Abstract—Focusing on foreign language teachers in local colleges and universities and in combination with the investigation data on scientific research motivation of such teachers in Jilin Province, this paper describes the strategies for stimulating their motivations to make external scientific research from three aspects such as scientific research management system and service consciousness, scientific research team construction and scientific research environment and that to make internal scientific research from two aspects such as teacher’s scientific research values and their scientific research objectives and attribution. It suggests that scientific research management departments of local colleges and universities should make uniform coordination with the internal and external, long-term and short-term, positive and negative and many other stimulation measures for making management and evaluation on scientific research based on the actual situation of each colleges and universities and according to the theories of motivation such as Maslow's needs hierarchy theory, achievement theory and expectation theory.

Keywords—motivation to make scientific research; stimulation strategy; local colleges and universities; foreign language teachers

I. INTRODUCTION

Teaching, scientific research and social service are the three major functions of contemporary colleges and universities. The specific performance is imparting knowledge by teaching, innovating knowledge by making scientific research and transforming scientific research achievement into productivity serving the society by cultivating talents. Scientific research plays a role of linkage and conversion in the three basic functions of colleges and universities. On the one hand, teachers engaged in scientific research can acquire rich advanced knowledge of the discipline, master the latest development change and trend of the discipline, understand the professional development direction and the latest achievements, optimize the knowledge structure, improve the academic level, and thus be able to master and grasp higher level of knowledge system of the major in teaching, optimize the curriculum system with the times, deepen the teaching content, improve the teaching methods, improve the teaching methods, constantly get the scientific research achievement transformed into the teaching achievement and improve the teaching level and quality in colleges and universities. On the other hand, by introducing the latest and most advanced knowledge of the discipline in scientific research activities to students, it is available to maintain students at a higher starting point, cultivate students’ innovative consciousness and practical spirit, stimulate students’ curiosity, aggressive mind, independent exploration consciousness and questioning spirit and further achieve the objective of cultivating innovative professionals. In addition, colleges and universities also transform scientific research results into productive forces by implementing research projects, high-tech development, consulting services and technical training to serve the needs of social and economic construction and development and realize their social service functions. Thereby, the importance of scientific research in the three major functions of colleges and universities cannot be underestimated in the era of knowledge economy in which "science and technology are the primary productive forces".

Teachers are the subjects of scientific research activities in colleges and universities and their research motivations play a leading and restrictive role in scientific research activities. The correctness and intensity of the motivation will directly or indirectly affect the attitude of teacher in making scientific research, the determining of content of scientific research, the mastering of scientific research principles, the selecting of scientific research methods and the exertion of scientific research creativity and will ultimately affect the research achievement and quality of teachers.

II. DEFINITION

Scientific research is essentially consists of two parts such as creating knowledge and sorting knowledge. Creating knowledge (i.e., making innovation, discovery and invention) is a practical activity to explore unknown facts and their laws; sorting knowledge is to get knowledge sorted out, namely to analyze and sort out the existing knowledge and get it normalized and systematic and is the practical activity of knowledge inheritance. Therefore, scientific research can be defined as the practical activity that people conducts to explore unknown facts or to fully understand the nature and laws of facts and analyze and sort out the existing knowledge.
Scientific research in colleges and universities has a broad sense and a narrow sense. In broad sense, scientific research in colleges and universities includes teachers' academic research (including basic research, applied research and technology development research) conducted for discovering new knowledge and the teaching research for the purpose of inheriting knowledge and improving teaching quality; in narrow sense, scientific research in colleges and universities only refers to the former academic research.

In psychology, motivation refers to the internal driving force that causes and maintains individual's activities and directs the activity toward an objective. The concept of motivation includes the following: (1) motivation is an internal stimulus and is the direct cause of individual behavior; (2) motivation proposes the objective for individual's behavior; (3) motivation provides power for individual's behavior to achieve homeostasis; (4) motivation makes individual clear about the meaning of his/her behavior.

Therefore, the motivation of college teachers to make scientific research can be understood as the internal psychological driving force that drives college teachers to actively participate in academic research and teaching research activities and stimulates, maintains and regulates the scientific research behavior of college teachers.

As a special group with a large number of persons among teachers in colleges and universities, foreign language teachers bear a lot of teaching work. Especially in the global information age, foreign language teachers in colleges and universities are facing new challenges brought by the changes in talent cultivation objectives, foreign language teaching modes, teaching concepts, teaching carriers and so on in colleges and universities. The "Outline of the Medium and Long-Term Education Reform and Development Plan of Jilin Province (2010-2020)" re-emphasizes the need to “improve the level of scientific research and vigorously promote the development of natural science, technical science and philosophy and social science research in higher education institutions". So, the author and members of the research project made a questionnaire survey on the scientific research motivation of foreign language teachers in 8 local colleges and universities in Jilin Province and used statistical software SPSS19.0 to make statistical analysis on the collected data. The analysis results show that in local colleges and universities in Jilin Province, foreign language teachers' overall level of motivation to engage in scientific research activities is not high and their external motivations are higher than internal motivations. Wherein, their internal motivations for engaging in scientific research activities mainly come from acquiring knowledge and improving scientific research level and the social responsibility and contribution and their external motivations mainly come from the promotion of professional titles and school assessment.

Combining with the scientific research management of Jilin Province and the actual situation of local college foreign language teachers' scientific research motivation level, this paper expounds the strategies for stimulating the motivation of foreign language teachers to make scientific research in local colleges and universities in aspects of internal and external motivations.

III. STRATEGIES FOR STIMULATING FOREIGN LANGUAGE TEACHERS’ MOTIVATION TO MAKE SCIENTIFIC RESEARCH IN LOCAL COLLEGES AND UNIVERSITIES

A. Stimulating External Motivation

1) Establishing a sound, scientific, standardized, stable and innovative scientific research management system and strengthening service consciousness: There are two prerequisites and guarantees for stimulating the motivation of foreign language teachers in colleges and universities. First, it is necessary to establish a sound, scientific, standardized, stable and innovative scientific research management system. A sound and perfect scientific research management system can provide policy support and guarantee for the development, process control, completion and achievement identification of the scientific research activities of teachers. Second, it is necessary for scientific research management personnel to have consciousness of innovation and service. Scientific research management personnel need to constantly update their knowledge, improve scientific research evaluation indicators and scientific research management policies and try the best to achieve the maximum fairness and scientific nature of scientific research management. Scientific research management personnel play the role of macro management, providing services, strengthening coordination and implementing supervision in the scientific research activities of teachers. Therefore, it is necessary to strengthen the consciousness of service and professional support, release the consciousness of action instructions, set aside certain independent space for teachers and try the best to realize the humanization in scientific research management, create a harmonious management and supervision environment for teachers' scientific research activities and externally protect the enthusiasm and pleasure of teachers in engaging in research activities.

2) Strengthening the construction of scientific research teams and cultivating reserve scientific research talents: At present, the actual foreign language research activities in colleges and universities in Jilin Province is dominated by personal researches, lacking scientific research teams or lacking stable scientific research teams with outstanding professional features and rational academic echelons. Although personal efforts are the keys to improve individual's scientific research ability, the improvement of the scientific research team mechanism may accelerate the improvement of many teachers' scientific research abilities and promote them growing into professional scientific research talents and leaders of science and technology innovation disciplines. In the current knowledge-based and information-based society, colleges and universities should overcome academic barriers and not be restrained within the
talent reserve of the university and the region. They should strive to promote the cross-school and cross-regional scientific research project cooperation and jointly build up scientific research teams. At the same time, they must also pay attention to the construction of academic echelons, encourage and cultivate the exploration and innovative spirits of youth teachers, focus on the future and cultivate a steady stream of successors.

3) Enriching scientific research and academic exchanges, optimizing the scientific research environment and creating a relaxed academic atmosphere: A freedom, democracy and innovation-advocating academic and scientific research atmosphere is conducive to stimulating teachers’ scientific research motives. The good academic and scientific research atmosphere is mainly manifested in: teachers fully have the right to carry out academic activities and there is a good scientific research management mechanism, a relaxed and free humanistic environment and a cultural atmosphere advocating innovation. However currently in colleges and universities, foreign language teachers have large workload and there is single organizational form and limited resources for making scientific research. Therefore in order to practically stimulate the research motivation of teachers, it is also necessary to maintain a balance between teaching workload and scientific research workload in school management and break through the impasse in the extensive number of scientific research achievements with not that high quality caused by the reason that teachers are tired to deal with the teaching and scientific research tasks, in addition to taking measures such as mind stimulation and material stimulation. In addition, it is also necessary to actively build up a platform for exchange and cooperation and resource sharing, regularly invite outstanding experts in the field to provide relevant training, exchange and instruction and create conditions for teachers to go out to participate in various academic and scientific exchanges so as to reduces teachers’ anxiety, improve their happiness in engaging in scientific research and further positively strengthen their research motivations in a natural and willing manner in the relaxed, free and independent academic and scientific research atmosphere.

B. Stimulating Internal Motivation

1) Changing the scientific research values and seeking for pleasure and sense of accomplishment in scientific research: Many foreign language teachers in colleges and universities have somewhat biased concept of scientific research value since they lack the sense of belonging to the discipline, have heavy teaching workload, large restriction in the scope of scientific research and difficulty in issuing the scientific research achievement. There is a concept thinking that the duty of college foreign language teacher is teaching and in terms of cultivating students, the practical meaning and value of scientific research activities is far from reaching that of teaching activities. There is also a concept more utilitarian and practical. It is believed that the significance of scientific research as a threshold value is that it meets the assessment requirements of schools and is applied in conferring of academic titles, award and excellence. In view that concept determines behavior, in order to stimulate the intrinsic motivation of foreign language teachers engaged in scientific research activities, it is first necessary to help teachers reversing their scientific research concepts, understanding the important role and status of scientific research in improving teaching quality, construction of colleges and universities and serving the society, emancipating the mind and updating their concept and seeking for an effective matching point among scientific research and teaching and serving the society to promote the integration of production, study and research in the discipline, as well as gradually finding the value and fun of scientific research in the process of making scientific research, improving their consciousness and enthusiasm in making scientific research, changing their attitudes of scientific research and enhancing the sense of responsibility and accomplishment of scientific research in teaching and serving the society.

2) Establishing clear scientific research objectives, improving the self-efficacy and reasonably attributing: The objective of scientific research is a subjective assumption of the expected results of scientific research activities. It is a subjective ideology and the expected purpose of the scientific research activities, specifies the orientation of the scientific research and provides driving force for making the scientific research activities. Therefore, colleges and universities should understand the career planning of teachers from the organizational level, help them setting scientific research objectives in various career stages and meet their different demands and knowledge updating and professional development desires in their career development cycles to help them realizing self value and improving their self-efficacy. In addition, it is necessary to properly guide the success or failure of the teacher's scientific research activities or tasks and make rational attribution from four aspects such as their ability, extent of effort made, difficulty in conducting the task and the chance based on attribution theory.

C. Suggestions

1) Taking different incentives for different persons and in different conditions: No matter in stimulation of internal motivation and external motivation, the incentives taken for teachers in colleges and universities should not be the same so it is necessary to take suitable stimulation means to realize the initial aims to stimulate teacher's research motives in combination with the actual situation and practical problems of the school and the different needs of teachers was well as the experience and method of other colleges and universities. By proper use of Maslow's needs hierarchy theory, creating conditions for inducing positive needs, it is available to
realize on-demand incentives and maximize the incentive function.

2) Making full use of motivation theory to stimulate teachers’ research motivation: Among motivation related theories, there are three theories commonly used in scientific research management activities as follows: First, achievement theory: the theory of achievement holds that everyone has the potential to pursue upgrading. This positive willing potential is a sense of accomplishment in scientific research activities. Therefore, management personnel in colleges and universities should be good at stimulating teachers’ motivation to make achievement. Second, expectation theory: the extent of motivation of teacher in doing research work depends on teacher's estimation on the value of the research objective to meet his/her demand and the possibility to realize his/her objective. Therefore in scientific research management of colleges and universities, it is necessary to pay attention to the following points: First, the objective should be moderate and should be both challenging and achievable for teachers; next, the objective should be clear, specific, easy to operate and effective; finally, the objective setting should be strategic and take into account both immediate and long-term objectives. Third, reinforcement theory: in scientific research management, positive reinforcement is a recurrence of stimulating behaviors such as affirmation (such as praise), rewards (such as material rewards, job title promotion, etc.) to maintain and strengthen certain good behaviors and further improve the efficiency. However, any behavior or work is inevitable to make mistake. When teachers make mistake or feel confused, the school management should express understanding, care and protection for them so that the role of positive reinforcement can be played and the enthusiasm for protecting teachers may not be eliminated by frustration.

3) Taking internal and external, long-term and short-term, positive and negative measures and other measures simultaneously: Motivation-hygiene theory believes that there are two factors stimulating the motivation such as incentive factor (also called internal factor) and sustentive factor (also called external factor). In terms of stimulating foreign language teachers’ research motivation, scientific research management department should balance the extent and means of internal incentive factor and external sustentive factor and should not only stimulate teachers’ internal independence and initiative in engaging in scientific research activities but also provide a rational external guarantee and condition for teachers to engage in scientific research activities and realize the mutual promotion role between the two factors.

Teachers engaged in scientific research activities can be divided into short-term objective and long-term objective. Short-term objective is the basis and conditions for realizing the long-term objective. And long-term objective is the ultimate target of short-term objectives. Scientific research management department should take into account both short-term objective and long-term objective of teachers engaging in scientific research activities, coordinate the relationship between long-term incentives and short-term incentives and pay attention to the re-incentives after realizing the long-term objective of teacher's scientific research activities to prevent releasing the motivation of teacher after realizing the long-term objective.

In addition, scientific research management department also needs to combine positive and negative incentives. Positive incentives usually take rewards as the main form and negative incentives usually take punishment as the main form. In the scientific research management of schools, it is suggested to take more positive incentive measures, supplemented by negative incentives. By actively experiencing scientific research activity, it is available to improve teachers' enthusiasm for engaging in such activity. It should be avoided to take much negative incentives which may cause teacher taking negative and counteractive attitude toward the scientific research activity.

IV. CONCLUSION

The fundamental driving force for teachers to engage in scientific research activities comes from internal demand and internal drive, but the internal demand and internal drive are not spontaneous and isolated and may be affected and restricted by external scientific research mechanisms. Local colleges and universities are suggested to focus on actual situation of the school, take applicable measures simultaneously on the basis of scientific theories, as well as pay attention to improving the theoretical and practical level of scientific research management personnel, so as to provide a better management and service for teachers' scientific research activities.

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