

# Research on Teachers' Development Motivation of Scientific Research in Comprehensive Local Undergraduate Universities from the International Perspective

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## Abstract

The motivation of teachers in comprehensive local undergraduate colleges and universities in China to develop scientific research comes mainly from the external environment, with little research on scientific activities triggered by internal motivation and insufficient motivation for scientific innovation. Although many college teachers have the desire and ideas for innovative scientific research, few scientific activities are put into practice. This paper addresses these conflicts by analysing the current situation and problems of research motivation among teachers in China's comprehensive undergraduate universities, as well as sources of research motivation and methods of guidance to promote the quality of teacher research development and to encourage collaboration and research action among university teachers.

## Keywords

Comprehensive Local Undergraduate Universities; University Faculty Development; Research Motivation.

## 1. Introduction

The "Opinions of the Ministry of Education on Promoting the Prosperity of Philosophy and Social Science in Higher Education" has pointed out five tasks to promote the prosperity of philosophy and social science in higher education, including the innovation of the system and mechanism of philosophy and social science research in higher education, and the vigorous strengthening of philosophy and social science team building in higher education. To achieve the goal of "building a basic system of philosophical and social science innovation in higher education institutions by 2020", we need the hard work of every teacher in higher education institutions. The National Medium and Long-term Education Reform and Development Plan (2010-2020) also points out the need to "strengthen the management of school positions, innovate the employment method, improve the incentive mechanism, and stimulate the enthusiasm and creativity of teachers". A strong motivation for research is a necessary prerequisite for teachers to enhance their research and innovation capabilities.

## 2. The Current Situation and Problems of Teachers' Scientific Research Motivation in Comprehensive Local Undergraduate Universities

### 2.1. The Internal Motivation of University Teachers in Scientific Research Is Obviously Insufficient

The motivation of teachers to engage in scientific research mainly comes from external sources, and the internal motivation is obviously insufficient. The most frequent remark heard from

university teachers, especially young and middle-aged teachers, in scientific research management is: "Who engages in scientific research if not for evaluation and treatment!" A survey of 260 young teachers in eight universities showed that "only about 20% of young teachers have a strong interest in scientific research" [1]. "The current evaluation system of university teachers' scientific research puts more emphasis on the examination and evaluation in the evaluation, and weakens the dynamic coordination between scientific research construction and teachers' internal needs" [2]. In the long run, if the liberal arts teachers in China's universities do not take interest as the starting point, but passively engage in scientific research, it will definitely have a negative impact on China's overall construction of an innovative country.

## **2.2. The Coexistence of A Good Vision for Research and Innovation and Slack Action**

There is a huge gap between the vision and action of teachers' research innovation. According to a survey conducted by Shen Zhuanghai et al. on the innovation of philosophy and social science teachers, the proportion of positive evaluation ranges from "willingness to innovate" (54%) to "innovation effort" (44.9%) to "innovation ability" (35.4%) to "innovation effectiveness" (26.2%). "(35.4%) to "innovation effectiveness" (26.2%), reflecting the objective reality that the subjective willingness to innovate is strong while the actual effectiveness is not yet satisfactory [3]. In our random interviews with university teachers, given the hardships of research, the high cost of publishing articles and books, and the low probability of being approved for projects, most teachers' research goals are only to meet the minimum requirements for assessment and evaluation set by the university, despite the ideal of having a large number of publications. Some teachers use 'just enough' as an indicator to control their research workload, and after passing the assessment, they go on to enjoy their lives and put their research work on hold until the next assessment.

## **2.3. Multi-level Differences in Research Motivation**

### **2.3.1. Severe Imbalance in Research Contribution**

According to a survey conducted by the author in several universities, there is a serious imbalance in the contribution of research among the faculty. The high-level vertical projects such as the National Social Science Foundation, the National Education Planning Project and the Humanities and Social Sciences Project of the Ministry of Education, which were established in the three years from 2010 to 2012 in several universities, were undertaken by 30% of university teachers, of which 7% undertook more than 2 projects, and they were the main force of scientific research, while 70% of teachers had not undertaken any high-level projects, and some young teachers did not any projects. At present, the number of teachers who are working towards the goal of being professors in teaching positions is still a minority, and we should be concerned about the lack of motivation of some teachers for research because they have not been able to get projects for a long time, forming a "Matthew effect" in the development of research motivation.

### **2.3.2. Differences in Research Motivation Due to Different Job Titles**

Zhang Xie counted the distribution of titles of research achievements of teachers with different titles in universities, in which lecturers published the peak research achievements and were the most motivated to research, followed by associate professors and then professors. A survey of 5,138 young university teachers showed that "only 13.4% of the respondents chose to become teachers because of their high income, and 84.5% considered themselves to be in the middle class and below in society" [4]. Young teachers in higher education are mostly lecturers, between the ages of 28 and 35, during which time they are under financial pressure and are eager to improve their lives, promote their senior titles and gain respect and recognition,

maintaining a greater motivation for research. At the same time, they are relatively productive due to their high energy levels. For associate professors, they are more inclined to submit articles to SSCI and CSSCI journals and to publish their works with well-known academic publishers in China, as the quality of results required for promotion from associate to full senior level is higher. Faculty research motivation forms a divide during full seniority, as there is less competition for professorships, and "some self-aware individuals are clearly less motivated to research than those competing for professorship hopefuls." [5] A current concern is that some professors who are most likely to produce classics or even heirlooms are not sufficiently motivated to conduct research due to their success and fame, and others do not have the academic impact to match their title. The author learnt through an academic search on the China Knowledge Network that the h-index of some scholars rated as second-level professors is lower than that of many associate professors and even some lecturers.

### 2.3.3. Differences in Research Motivation Due to Income Disparity Between Different Disciplines

At present, the overall social status of Chinese university teachers is high, but under the socialist market economy system, there is a large income gap between different disciplines. The income gap between teachers of humanities and social sciences, and teachers of literature, history and philosophy and teachers of economics, management, law and art in higher education is obvious. The reasons for this are, firstly, that the basic salaries of university teachers are the same, but due to the different disciplines, some disciplinary units in education, economics and management, which can make profits through training courses, have naturally opened up a bit of a gap with the units in literature, history and philosophy in terms of classroom fees, research award standards and welfare benefits; secondly, the income gap caused by teachers' personal part-time jobs outside, running classes and even starting companies; thirdly, the income gap caused by teachers giving lectures through lectures, undertaking The third is the academic profitability of teachers through lecturing and undertaking research projects commissioned by enterprises and institutions (concentrated in the discipline of Economics, Management and Law). Therefore, one of the primary issues we need to address is how to bring research back to academia itself, or the return to the mainstream of research, so that teachers can do academic research without distractions.

## 3. Analysis of Research Motivation Systems

Inspired by Fessler's "dynamic characteristics of teachers' career cycle", a four-loop diagram of the research motivation system of university teachers was drawn (see Figure 1). The centre of the diagram is the research career cycle, which progresses from the "competence building period" to the "enthusiasm growth period", "relative frustration period" and "stability period". The cycle progresses sequentially, but there are cycles and jumps in the cycle. Usually, new teachers start the 'capacity building period' after joining the profession because they have had good thesis training in their pre-service education, especially at the postgraduate level, and will actively build up their research capacity and deepen and expand their research areas on the basis of their dissertations, and then write articles, submit projects and awards, thus winning the recognition of the school and their colleagues. After the recognition of the research results in the "capacity building period", the teacher enters the "enthusiasm growth period", and the teacher's motivation for research is further increased, and he/she actively tries out various research possibilities on academic issues. During this period, teachers' academic views are not recognised by their peers, research projects are not approved, papers are not published, interpersonal relationships are not handled properly, there is no substantial and stable teamwork, greater academic ambitions cannot be realised, family disharmony and economic income does not meet expectations, all of which may make teachers feel frustrated. After the

experiences of the 'relative frustration period', teachers adjust their research strategies and enter the 'stability period'. During this period, the motivation for research is stable and long-lasting, and teachers have basically adapted to the research environment, with masterpieces and comprehensive and systematic articulation of academic ideas being released one after another. The difference between research and teaching in the career cycle is that a stable research strategy can be maintained for life, unaffected by retirement. However, there are also cycles and cycle jumps within the four periods of a teacher's career. For example, after the 'relative setback' period, teachers may enter a 'period of passionate growth' as they develop new research areas and directions and contribute to the building of the discipline. "Some may even choose to move or leave their research work and begin a 'period of growth in enthusiasm' in a new position. Some may even choose to move jobs or leave research to begin the "growth period of enthusiasm" in a new position.

Motivation for research is the idea that arises when deciding to do research and is the internal drive that drives teachers to do research and to move in that direction. It progresses from the lowest to the highest level of motivation: "to improve one's life, to gain profit, to satisfy one's interests, to contribute to one's discipline and to pursue the truth". One of the prerequisites for teachers to engage in research is to satisfy the most basic needs for survival and development through 'improving life'; 'gaining merit' includes both material and spiritual benefits. Material merit refers to the acquisition of financial and in-kind support, such as improved office conditions and increased incentives. Spiritual merit refers to gaining various honours for talents and scholars, as well as the respect of the university, colleagues and peers; 'satisfying interests' is a rare and enduring motivation for research, and scholars who conduct research with curiosity are more active and relaxed; 'contributing to the discipline "The "pursuit of truth" is the motivation for teachers to work towards being first-class scholars, to construct theories, to improve the disciplinary system and even to establish a school of thought. The "pursuit of truth" is the ultimate research motivation for teachers to merge life and research, to forget about things and to constantly explore the true nature of knowledge. Motivation for research can be one or more intertwined processes at different stages of a teacher's research motivation.

The research environment is the situation and conditions surrounding teachers when they are engaged in research. Specifically, it includes "family harmony, office conditions, institutional protection, honour and respect, and teamwork". "Family harmony" is a prerequisite to ensure that teachers are at ease with their research and have no distractions; "office conditions" include well-equipped facilities, advanced equipment and a comfortable environment to enable teachers to return their attention to research itself; "institutional protection" On the other hand, it is a guarantee for teachers' motivation to conduct research, i.e. a scientific system for determining research workload, an academic leave system, a performance evaluation system, a funding reimbursement system, etc., so that teachers can be recognised for conducting research, have a large amount of time for academic research, and not lose too much time by filling in various forms in a tedious manner. The 'honour and respect' refers to whether teachers' research efforts have been rewarded with relevant respect and honour. According to the humanistic psychologist Maslow, the need for respect and self-fulfilment is at the top of the hierarchy of human needs. Many teachers value honour even more than material rewards; 'teamwork' is, on the one hand, a major disciplinary research problem that requires multiple scholars to work together and in which young teachers are in urgent need of substantial participation. On the other hand, many major real-life problems and emergency problems require the joint efforts of scholars from multiple disciplines.

Research quality refers to the essence of a teacher's mind, character and understanding as shown by their research behaviour and style. In this article, the qualities of research are summarised as interest, perseverance, independence, confidence, diligence, rigour, boldness

and ambition. Among them, research "ambition" is a necessary part of research quality, referring to the ambition and ideal of research. For university teachers, without "ambition", they will not be able to do scientific research well, and their research motivation will not last.

#### **4. Construction of A Mechanism to Guide Research Motivation**

##### **4.1. Strengthen the Construction of Academic Style and Academic Atmosphere to Stop the Spread of The Broken Windows Effect**

The Broken windows theory was proposed by James Q. Wilson and George L. Kelling in the 1980s. The theory suggests that the presence of undesirable phenomena in the environment, if left unchecked, can induce people to follow suit and even intensify, and that the environment can have a strong suggestive and inducing effect on a person. Some university teachers lose confidence in research after repeated failed attempts to innovate or secure research resources and begin to try to muddle through, complaining to colleagues around them and negatively influencing the motivation of others in research. This creates a vicious cycle of research and a broken window effect. In order to stop the spread of the broken window effect, on the one hand, universities should strengthen academic ethics education, refine the punishment measures for violating academic ethics and zero tolerance for academic misconduct, so as to make scientific research clean at source; on the other hand, universities should create a strong academic atmosphere, through reports, seminars, scientific research experience exchange meetings, as well as workshops created by European and American universities, academic workshops, academic luncheons, online audio academic salons, etc. On the other hand, universities should create a strong academic atmosphere, through presentations, seminars, research experience exchange meetings, as well as workshop academic workshops, academic luncheons, online voice academic salons and other forms created by European and American universities, so that teachers can be exposed to the frontier issues of their disciplines and learn research skills, and encourage our teachers to break the boundaries of their disciplines and specialties and carry out collaborative research on major and emergency problems faced in the economic and social development of the country and major problems of their disciplines. A positive academic culture and a strong academic atmosphere can give teachers positive energy and lead them to generate sustained motivation for research.

##### **4.2. Adopt A Reasonable Evaluation System and Conduct Scientific Research Motivation Measurement**

By establishing a reasonable evaluation system and conducting scientific research motivation assessment, through information feedback, we can grasp the feasibility and effectiveness of the implementation of the guidance mechanism, so as to adjust and improve measures and better promote teachers' research motivation. It can be divided into anticipatory assessment, process assessment and outcome assessment. Expectation assessment mainly assesses research planning and research ability, i.e. teachers submit their immediate and long-term research development plans after joining the university, and the university understands their research ability and research direction based on their dissertations and published articles, thus guiding them to be close to or complementary to their disciplinary strengths and teams in their research direction, and to combine their personal development with the development of their units; process assessment mainly assesses research attitude and motivation, and research quality. The process assessment focuses on the attitude, motivation and quality of research. This can be done in the form of questionnaires and scenarios to obtain information on the teachers' research initiative, innovation and cooperation; the results-based assessment measures the research performance of the teachers, using the number and quality of academic papers published to measure their research motivation.



### **4.3. Motivating Teachers to Combine Their Personal Dreams with National Dreams to Continuously Generate High-Level Scientific Research Motivation**

Every university teacher has a spiritual home that he or she keeps constructing. Universities should be good at using incentive methods, using both material and spiritual incentives, especially spiritual incentives to make teachers continuously generate high-level scientific research motivation, and guide university teachers to combine their personal dreams with national dreams, personal development with school development, faculty development and professional development, so as to do solid scientific research work. "When using motivation methods, we should be good at goal motivation, that is, we should help teachers to formulate scientific research goals that are both forward-looking and practical, and organically combine teachers' personal scientific research goals with the overall scientific research planning of the university, so as to stimulate the enthusiasm and creativity of the majority of teachers in scientific research through a beautiful vision" [6]. Only with great ambition and selfless dedication, continuous innovation and quality improvement can teachers give full play to the important role of philosophy and social sciences in understanding the world, passing on civilization, innovating theories, advising and educating people, serving society, realizing their self-worth, contributing to the discipline, pursuing the highest scientific research goals of truth, achieving spiritual immortality and contributing to the prosperity of national philosophy and social sciences.

### **4.4. Strengthen the Cultivation of Teachers' Scientific Research Quality and Promote the Formation of Positive Personality Traits**

Positive personality traits can promote the development of individual abilities in all aspects. Universities can strengthen the cultivation of scientific research quality of university teachers from three aspects: psychological guidance, care and concern, and creation and nurturing, so as to promote the formation of their positive personality traits. In terms of psychological guidance, in view of the current scientific research pressure faced by teachers in China's universities, universities can try to invite psychological counsellors during teachers' regular medical check-ups as a necessary part of the process. This will reduce the resistance of individual teachers to receive psychological counselling, and gradually make the teacher group develop the way to reduce stress through psychological counselling; in terms of care and concern, the role of the college party committee in the development of teachers' scientific research motivation can be given full play, and the college party committee should pay attention to the development of teachers' interpersonal relationships, care for teachers' physical and mental health and family happiness, so that teachers have a sense of well-being; in terms of creating nurturing, teachers' scientific research should be provided with Adequate research environment guarantees, provides pre-research support, encourages innovation and tolerates failure. We should help teachers to develop a strong interest in research and to develop a resilient, independent, confident, diligent, rigorous and courageous research character, so that they can continue to work hard to achieve their research ambitions.

### **4.5. Strengthen the Guarantee of Scientific Research Management System to Motivate Teachers to Have Time, Interest and Motivation for Scientific Research**

The prosperous development of philosophy and social science in higher education must have a perfect guarantee mechanism, including policy guarantee, financial guarantee, system guarantee, organizational guarantee and material guarantee, etc [7]. Universities should strengthen their research management system to create an environment and conditions for teachers' research, so that teachers can have time to think about research problems, have

interest and motivation to conduct research. In the United States, most state university teachers are highly motivated to become productive scholars, but also lack the time to engage in research [8]. To ensure time for faculty research, universities can implement an academic sabbatical system to give faculty a generous amount of space and time for research. At the same time, help is provided for teachers to apply for research funding and manage their time scientifically. For example, reduce the process in research funding reimbursement; develop a research assistance system and set up academic assistants in college offices to reduce the time teachers spend on filling out basic information in various reports repeatedly. Colleges should also adjust the assessment criteria for teaching and research, and give an appropriate proportion of research workload. Universities should establish a system to guarantee the lifelong development of teachers' research. After teachers have received their induction training, universities should also clarify the responsibilities of their personnel and research departments, and bring into play the function of "passing on the knowledge" from college to college, so as to achieve the function of lifelong education for teachers' research, constantly enrich and update their professional knowledge, and help them become excellent scholars. Many universities in Europe and the United States have set up teacher development research centres to guide teachers in their teaching and research careers. China can gradually build teacher development research centres in universities to help teachers develop comprehensively in terms of teaching and research, and help teachers develop the habit of self-education, constantly update their research concepts, keep abreast of academic frontiers and improve their overall quality.

#### **4.6. Cultivate A Substantial Research Team and Encourage Teachers to Cooperate**

Teachers in higher education, especially new teachers, need a stable and substantial research team to provide a good academic atmosphere and research environment. The current problems faced in the country's economic and social development make it difficult for higher education research to be solved through solo efforts as in the past, and a valuable consultancy report supported by research data in higher education is mostly the result of collective wisdom. Julianne Cheek, a Norwegian scholar, pointed out through an analysis of the literature on collaboration that scholars abroad who have studied collaboration in various forms have focused on how collaborators try to address resource sharing, what resources are shared, which disciplines and peers should be invited to collaborate with them, and studies have clarified the tensions between the three [9]. Universities need to effectively strengthen faculty collaborations and foster substantive research teams with a reasonable age structure of young and old, broad-minded and indifferent to fame and fortune. Focus on sharing experiences among teachers, "externalising the process of internalising teachers' research motivation, optimising it on the basis of externalisation, and solidifying it on the basis of optimisation, so that teachers' research motivation is internalised into experiences that can be drawn upon and shared" [10]. Universities should combine point and surface in their research awards and recognition, both to create chief experts and expand their influence at home and abroad, and to encourage other research contributors in the team, in favour of young researchers. In particular, attention should be paid to the "surface" of the combination of sub-topics and stipends, so as to increase the motivation of the widest range of teachers.

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