual differences such as personality, self-regulation, and emotional experience [13]. These findings have collectively demonstrated that DMCs provide a dynamic and process-oriented framework for understanding long-term, goal-driven motivational engagement. However, while international scholarship has expanded DMC research through both qualitative and longitudinal methodologies, domestic studies in China have largely remained at the conceptual and theoretical discussion stage, with limited empirical application and scarce interdisciplinary extension beyond L2 learning [14].

Integrating DMCs with Complex Dynamic Systems Theory (CDST) offers a valuable lens for capturing the

nonlinear, evolving, and context-dependent nature of motivation. The synergy between DMCs and CDST allows researchers to trace individual motivational trajectories over time and to interpret fluctuations in learners' cognitive, affective, and behavioral engagement [11].

Building on these insights, the present study adopts the DMC framework to investigate the dynamic development of research motivation among master's students in Foreign Language and Literature. Specifically, it examines how motivation evolves longitudinally across the dimensions of willingness, cognition, emotion, and behavior, thereby providing a novel interdisciplinary application of the DMC model to the domain of graduate research motivation. This approach not only enriches the empirical foundation of DMC research but also offers theoretical and pedagogical implications for fostering sustained research engagement in postgraduate education.

III. RESEARCH DESIGN

This study adopts a qualitative case study design based on Retrodictive Qualitative Modeling (RQM) to explore the dynamic change of research motivation among master's students in Foreign Language and Literature. The qualitative approach allows for a detailed and context-sensitive understanding of the participant's motivational trajectory, while RQM, grounded in Complex Dynamic Systems Theory (CDST), provides a framework to trace how certain motivational states emerge and stabilize over time.

A. Research Purpose and Questions

The aim of this study is not to evaluate an individual's academic performance but to reveal the dynamic change patterns of research motivation through a typical case. By analyzing the motivational trajectory of a representative participant, the study seeks to shed light on the underlying mechanisms and contextual influences that shape the fluctuation of research motivation.

Accordingly, the research addresses the following questions:

- 1) What are the individual characteristics of research motivation among master's students in Foreign Language and Literature?
- 2) What are the typical dynamic characteristics of research motivation among master's students in Foreign Language and Literature?

B. Research Object

The participant is a female graduate student majoring in Foreign Linguistics and Applied Linguistics, enrolled in September 2021 at a national key university directly under the Ministry of Industry and Information Technology. During her postgraduate study, she has published four papers in international journals as the first author and delivered nine oral presentations at high-level academic conferences both domestically and internationally. These achievements demonstrate a strong and sustained research motivation.

The participant was selected based on 2 academic criteria: 1) a clear and observable fluctuation of motivation throughout her research process, enabling the investigation of motivational dynamics; and 2) a high level of self-reflective ability, ensuring the

accuracy and richness of retrospective data.

These criteria align with the RQM approach, which requires participants capable of articulating and reconstructing their motivational experiences over time. The participant was fully informed of the study's purpose, procedures, and significance and voluntarily consented to participate.

C. Research Method

This study employs Retrodictive Qualitative Modeling (RQM) as proposed by Dörnyei (2014) and elaborated by Chan et al. (2015). RQM is designed to identify attractor states within a dynamic system and to retrodictively trace the conditions and factors that give rise to these states. This approach is particularly suitable for studying research motivation within the Complex Dynamic Systems Theory (CDST) framework, as it captures non-linear, context-dependent, and emergent patterns of change.

RQM also aligns conceptually with the Directed Motivational Currents (DMC) framework, which focuses on sustained, goal-directed motivational surges. Both emphasize the temporally extended and dynamic nature of motivation. Hence, RQM provides a fitting analytical lens to uncover the dynamic evolution of DMC-like motivational patterns in the participant's research experience.

D. Research Procedure

The study was conducted in 2 main phases: data collection and data analysis.

1) Data collection

The data collection process consisted of three steps.

First, the participant drew a motivation trajectory chart, where the horizontal axis represented time (from September 2021 to March 2024) and the vertical axis represented the intensity of research motivation. She identified several key points corresponding to notable motivational changes.

Second, a semi-structured interview was conducted based on the trajectory chart. The participant was invited to describe the overall pattern and major changes in her motivation, including cognitive, affective, and behavioral aspects. The interview lasted approximately 90 min and was audio-recorded with consent. Example questions included:

“Can you describe what factors contributed to the period of your strongest motivation?”

“What challenges or events led to a decline in your research motivation?”

“How did you manage or recover from fluctuations in motivation?”

Finally, a follow-up interview (lasting about 60 min) was conducted after transcription. The participant listened to the recording, refined the trajectory chart, and elaborated on the causes and contexts of motivational change.

2) Data analysis

The 2 recordings were transcribed verbatim and imported into NVivo 12 for systematic analysis. Following open and axial coding, 2 categories of codes were established:

- the four dimensions of DMCs (vision, structure, affective involvement, and social support); and
- factors influencing motivational change, including personal, contextual, and task-related elements.

To enhance credibility and dependability, several

validation procedures were adopted. A member check was conducted to ensure the participant's agreement with the researcher's interpretations. In addition, cross-coding was performed by a second researcher familiar with DMC and CDST frameworks to verify the consistency of the coding process. Any discrepancies were discussed and resolved through consensus.

Finally, the results were interpreted using key CDST principles—such as attractor, variability, and self-organization—to map out the dynamic developmental pattern of the participant's research motivation over time.

IV. RESEARCH RESULT

A. Individual Characteristics of Research Motivation Among Master's Students in Foreign Language and Literature

As shown in Fig. 1, the intensity of research motivation of the subject in the time dimension changes. It can be seen that her research motivation is in a stable state of high intensity during the three periods from September to November 2021 and from September to November 2023, which conforms to the characteristics of Directed Motivational Currents. The analysis of the interview text shows that the flow of research motivation of the subject presents four dimensions: goal/vision orientedness, participant ownership, a salient facilitative structure, and positive emotionality.

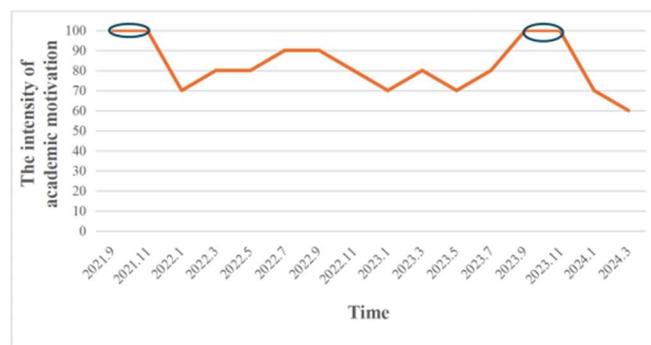


Fig. 1. Trajectory chart of self-assessment research motivation.

1) Goal/vision orientedness

This dimension specifies that the DMC is directed towards a clear end goal, is motivated by the sensory experience (vision) of the achievement of the future goal, and drives people to invest a lot of energy and time in the effort to achieve the goal, so the goal/vision is a prerequisite for the generation of the motivational current. The text of the interview shows that subject set different research goals when two strong research motivations emerged. In the first stage, the emotional goal is more important: to live up to the expectations of the supervisor. “Being a student of Mrs. Zhang has always been my dream during my undergraduate studies, so I wanted to live up to my supervisor's expectations when I started my postgraduate studies”. In the second stage, the subject said: “My biggest goal in that period was to successfully complete the doctor application”. Vision is the presentation of the sensory experience after the realization of the goal in the form of a tangible image, such as the vision of the future state. The intensity of the directed motivation currents often depends on the vision driving effect based on the existing goal. The participant described

her academic vision in this way: “What I do is not aimless, it can be converted into my research results in the future, and can repay my efforts”. Vision helps to enhance subject’s academic confidence and maintain high research motivation.

2) *Participant ownership*

This dimension means that participants fully recognize the necessity and importance of the goal/vision, are able to control the process of behavior, have a clear perception of their progress in the process of accomplishing the sub-goal, and are confident in achieving the final goal. According to the interview materials, the participant independently set two final goals and realized that “in order to achieve these goals, I needed to seriously do scientific research and strove to improve my professional level”. That is, the subject recognized the importance of the goal and stimulated the research motivation. After the supervisor helped her set sub-goals, the subject said, “When the research goal was directly related to my ultimate goal (PhD application), I had a very strong research initiative, and then took the initiative to invest a lot of time and energy, and not gave up easily even when faced with difficulties”. That is, the subject gave full play to her subjective initiative and tried her best to control the process of research behavior. In the process of completing the research sub-goals, participant felt that “there was a significant increase in self-confidence after the scientific research task, and my scientific research standards also improved. I had great confidence in completing my next research assignment”. That means the subject perceived her own progress in the research process and were confident in completing the final goal.

3) *A salient facilitative structure*

The realization of the end goal requires an effective combination of the goal/vision and a salient facilitative structure. This structure provides a clear path for the directed motivation current and leads the motivated behavior to the final goal, including three factors: a clear starting point/end point, regular positive progress feedback, and repeated habitual behavior.

a) *Clear start/end point*

DMC cannot be formed spontaneously, but needs to be initiated by triggering events under the comprehensive action of cognition, environment, events and other factors, and its formation is a conscious and dominant behavior. Trigger events have been divided into instrumental and emotional types.

According to the interview materials, the first phase of the directed motivation current of the subject was initiated by the first group meeting in her research group: “The first group meeting of the new semester made me feel that I have officially become a student of professor Zhang, so I decided to study really hard in both basic English skills and scientific research strength in the new semester”. After the formation of specific goals, the research motivation energy can be released quickly, and the research DMC appears. The triggering event has the characteristics of emotional motivation.

The second phase of DMC is initiated by instrumental trigger events: “As soon as I returned to school in the new and important semester, I was full of morale and began to sort out the research results of the master’s stage to prepare

for the doctor application”.

The DMC may suddenly disappear after the final goal is achieved, or gradually subside when the obstacle is removed and the task is no longer challenging. The subject devoted all her energy to the achievement of her goals, and felt physically and mentally exhausted after success, so she gradually adjusted to the state of daily life before the emergence of DMC. The participant reported that “there was a very clear trough on both sides of the strong research motivation. It was a time for me to regroup and refresh. After I successfully applied for the PhD, I dared to take a breath and relax, and my motivation to study was not so strong”. The weakening of research motivation stems from 2 aspects: “First, I have completed the stage goal, but the new goal has not been established, and I could not find the direction and motivation of efforts for the time being; second, after the completion of the phased goal, my physical strength and energy were basically exhausted. During the weakening of research motivation, I was usually in a period of exhaustion, but the rest time was also saving enough physical energy for the next motivation surge”.

As shown in Fig. 1, after the end of the first strong motivation current, the research motivation of the subjects decreased, though it did not end immediately, it gradually weakened with the continuation of time, with a delayed effect. After the new target opportunity appeared, the research motivation of the subject quickly surged, and once again reached the highest level.

b) *Regular positive feedback*

After the motivational current begins, the continuous motivational behavior is maintained by the realization of sub-goals. Sub-goals provide surrogate goals as well as positive feedback and assessment, enabling learners to continuously perceive their progress, enhance self-confidence and efficacy, and maintain strong motivational energy. Publication of papers was a sub-goal for the participant in this study, and the results boosted her self-confidence: “During these stages, I clearly felt that I knew more and wrote better papers than in the last time”. Extrinsic feedback helps to stimulate and maintain motivational energy and initiate further motivational behavior. The test subject said: “Because of the first-class scholarship, the successful submission of papers to international conferences, the seed fund of the school and other landmark achievements, the teachers and classmates of the college thought that I was outstanding in scientific research aspects. My self-confidence had increased”. At the same time, the external environment would have a negative impact, making the subject doubt her research ability: “I had a very satisfactory paper, looking forward to publishing it in a journal, but I had been rejected successively, which was a great blow to me”. But she also said that the positive feedback from her supervisor helped her overcome this and restore her research confidence: “My advisor constantly encouraged me to revise my paper and submit it again, and her support allowed me to keep trying with determination”.

c) *Repeated habitual behaviors*

After the formation of the directed motivational current, the powerful motor system turns the existing habitual behavior into a “motivational autopilot”. At this time, the motivated behavior is internalized as a part of the DMC,

which is no longer controlled by individual emotional states, and the running trajectory points to the realization of the final goal. In this study, participant said that research goals guided her to make research activities routine, “If I had high expectations of attending an international conference or winning a journal article, I would devote myself to my research”. scientific research activities became an indispensable part of the life of the subject, and the research behavior entered a self-guided state: “During the preparation of my first paper submission, I read literature, kept statistics, revised papers and so on in the teaching and research room as long as I did not have classes”. And the subject took the initiative to overcome the adverse effects of the environment, created an ideal research environment, in order to maintain the best learning state: “I did not have the habit of studying in the dormitory, I got up at seven in the morning, and went to the teaching and research office to stay until 11 at night”.

4) Positive emotionality

Positive emotional state refers to the “self-actualized happiness” achieved by learners through cultivating skills and talents, improving life goals, realizing self-potential in the process of achieving goals/visions. In this study, the subject stimulated her research potential in academic activities, gained a strong sense of achievement, and also felt the progress of knowledge and ability: “After the completion of scientific research task, I usually had a very strong sense of achievement, and I had learned a lot of new knowledge and paper writing skills, and my self-confidence had been significantly improved”. This positive emotional state runs through the whole process of goal/vision realization, helping to eliminate behavioral changes caused by emotional fluctuations, maintain strong motivation, and ensure the realization of the final goal. “The whole process was slow and difficult. But this belief to prove myself and repay the teacher had always sustained me. Therefore, even when the progress of the paper was the hardest and slowest, I never thought of giving up”. The strong sense of achievement and positive self-confidence make the subject expect scientific research activities, and then when the triggering stimulus appears, the potential motivation energy is quickly released, opening a new academic motivation current: “Every time the successful completion of an academic task, it was like climbing a mountain. In this process, I had gained a full sense of accomplishment, and I had higher expectations for the coming academic tasks, and I looked forward to continuously improving my academic ability through more tasks.”

To sum up, goal/vision orientedness, participant ownership, positive emotionality, and a salient facilitative structure respectively constitute the intention dimension, cognitive dimension, affective dimension and behavioral dimension of research DMC. Therefore, research motivation is a soft assembly of willingness, cognition, emotionality and behavior. This is consistent with the research on the constitutive dimensions of DMC in the field of second language learning. The components of these four dimensions are interrelated and influence each other, and have been in a dynamic interaction process, forming a complex dynamic system, which promotes the continuous operation of research motivation [10].

B. Typical Dynamic Characteristics of Research Motivation Among Master's Students in Foreign Language and Literature

According to the CDST, the subject's research motivation is composed of multiple factors that interact and adapt to the environment at the same time, achieving dynamic development along a certain change trajectory.

1) Initial state

The initial state of a complex dynamic system refers to the state of the system at the beginning of the study, and whether the system is initially in a firm suction state will affect the further development of the system. The research interest of the subject in this study began with the writing of the undergraduate graduation thesis. The subject said: “I learned a lot of knowledge about thesis writing, read some professional literature, and accumulated more experience in statistical data analysis than other students when I wrote my undergraduate graduation thesis. In this process, I gradually enjoyed the process of independent learning and writing papers”. At the same time, the graduation thesis promoted the research motivation of the subject, and the high evaluation of the judges enhanced her research confidence. Therefore, the initial research motivation of the subjects belonged to the external regulation of the external motivation and was in a relatively stable attractor state of self-esteem maintenance.

2) The first surge stage of DMC

During this phase, the subject attended the first group meeting in her research group, which was also the time she officially became professor Zhang's student: “My score in the postgraduate examination was lower than that of other students in my research group, but I knew that to become a student of professor Zhang, I had to be excellent”. At this stage, the subject's research motivation absorbs the external evaluation criteria of her scientific research ability. In order to live up to the expectations of the tutor, the subject set research goals, and her research motivation was stimulated accordingly, which belongs to introjected regulation of external motivation, and at a attractor state of stimulation.

3) Between the 2 DMCs

The subject tried to submit papers and was repeatedly rejected, and her self-confidence began to decline, resulting in frustration and anxiety. When the subject encountered research difficulties, she began to doubt whether she had enough ability to solve the problem, and her research motivation entered a low point and turned into fear of failure. According to self-determination theory, introjected regulation motivation is not stable enough, and when individuals are affected by behavioral results and external evaluations, their self-evaluations will fluctuate, so the subject had doubts about her research ability. In this case, external interference forces can weaken the negative effects of failure avoidance and prompt the system to leave the current attractor state. The subject in this study participated in an academic conference of Sun Yat-sen University with the encouragement of the supervisor, and her speeches and papers were recognized by the experts. Encouraged by this, the subject realized that she should not doubt herself casually and should continue to improve her research ability. Her

research motivation then began to recover, preparing for the current of new research directional motivation.

4) The second surge stage of DMC

During the period of applying for doctoral studies, the research motivation of the subject reached a lasting height. She said that after several academic conferences and papers were published, she had higher requirements and expectations for researches, and was willing to further develop her scientific research potential. At the same time, she also wanted to prove that she had lived up to the cultivation of her supervisor. Therefore, the subject actively invested in the new research topic, and her confidence in scientific research rose to the peak of the entire research process. Finally, she successfully applied for the PhD. At this stage, the subject's research motivation entered a new state - achievement and interest. The subject combined the internal environment with the external environment, recognized the importance of academic activities, realized self-worth in scientific research tasks, showed greater autonomy, and produced internal needs. Thus, subject's research motivation develops into identified regulation of extrinsic motivation, in which emotional goals facilitate this shift.

To sum up, the development of research motivation of the subject experienced four attractor states successively: self-esteem maintenance-stimulation-fear of failure-success + interest, presenting strange attractor states. In other words, the system tends to but fails to reach a certain critical value, and its internal dynamics show different operating modes. Research motivation is manifested as external motivation and failure avoidance motivation, and it goes through four stages of "external regulation—introjected regulation—failure avoidance—identified regulation". Along the continuum of internalization of external motivation, subject's autonomy gradually increases and tends to the state of self-determination.

V. DISCUSSION

Combining the four dimensions and typical dynamic characteristics of research DMC, this paper analyzes the main factors causing the change of research motivation, which can provide references for the cultivation of scientific research ability of academic master's candidate in foreign language and literature.

A. Related Factors of Research Motivation Change

In the process of research motivation internalization, internal factors and environmental factors influence and coordinate with each other, among which emotional factors, supervisor and basic professional ability play a significant role.

1) Emotional factors

As a research goal, emotional factors can stimulate strong research motivation, motivate students to take the initiative to overcome difficulties and persist in achieving the final goal. The first phase of the research motivation current arose from the emotional goal of proving to the supervisor that she had lived up to the supervisor's expectations. This goal releases more motivation energy and supports the subject to overcome various difficulties. At present, the influence of

emotional goals on DMC is rarely discussed in domestic and foreign studies, so this study extends the connotation of goal/vision dimension of DMC.

As a driving factor, emotional factors can provide emotional support for scientific research activities and help students maintain a stable psychological state. The subject showed strong emotional dependence on teachers and classmates in scientific research activities: at the beginning of the semester, she hoped to obtain the approval of the supervisor; the recognition of teachers and classmates inspires strong research motivation energy; encouragement from teachers and recognition from experts helped her overcome feelings of frustration and anxiety. Emotional factors, as the internal environment, interact with the external environment and adjust, can improve students' self-cognition, enhance research confidence and interest, and stimulate internal research motivation. Through the completion of research goals, the subject gained a strong sense of accomplishment, find self-worth, enhance self-confidence, and then realized the importance of professional foundation and scientific research results, showed greater autonomy, and generated internal needs and higher research expectations.

In conclusion, emotional factors show different characteristics in each stage of research motivation currents, which helps to stimulate and maintain research motivation, and this finding enriches the research on the emotional function of DMC.

2) Guidance from supervisors

First of all, supervisors can create good scientific research conditions for students to maintain a strong research interest. When the subject had research needs, the supervisor encouraged her to participate in international conferences and actively submit papers, so as to generate research satisfaction and maintain a strong sense of research efficacy; when the subject felt tired, the supervisor regularly checked the progress of the project and encouraged her to develop good research habits until the research behavior became self-directed.

In summary, supervisors provide guidance and assistance related to scientific research projects, which can have a positive impact on students' research efficacy and motivation. Secondly, tutors can help students develop the necessary academic research ability, so as to enhance their research self-efficacy and self-confidence. The subject said that the tutor provided different guidance in each stage of postgraduate study. In the initial stage, the tutor asked her to read academic papers and take notes every day; when the subject was studying in the first semester of postgraduate study, the tutor reminded her to take every course paper seriously to prepare for future publication; when the subject was writing the master's thesis and applying for the doctor's degree, the supervisor would check regularly to provide suggestions, and gave full play to the subject's subjective initiative in the research process. It can be seen that teachers' effective academic English teaching tasks and scientific research practice activities can cultivate students' awareness of independent learning and promote their own "cultivation" [14]. Moreover, the supervisor can help the student to control their emotions and keep them in a stable

emotional state. The subject said that she maintained close and smooth communication with the teacher, and the teacher's affirmation and encouragement helped her overcome her anxiety and fear of difficulties when her thoughts fluctuated.

3) Basic professional competence

Scientific research activities are based on professional knowledge and supported by scientific research ability. Only with these two conditions can graduate students maintain high research motivation and enhance academic literacy and research ability. The subject said that the study of professional courses helped her master the basic theories and research methods in related fields, and also laid a solid foundation for the publication of papers later. When participating in an academic conference of Sun Yat-sen University for exchange study, the subject felt that her professional English ability, such as oral expression, was higher than that of her peers in the same level colleges and universities, which improved her self-efficacy and self-confidence.

B. Inspiration for the Cultivation of Scientific Research Ability of Academic Master's Candidate in foreign Language and Literature

Firstly, pay attention to the student's emotional state. Supervisors and lecturers maintain smooth communication with students, pay attention to the change of students' state of mind and emotion, provide positive emotional support, help students reduce the motivation to avoid failure, establish positive self-recognition, gradually enhance the sense of achievement, and then enhance the sense of research efficacy, and stimulate strong research momentum. Secondly, improve the tutorial system. Tutors need to deeply understand students' research will and self-cognition, pay attention to their academic behavior, and provide effective demonstration, guidance and encouragement. While cultivating students' academic research ability and guiding students to complete scientific research tasks, supervisors need to give students space to exert their autonomy, help students establish feasible expectations and academic vision, stimulate their scientific research interest, internalize external research motivation into internal motivation, and effectively improve research ability.

VI. CONCLUSION

In this study, the RQM was used to explore the changes in research motivation of academic master's candidate in foreign language and literature in the past three years through self-drawn trajectory charts and two interviews. The results show that the diachronic fluctuation of the subject's research motivation shows the characteristics of DMC, which includes four dimensions of willingness, cognition, emotionality and behavior. Research motivation has successively experienced four attractor states of self-esteem maintenance-stimulation-fear of failure-achievement + interest, presenting a change trajectory of external regulation—introjected regulation—failure avoidance—identified regulation, developing along the continuum of internalization of external motivation, and gradually strengthening the degree of self-determination. In this process, emotional factors, supervisors and basic

professional abilities coordinate and adapt to each other to promote the dynamic development of research motivation. This study is a case study. In the next step, quantitative research methods can be combined to increase the number of research objects and explore the characteristics of research motivation currents of graduates in different disciplines, so as to provide references for effectively cultivating the research ability of graduates majoring in foreign language and literature.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Yang Yiqun conducted the research and wrote the paper; Liu Fei gave advice to the paper; both authors had approved the final version.

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